Smart Solutions with SMARTerWASH

Stories of the project and its successes

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Smart Solutions with SMARTerWASH: Stories of the project and its successes, 2013-2016

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Contents

CONTENTS **3**
ACKNOWLEDGEMENTS **5**
ABBREVIATIONS **6**
FOREWORD **8**
HOW SMARTERWASH STARTED **9**
WHY SMARTERWASH WAS NEEDED **9**
A SYSTEM OF SMART COMPONENTS **11**
MONITORING AND MAINTENANCE **14**
Some SMARTerWASH success stories 16
CONTINUING CHALLENGES AND RECOMMENDATIONS FOR THE FUTURE **18**
Establish a robust sector monitoring system 19
Provide better coverage and service 20
Improve the use of data 21
Sustainably manage the facilities 22
Involve more women in management 22
Financing of continuous monitoring 24
Working together to move forward 25
APPENDIX A: INTERVIEW TRANSCRIPTS **26**
Interview with Vida Duti, Country Director, IRC Ghana 26
Interview with Ofori McCarthy, Regional Director of CWSA, Northern Region 28
Interview with John Aduakye, Chief Hydro Geologist of CWSA, Tamale 29
District Success Stories 29
APPENDIX B: EXCERPTS FROM ARTICLES ABOUT SMARTERWASH **39**
Minister urges MMDAs to adopt SMARTerWASH project 39
Monitoring rural water services for sound evidence-based planning and finance decision making 40
It's not the hardware – but the service that matters 41
Use of data at different levels 41
First upload of data from FLOW to DiMES PPP SMARTerWASH 42
Meeting the regional IT coordinators, day 1 42
CWSA introduces SMARTer-WASH to monitor functionality of systems 42
So far, so good. The way up for water services in rural Ghana 43
A stone in the water or a change of the tide? 43
CWSA, Triple-S, use mobile technology to tackle water, sanitation facilities breakdown 45
From data to impact: leveraging partnerships for sustainable rural water services in Ghana 45
Interview with Ton Schouten 46

Boxes

Box 1 About the project 9
Box 2 Interview with Ton Schouten 46

Photos

Photo 1 Data collection 10
Photo 2 Testing a water facility 10
Photo 3 Patrick Apoya, CEO of SkyFox Ltd 12
Photo 4 Training people in the district 13
Photo 5 SMS request for repairs 14
Photo 6 Water collection point 14
Photo 7 Workshop on data analysis 15
Photo 8 Data collection instruction in the field 17
Photo 9 Vida Duti, Country Director, IRC Ghana 19
Photo 10 Clement Bugase, Chief Executive of CWSA 20
Photo 11 Benedict Kubabom, Director for Planning and Investments of CWSA 21
Photo 12 State of rural water services in Ghana Forum, October 2015 24
Photo 13 Ghana Water Forum stakeholders meeting, Bologa district 25

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Abbreviations

CONIWAS	Coalition of NGOs in Water and Sanitation
CWSA	Community Water and Sanitation Agency
DCE	District Chief Executive
DGIS	Directorate-General for International Cooperation
DiMES	District Monitoring and Evaluation System
DPs	Development Partners
GPS	Global Positioning System
ICT	Information and Communication Technologies
MMDAs	Metropolitan, Municipal and District Assemblies
NGO	Non-Governmental Organisation
NLLAP	National Level Learning Alliance Platform
PPP	Public-Private Partnership
RVO	Rijksdienst voor Ondernemend Nederland
SDGs	Sustainable Development Goals
SMS	Short Message Service
SNV	SNV Netherlands Development Organisation
UNICEF	United Nations Children's Fund
WSMT	Water and Sanitation Management Team


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Foreword

We are excited to provide a prelude to this compendium of stories on a transformational project that we have supervised from multiple perspectives from start to end:

- As head of Community Water and Sanitation Agency (CWSA) and IRC Ghana Director, overseeing the execution of the public-private partnership joint initiative, working closely with all partners in guiding the entire implementation process from inception to closure.
- From years of interaction with various aspects and partners, related previous projects and initiatives that have provided insights into this innovative mobile monitoring initiative.
- As beneficiaries and users of the SMARTerWASH project results, in our various leadership capacities.
- By virtue of participating in the project workshops and serving on the Advisory Committee of the project for over three years.

This note is to express our collective appreciation and testament of gratitude to SkyFox, Akvo, the funding partners, the Directorate-General for International Cooperation (DGIS), Rijksdienst voor Ondernemend Nederland (RVO) of the Netherlands, World Bank, the Conrad N. Hilton Foundation and IRC for such an impactful initiative. May we also pay glowing tribute to the stalwart of IRC and a friend to the sector, the late Ton Schouten, who was the pivot of this initiative.

Our sincere appreciation to the project management team, committee members, project technical committee, MMDAs, and all others who worked tirelessly and supported the process, which resulted in the preparation of this very important project story line.

It is our hope that this compendium will serve as a reference mobile monitoring change process document for mobilising financial and other required resources to guide future investments in the WASH sector.

Clement Bugase
Chief Executive Officer, CWSA

Vida Duti
Country Director, IRC Ghana

How SMARTerWASH started

The SMARTerWASH story builds on Sustainable Services at Scale (Triple-S project). Triple-S was a five-year action research project (2010-2014) that provided insight into the sustainability challenge to the sector, building on the work of the WASHCost project, an action research project focused on service levels and life-cycle costs. At the start of the Triple-S project, IRC and Community Water and Sanitation Agency (CWSA) were unsure of the quality of water services being provided when measured against national standards because the data did not exist. Therefore, as part of the Triple-S project, IRC and (CWSA) developed indicators to measure and monitor water services according to national standards, and they tested and refined the tools in partnership with three districts where these were piloted.

WASHCost and Triple-S projects set the scene for SMARTerWASH to provide a means of monitoring not only the number of facilities constructed, but also the services provided by these facilities. SMARTerWASH strived to ensure monitoring information was effectively used to keep water and sanitation services working. It did this by improving the current monitoring tools, integrating private sector, district and project information systems, and developing capacities to use the information to improve water and sanitation services across the country.

Box 1 About the project

The SMARTerWASH project is a joint-initiative public-private partnership (PPP) implemented by the Community Water and Sanitation Agency (CWSA) (government partner), SkyFox Limited (private partner), Akvo, Water for People (nonprofit foundations) and IRC Ghana (management support), to help with the monitoring of water facilities in 64 districts of Ghana, nearly one-third of the country. It is supported by the Directorate-General for International Cooperation (DGIS), with matching funds from the Rijksdienst voor Ondernemend Nederland (RVO) of the Netherlands government.

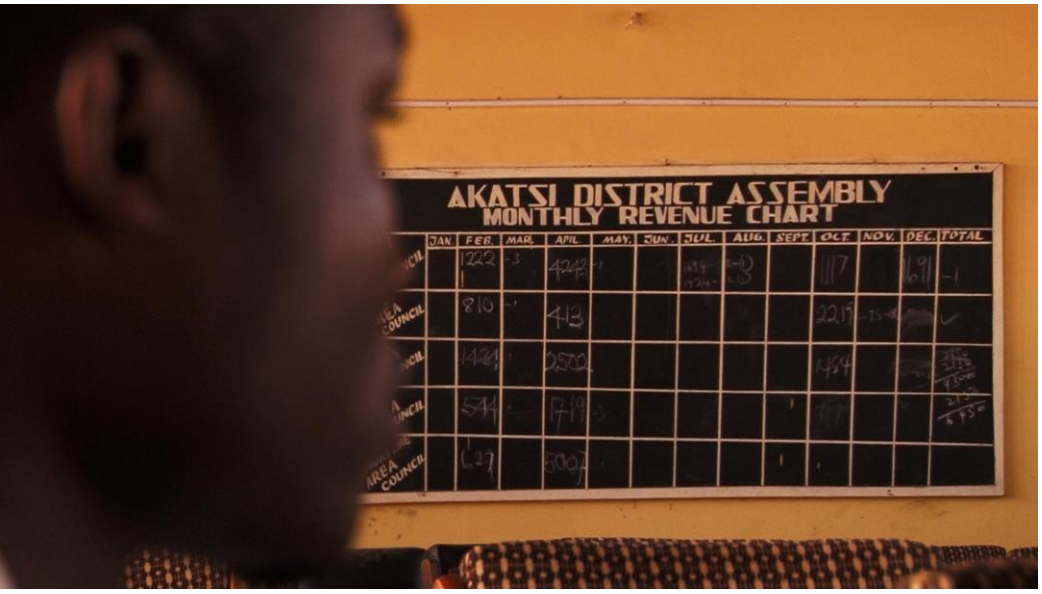
As Vida Duti, the Ghana Country Director of IRC, explains, "When we started the Triple-S project and embraced monitoring, we were able to generate information on the state of the water service in three districts. When the data was presented initially, the bad state of the water services came as a surprise to some sector stakeholders, and they started to use the data to assist in their water service."

Why SMARTerWASH was needed

Reporting on the rural water subsector had focused largely on the number of facilities that had been delivered, rather than on the level of service these facilities were providing. Many installed facilities were nonfunctional or functioned sub optimally, and service levels were very low. Baseline data collection[1] under the Triple-S project using Akvo FLOW showed that in the three pilot districts[2], only 1.6% to 34% of facilities were providing a basic level of service. Existing water facilities were often experiencing downtime. For example, in the three Triple-S districts, 34% of point sources had downtime exceeding 18 days per year and thus were non-functional more than 5% of the year in violation of the national guidelines. Better monitoring and maintenance of these facilities was needed in order to inform and direct corrective actions and strategic planning for improving sustainable service provision.

[1] http://www.ircwash.org/sites/default/files/thestatusofruralwatersupplyservicesinghana_final_april2013_0.pdf.
[2] 1.6% (East Gonja) to 34% (Akatsi).

Photo 1 Data collection



Paul Kofi Twene, Cluster Manager, World Vision Ghana, Brong-Ahafo Region notes that "there is a tendency, especially among the NGOs, to focus on meeting our donor targets, and this results in a focus on the provision of new facilities at the expense of old ones. However, we need to sustain the existing facilities. We must not only provide new facilities but also rehabilitate the old ones in the districts where we work. Continued monitoring is important, and we as NGOs need to support training of our own staff, as well as the district assembly staff, so that all are able to do proper monitoring."

"We must not only provide new facilities but also rehabilitate the old ones in the districts where we work".

Photo 2 Testing a water facility

Ofori McCarthy, Regional Director of CWSA, Northern Region, offers this insight: "I think that we don't have a culture of maintenance. It's an African problem, it's a Ghanaian problem. We tend to react when things are broken down, instead of planning and maintaining our systems that we put in place. (But we must) think about maintenance and not just concentrate on repairs and broken-down systems. And for that reason, monitoring of the facilities is important."

Feedback from the earlier projects (Triple S and WASHCost) identified several challenges for providing reliable water service: lack of finances, unavailability of area mechanics at the right time, and difficulty in getting the parts needed for repairs. Moreover, data collection had been largely done using paper forms, which made the process cumbersome and provided limited information. To address these challenges, SMARTerWASH aimed to support the development of a monitoring system which would allow the collection of real-time data to inform plans, budgets, and decision making for remedial actions, through continuous monitoring processes across Ghana to help ensure that improved services would be sustained.

The collection of data and subsequent analysis and reporting would involve a sector-level change, using a new way of gathering data by monitoring the water services provided by the facilities, instead of the former practice of simply counting the number of facilities. Frank Tdidzi, IT Specialist, CWSA Sunyani, Brong-Ahafo Region explains, "We have reached a stage where we realise that it is important to use ICT tools to do the monitoring. In other words, we have moved away from the traditional method of using paper questionnaires to capture data.

"The SMARTerWASH project seeks to improve the reliability of data so that municipalities and districts, the national government, development partners, and other stakeholders will have credible data to use for sector policies, programming, targeting, and so on."

In accordance with existing institutional mandates and responsibilities, SMARTerWASH would do the following:

- Establish the tools and systems for nationwide and continuous monitoring of WASH services in rural communities and small towns in Ghana.
- Develop data collection tools, survey instruments, and platforms.
- Train national (CWSA), regional (CWSA), and district staff in six regions to carry out data collection.
- Conduct baseline data collection on functionality and service levels of existing water facilities and on service provider and service authority performance in 119 districts in six regions.
- Generate initial set of reports from upgraded District Monitoring and Evaluation System (DiMES).
- Track use of data by districts in the six regions.

A system of smart components

The SMARTerWASH project integrated the use of mobile and internet technologies to collect real-time data into DiMES and built the specific tools and systems required. Three complementary smart components were operationalised to collect the data and address problems with the facilities found during the monitoring process:

- SkyFox SMS, an ICT platform that enables communities to report problems, order parts for repairing broken-down facilities, and access financing using mobile phone services.
- DiMES, the district-level monitoring system supported by an MS Access database to process, analyse and store monitoring data.
- Akvo FLOW, to collect data using smartphones and view the data online.

DiMES is a district-level monitoring system that includes a data management tool to capture, store, and report information on water and sanitation activities and services, as well as to monitor water and sanitation projects for rural areas and small towns. It is intended to inform service providers and authorities so that they can adapt planning, financing, and policies based on the data and can take action to improve service. DiMES has been used to generate water coverage reports for area councils, districts, and regions of the country. National water coverage is also generated from DiMES. The extent of usage has varied across the country, and adequate data has not been available thus leading to the integration of SkyFox SMS and Akvo FLOW.

To date, 2,000 communities have been connected to SkyFox SMS, a Short Message Service (SMS) platform. They have been trained in the use of mobile phones and special numbers to report broken-down facilities and order spare parts from suppliers, two of which have been connected to the platform. Community members can use their own mobile phones to send updates on water services during regular day-to-day activities.

Photo 3 Patrick Apoya, CEO of SkyFox Ltd

In an interview during a water exchange visit in 2015 Patrick Apoya, CEO of SkyFox Ltd., explains that the SMS platform "allows communities in these districts to easily determine which pumps are broken down and where to find access to spare parts from suppliers even in distant cities."

Finally, with the help of Akvo FLOW, a smartphone based data collection tool, accurate, timely, geo-tagged information, images and data are collected. The data is made immediately accessible online to those that need it. These spot checks give a clear and accurate picture of the situation in the field when data is collected.

Data from the field is usable as soon as it is submitted and can inform decision-making processes at district level, such as budgeting and planning for major repairs and rehabilitation works beyond the capacity of communities.

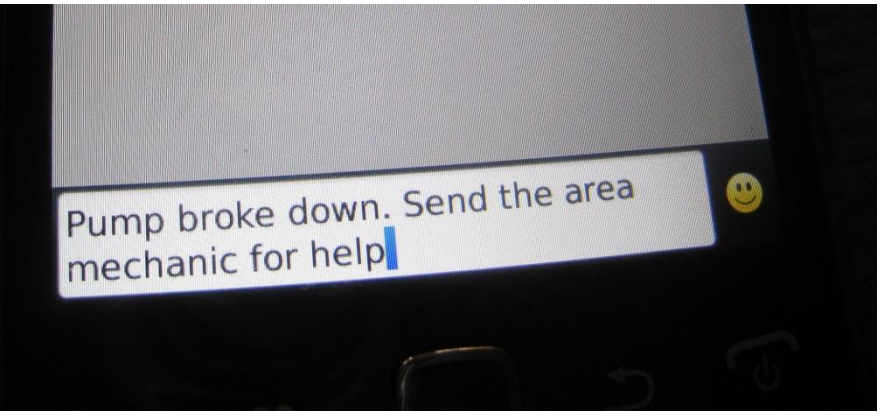
Photo 4 Training people in the district

Mohammed Kpegla Adama, IT Specialist for Community Water and Sanitation Agency of the Western Region, notes how this has improved data collection, saying that previously, it was "extremely difficult to capture information from all the communities up to the district assembly level and then to the regional level. But with the introduction of this project, by training people at the district level to obtain the data, it has helped us in the data collection exercise. Some level of decentralisation has eased the burden on the regional office."

Kwesi Owusu Mintah, Planning Officer of Sunyani West District Assembly, Brong-Ahafo Region talks about the benefits of this system for his district: "Akvo FLOW has made data collection from our various communities much easier, and because of that, we are able to monitor a greater number of facilities than before. With the Akvo FLOW system, we are able to use mobile phones to locate our facilities within the districts using the Global Positioning System (GPS). We can also use our mobile phones to compile data from our facilities within the district, which lets us know which facilities are functional and which are not functional. That has really helped us in our planning."

Monitoring and maintenance

Photo 5 SMS request for repairs



Through the SMARTerWASH project, the capacity of the public sector (Metropolitan, Municipal and District Assemblies (MMDAs), CWSA, ministries and the private sector (area mechanics), as well as communities, was developed to use the information from the monitoring system and enable corrective action. Now that the monitoring system has been put into place, continuous monitoring needs to be ongoing and facilities need to be sustainably managed. Issues must be addressed as they are revealed by the monitoring in order to achieve sustainable water services nationwide. Providing reliable water services means more than just providing facilities; it also requires monitoring the facilities and quickly making any necessary repairs, thus ensuring that the facilities are sustainably managed over the years to come.

Photo 6 Water collection point

"The project has changed our way of doing things," says Daniel Nnebini, Planning Officer of Kintampo South District Assembly, Brong-Ahafo Region. "We used to focus on providing physical facilities, new boreholes in the district. But after the project, we shifted our focus from providing physical infrastructure to repairing the broken-down facilities." He explains that "we still provide new facilities, but now a portion of our budget goes to repairing boreholes, training Water and

Sanitation Management Team (WSMTs), and building capacities of other stakeholders that are in the sector."

Kyei Asare Bediako, Water Engineer of Sunyani West District Assembly, Brong-Ahafo Region, says likewise: "Previously, we were just providing facilities for districts. We didn't even think about the sustainability aspect. But now we have gotten deep into the sustainability aspect, rather than just the provision of infrastructure. The SkyFox SMS experiment has really helped the district (by providing) data on whether facilities are broken down or are working."

Photo 7 Workshop on data analysis

Simon Alebga, WASH Engineer, Talensi District Assembly, Upper East Region, describes how having the data from monitoring has helped with maintenance: "We displayed the data to (an NGO consortium working in the WASH sector). And some of them were shocked—they were very surprised to realise they had been going around and putting in service facilities that were not providing the basic service needed to the people. So we have some NGOs, especially WaterAid, that decided to repair some broken-down systems. We were able to repair five of them."

Simon Akasuya, WASH Engineer, Nabdam District Assembly, Upper East Region, says: "The project has helped us in our monitoring because we are going into areas where we don't have information and are capturing data there. It has also helped us both plan and budget very well, especially for WASH programmes. And we are now going to intensify our monitoring, especially in communities that have weak water and sanitation management teams." Simon also talks about how the project has helped him with monitoring: "Since the SMARTerWASH project, I am now able to locate where all the facilities in the district are. I know the communities they are in, the number of each area council, so monitoring is now easy for me. Also with the monitoring, I discovered that we had facilities that didn't provide the basic services to the people."

"We do monitoring to make sure the objectives that we set are being met," explains Daniel Atchulo, WASH Desk Officer, Bawku Municipal Assembly, Upper East Region. "Periodically, we have to move from community to community to ensure that whatever we have put in place is being followed up and that every community has access to potable water for the people." He notes how the data has aided in planning:

"The project has given us first-hand information about what is actually going on in the field, and this allows us to plan well."

Ofori McCarthy stresses the importance of monitoring: "Monitoring is the soul of the water system. I mean, if you don't monitor, you will not be able to know that there are things about to break down. But if you monitor, you can always anticipate breakdowns, you can anticipate down times so that they do not occur. So that is very, very important. I believe that is key."

The data that has been gathered from continuous monitoring of the facilities, analysed, and reported is then disseminated to the other districts and partners. At the national level, the government can use the data to monitor the status of rural water services and inform its planning. Vida Duti notes that it may be better to share data among districts more often than was done during the project. "(When) doing regional sharing, where all the districts are brought together," she says, "presenting that data is stimulating a lot of interest, as all the districts learn what is happening in other districts. So if we were to do SMARTerWASH again, we would probably present the data as we go instead of waiting until the end."

Some SMARTerWASH success stories

Several people involved with the project have described the improvements achieved in their communities through SMARTerWASH. According to Gordon Domayele, District Coordinating Director of Sene East District Assembly, Brong-Ahafo Region, "The water situation in Ghana wasn't good; in fact, it was very bad. There was a need to bring the water systems at least to a level where the communities and other stakeholders could continue with the process. So the assemblies together with the communities intervened by rehabilitating some of the broken-down water systems." As a result, he says, "We now have data that we can use to improve the service levels of water facilities in the districts and also to help in decision making at the district level. The knowledge we gained from SMARTerWASH has been marvellous. Now we are aware of where problem areas exist, and the documents are there for our reference on how to increase service levels of water facilities." He notes that "one benefit of having the data from monitoring is that it caused us to take immediate actions, and we have rehabilitated 34 boreholes since 2015."

Abdulai Ibrahim Alhassan, Planning Officer of Sene East District Assembly, Brong-Ahafo Region, says, "We were surprised when this project revealed the number of water facilities we had that were not working. As high as something like 45% were not working. But with the data, we were able to know the steps we needed to take to rehabilitate those that were not working. So the project has given us some insight and also more motivation to work, to act." Samari Ibrahim, Assistant Director (WASH Desk Officer), Bawku West District, notes that before the project, "we had problems tracking our facilities, knowing where they were and how to monitor them. But with the SMARTerWASH programme, we can see the number of facilities that are in an area council or community. With the SMARTerWASH tools, it is possible to develop our WASH plans, and we will be able to factor in some of this data. And now WaterAid had come to us, based on this data, to help us to find and repair broken-down boreholes."

Michel Bedou, District Planning Officer of Shama District, describes how the project helped his district: "Shama is one of the newly created districts, and the water situation in its villages and communities was very bad. The boreholes have been broken down, and people are competing with animals for water. Thanks to SMARTerWASH, we made an effort to assess the number of boreholes that were broken down, to give the district a good idea of how the water situation can

be improved." He reports that "out of the 20 boreholes that were broken down, 10 were still good to restore. And this means that 10 of those 20 that were not able to get water are now able to get water." Obeng Aseidu, WASH Engineer, North Gonja District, also tells about the repairs done in his district based on the data: "So far, we did an analysis with the raw data that had been sent to us. Last year, we repaired around 12 boreholes in 8 communities. And this year, we picked up a system where we were able to repair 10 additional boreholes that were broken down."

Dari Kasim, WASH Engineer of Gushegu District, reports, "With the help of the FLOW data, we were able to determine the number of facilities that are not functional and those that are functional. And based on that, we have been selecting 10 communities every year in which to do rehabilitation. So for now, I can say yes, things have changed compared with before (the project) came in, with the help of the FLOW data. Now, (when) someone calls me on the phone and asks, 'How many facilities do you have? How many of them are functional?' I can give numbers. It was based on this data that we have been able to achieve all these things."

Sulemana Abubakari, WASH Engineer, of West Gonja District, mentions another impact of the improved water service: "There were also some other institutions that needed water. Some schools, like the primary and high schools, were in communities where potable water was not accessible. It was also a plus (when they were provided with functioning water service) because those schools were very, very happy and students no longer had to travel to get water."

Photo 8 Data collection instruction in the field

"The SMARTerWASH project has helped us in so many ways," says Abdulai Ibrahim Alhassan, Planning Officer, Sene East District Assembly, Brong-Ahafo Region. "Previously, we didn't know that some of our boreholes were not working. But as a result of the project, we learned that more than half of our facilities are not functioning. Through monitoring, the project provided efficient data that we can use for our planning activities within the district. And we can see that the development of the districts in terms of water is improved." He adds, "We are also using the monitoring data in our district's annual action plan, which we revise every year (and from now on will include water provision)."

Mike Adjei, Regional Director of the Western Region, says, “We are already seeing positive results” and gives “some examples of the benefits of this project”: “As a result of the work that has been carried out under the SMARTerWASH project, district assemblies have taken actions to improve some of the facilities in their districts, water in particular. For example, the district water and sanitation plan has already been updated. The assemblies have been able to leverage funding at a district level to re-establish water and sanitation teams where they currently do not exist. So water and sanitation teams are being reorganised and retrained.” He points out that it is also “going to reduce the cost of monitoring at the regional district level.”

Vida Duti sums it up this way: “SMARTerWASH is already a big success. We piloted this idea of rural service water monitoring in only three districts in Ghana. And for an organisation like IRC to have been able to work together with government to scale the process to 131 districts is a major achievement.”

Continuing challenges and recommendations for the future

SMARTerWASH has enriched and enhanced monitoring and evaluation in the rural water subsector and thus has added value. But there are still data gaps, and the architecture for monitoring and evaluation is not fully functional yet. And an important question is, how do we move beyond monitoring as an end in itself to monitoring as a means to an end? Another related concern is how monitoring will be organised and financed on an ongoing basis.

In a country that is fragmented by different projects of a range of development partners (DPs), applying an agreed standard and system at the scale of the nation is innovative. Managing the process to do so is important. This will include strengthening the ownership of CWSA and the MMDAs; encouraging support from the two ministries, the DPs, and the nongovernmental organisations (NGO) and civil society sector organised in the Coalition of NGOs in Water and Sanitation (CONIWAS); managing the process of evidence-based reflection and action learning in the National Level Learning Alliance Platform (NLLAP); and creating and applying incentives in particular for the MMDAs, not only for implementing SMARTerWASH but also for sustaining the monitoring system long afterward.

In continuing what the project began, a number of tasks remain on the way forward. Among these are the need to further strengthen a robust sector monitoring and evaluation system, provide better coverage and service, improve the use of data, sustainably manage the facilities, and ensure financing of continuous monitoring. The need to involve more women in management has also been expressed, as the monitoring data identified that not all Water and Sanitation Committees have sufficient female members, as prescribed in the CWSA guidelines. In the subsections below, these needs and challenges are discussed and some recommendations are given.

Establish a robust sector monitoring system

Photo 9 Vida Duti, Country Director, IRC Ghana

Regarding the way forward for the rural water monitoring system, Mrs. Vida Duti expects that CWSA and the districts will put in place mechanisms that will ensure continuous data collection to aid planning in the sector. She says that "IRC wants to be a key player in supporting the government of Ghana in achieving the wider ambition for sector monitoring, which is to build on experience that we have gained in the rural water subsector in order to establish a robust monitoring system for the water and sanitation sector of Ghana that would allow us to provide data on our progress in terms of the sustainable development goals (SDGs)." Vida explains that "we are using the data from this monitoring to inform our planning toward meeting the SDGs. A number of other sector partners are taking on responsibilities to help us deal with the issues the data has revealed, so we are beginning to build some collective action to address the issues concerning sustainable water services."

Although the SMARTerWASH project has ended, Vida is confident that the rural water monitoring process, which has been strengthened through the project, will continue: "Some (districts) have already done follow-up monitoring on their own, so we are very sure that monitoring will continue, and interest in development is also emerging." She says, "Our first ambition is to finish covering the remaining districts. We still have 85 more districts to go, and we will finish covering those."

However, monitoring by itself does not necessarily result in significant improvements in water service provision. Vida explains: "For a very long time, in the districts where we had worked previously, even though they had done continuous monitoring, we were not seeing significant changes in the service levels or in fixing the systems that had broken down. It's not that nothing was being done, but probably that the remedial actions that were being taken weren't sufficient to cause significant change."

This seems to be changing, though. "We see an interesting trend in the last data that we collected," Vida notes, "with tremendous improvement in the water service levels. This is because the districts are now establishing water and sanitation management teams (WSMTs) for the water facilities that they didn't have and strengthening these teams, which are working with

the communities. So the districts are making an investment in achieving some level of improvement in their water service levels. And we believe that with time, as the districts start seeing improvement in the functionality of water services, it will be a motivation for the government to take the process forward." She thinks that "within the sector, there is a lot of interest in getting the facilities working."

Provide better coverage and service

Photo 10 Clement Bugase, Chief Executive of CWSA

Clement Bugase, Chief Executive of CWSA, points out the need to provide better coverage and service: "We (CWSA) and the other stakeholders at the district level must take remedial measures to ensure that the non-functional facilities are brought back into service and that facilities that are partially functional will be fixed so that they give complete service. This must be done so that rural areas can benefit from the water and other services that people need to have provided. As a result of this project and the collection and analysis of data, the district assemblies have come to realise the extent of their responsibilities and are including these things in their plans for the future. They are also using the data to reach out to other partners to help them do things better."

According to Paul Kofi Twene, Cluster Manager of World Vision Ghana, "It is a wake-up call for us to look at the level of functionality of our facilities and how we are able to improve so that the level of service delivery can be seriously improved." He highlights the need to "work with the district so that we are not just providing facilities—we also need to ensure that we deliver services to the people that we serve in the district."

Photo 11 Benedict Kubabom, Director for Planning and Investments of CWSA

"The development goals are aiming for full coverage by the year 2030," says Benedict Kubabom, Director for Planning and Investments of CWSA. "So for us in the department of planning and investments, the data will be useful in establishing coverage and determining what level of investment will be required to reach the population that has not yet been served."

According to Clement Bugase, the data has "revealed to us that there are geographical gaps in coverage, areas that we have not reached well. So in our plans, we are taking that into consideration. We think that this is good information for CWSA, and we are also able to brief our higher authorities on what is happening on the ground so that when there are issues about rural water, we can better appreciate the problems and can make decisions together that will help bring equity, fairness, and improvement in functionality generally in the country of Ghana."

"So for us in the department of planning and investments, the data will be useful in establishing coverage and determining what level of investment will be required to reach the population that has not yet been served."

Improve the use of data

Frank Tdidzi, IT Specialist, CWSA Sunyani, Brong-Ahafo Region, sees the need for improved use of data: "This is a district-owned project, and therefore, as key stakeholders, we must be able to track the use of the data and ensure that we continue to update it so we can use it for policy planning. Achievements in ICT technologies and progress in the establishment of regional-level baseline data can lead to improved investment decisions. The SMARTerWASH project used ICT tools for monitoring, so we want to evaluate how effective it was and how we can continue using the data to update. The fact sheets are from 2014 to 2015, and we need know if any new facilities have been added since then. We need to determine how we are going to use these technologies to ensure that we have accurate and reliable data."

Daniel Atchulo, WASH Desk Officer, Bawku Municipal Assembly, makes a suggestion to improve the use of data: "One area I see that needs improvement is that although we feed the data into

DiMES, which is supposed to be updated, up to now we have not yet received an update, so updating the information we collect from the field becomes a problem. New boreholes are drilled, and others break down, so that means that the information we have may not be as accurate as we think it is. So our suggestion is that the data input into DiMES should be submitted immediately to the district so that we can update our information. For DiMES to be up-to-date, we can go around and collect the data and update the information for the districts."

Sustainably manage the facilities

Estherine Mensah, District Planning Officer of Wassa East District Assembly, says his district has a plan for going forward to ensure that the facilities are sustainably managed: "Because of this project, we realised that most of our communities do not have WSMTs, and about half of the boreholes and hand pumps were not functioning. As a result, the district organised a stakeholder meeting with all of our partners to determine the way forward. Based on that, we prepared a district water and sanitation plan for 2016–2020. The plan was approved, and a budget has been allocated. We also have solicitors for the funds for the construction of 25 boreholes in our communities and institutions for health and school facilities. To ensure the sustainability of SMARTerWASH, we intend to train area councilpersons to make sure that they will collect the data from the base and then provide this information to the districts."

Kyei Asare Bediako, Water Engineer, Sunyani West District Assembly, Brong-Ahafo Region, stresses that "there are immediate actions that we need to take in order to continue what was begun during this project. We need to look into the findings that have come out of the districts and determine how we can together leverage the support of all the stakeholders—the NGOs, our development partners, and the government, the district assemblies themselves. How can we manage these facilities that we have in a sustainable way? And also, how can we bridge the gap that we still have? Because if we are at 56,04%, that means we have a deficit of 43,96% ."

Regarding maintenance of broken-down pumps, John Aduakye, Chief Hydro Geologist of CWSA, Tamale, assures that "most of the pumps can be repaired and put back into use" and stresses that "it is important to do that. We need to determine which ones are not working so we can find the means of putting them back into use by asking someone to repair the pumps that have broken down. And for the ones that we think are out of use, we need to remove the pumps and install them at places where we can get water." He also notes the importance of routine testing at least once a year "to make sure that the water quality remains the same as it was when we placed the pump, or perhaps has even improved, and is still in a condition that is good for human consumption."

Involve more women in management

Belinda Bukari, District Planning Officer, of Chereponi District, points out a lack of women in management: "Water is the preserve of women, but there are no women (on some of the water and sanitation committees). A lot of the women that are in the management team are there to see the place but not to make any meaningful decisions. So we are trying to make the committees reconstitute so that we have even more women on the committees. I'm not saying it because I am a woman, but I am saying it because water is the preserve of women. It's not that I say the men are not working, but you have to have more women in the leadership positions."

Financing of continuous monitoring

Another challenge that needs to be addressed is financing of continuous monitoring. A District Officer of Brong-Ahafo Region notes that "one thing we can do is to strengthen the WSMTs to be able to undertake the monitoring activities and to do the education about how to manage the water properly." He says that strengthening the WSMTs "will remove a lot of the burden from the district assemblies. Water is life, but as you all know now, nothing is free. If you want quality water, you need to be prepared to pay for it. The people must be prepared to pay for the water they consume."

Photo 12 State of rural water services in Ghana Forum, October 2015

Mohammed Ibrahim Adokor, Principal Planning Investment Analyst, CWSA Head Office, offers this suggestion for generating revenue: "I would suggest that in the tariff-setting formula—which includes the distribution costs, operation costs, maintenance costs, and so forth—the district assemblies could designate maybe 1% of the total revenue of the system for small towns, especially with regard to small-town piped systems in the districts. The district authorities can use this revenue to fund the continuous monitoring agenda and also other forms of monitoring at the district level. Some of the funding can be used by the districts for basic logistics and other needs, such as motorbikes to enable the district officers to go to the facilities for monitoring and then bring the results to the district level to inform planning and decision making."

"One thing we can do is to strengthen the WSMTs to be able to undertake the monitoring activities and to do the education about how to manage the water properly."

Working together to move forward

Photo 13 Ghana Water Forum stakeholders meeting, Bologa district

It is important to work together to move forward. A District Official of Sunyani, Brong-Ahafo Region says, "SMARTerWASH has helped us gather information and learn much about the facilities. Now, as the owners of these facilities, it is time to see what the districts can do when the project has ended." And he notes that "CWSA will be here to provide the necessary support to continue what the project began in the coming years." Vida Duti explains her vision of the way forward: "We (IRC) will work with the government to obtain the necessary resources both from the government itself and from other sector stakeholders. Already in our discussions with CWSA, the agency is thinking about setting aside government resources to support this process because it has seen the value of having the data. We are also having discussions with our districts, which need the data for their planning and to present in their reports to the sector ministries and the National Development Planning Commission. We have tried as much as possible to align the data that we collect with the national departments by district. In piloting the data collection, we've been able to establish the indicators we need for continuous data collection."

Appendix A: Interview transcripts

Interview with Vida Duti, Country Director, IRC Ghana

Interviewer: How do you see the IRC's involvement in strengthening the water and sanitation sector in Ghana in the future?

Vida: Over the years, through the SMARTerWASH project, we've been able to work with the government of Ghana, CWSA, and their partner districts to establish a rural water system and monitoring of this service. To date, we have covered 131 of the 216 districts in Ghana. Going forward, we will be working with CWSA to cover the remaining 85 districts. We collect data on the system's water facilities in the covered districts. After all of the districts have been covered, we will be able to use this data to provide reports on the state of our water nationwide in Ghana, as well as on the existing facilities and their status. CWSA and the districts will put in mechanisms that will ensure continuous data collection to aid planning in the sector. Besides rural water, our sector also includes water resource management and sanitation. Our ambition is to build on experience that we have gained in the rural water subsector toward supporting our two key ministries, the Ministry of Water Resource and Housing and the Ministry of Local Government and Rural Development, to establish a robust monitoring system for the water and sanitation sector of Ghana that would allow us to provide data on our progress in terms of the sustainable development goals (SDGs). So that is our ambition: to have a robust sector monitoring system that will track progress concerning the SDGs. And IRC wants to be a key player in supporting the government of Ghana in achieving that ambition.

Interviewer: So, talking about the results of the baseline study, 30% of the systems are not working, and a lot of the others are providing poor services. This is shocking. How are you reacting to this failure? What are you going to do about it? Why is monitoring like this important to understand the magnitude of the challenge in Ghana in order to move forward toward sustainability?

Vida: When we started the Triple-S project and embraced monitoring, we were able to generate information on the state of the water service in three districts. When the data was presented initially, it came as a surprise to some sector stakeholders, and they started to use the data to assist in their water service. Other sector stakeholders felt that the data was not representative enough because it was only for three districts. With the SMARTerWASH project, we've been able to monitor the status of rural water services in Ghana over a larger portion of the country. We are using the data from this monitoring to inform our planning toward meeting the SDGs. A number of other sector partners are taking on responsibilities to help us deal with the issues the data has revealed, so we are beginning to build some collective action to address the issues concerning sustainable water services. In some districts, the United Nations Children's Fund (UNICEF), SNV Netherlands Development Organisation (SNV), and other sector stakeholders have supported the data collection. We've also worked with UNICEF and provided it with technical support to develop a sustainability compact for the sector. In that sustainability compact, we identified measures at the policy level and also at the district level that need to be addressed in order to achieve sustainable water services. In it, we also agreed together with the sector stakeholders what each player will be doing. In the coming years, we will be supporting UNICEF and working together with the government to address the systemic bottlenecks that prevent us from achieving sustainable water services nationwide. Also in collaboration with UNICEF, we have just started a nine-country programme that is being funded by the Dutch government. Through that programme, we are going to work with other sector stakeholders at a

larger scale in streamlining the processes for continuous tracking as well as taking remedial actions as we go.

Interviewer: What are the ambitions of SMARTerWASH and what are the limitations, and how do you see the project's goals being met?

Vida: The SMARTerWASH project ends in December 2016, but the work of sector monitoring will continue. Our first ambition is to finish covering the remaining districts. We still have 85 more districts to go, and we will finish covering those. And we will work with the government to obtain the necessary resources both from the government itself and from other sector stakeholders. Already in our discussions with CWSA, the agency is thinking about setting aside government resources to support this process because it has seen the value of having the data. We are also having discussions with our districts, which need the data for their planning and to present in their reports to the sector ministries and the National Development Planning Commission. We have tried as much as possible to align the data that we collect with the national departments by district. In piloting the data collection, we've been able to establish the indicators we need for continuous data collection. We are in discussions with the districts to see how they can participate. Some have already done follow-up monitoring on their own, so we are very sure that monitoring will continue, and interest in development is also emerging. For a very long time, in the districts where we had worked previously, even though they had done continuous monitoring, we were not seeing significant changes in the service levels or in fixing the systems that had broken down. It's not that nothing was being done, but probably that the remedial actions that were being taken weren't sufficient to cause significant change. But we see an interesting trend in the last data that we collected, with tremendous improvement in the water service levels. This is because the districts are now establishing water and sanitation management teams (WSMTs) for the water facilities that they didn't have and strengthening these teams, which are working with the communities. So the districts are making an investment in achieving some level of improvement in their water service levels. And we believe that with time, as the districts start seeing improvement in the functionality of water services, it will be a motivation for the government to take the process forward. But we are still engaging. And I think that within the sector, there is a lot of interest in getting the facilities working.

Interviewer: Would you have done anything differently to make SMARTerWASH an even bigger success?

Vida: I must say that SMARTerWASH is already a big success. Usually you have people piloting so many interesting ideas, and I think the most critical challenge for those of us in the development field is how to get a brilliant idea that has been tested scaled. And I think that in SMARTerWASH, we've been able to show that you can cross that bridge. We piloted this idea of rural service water monitoring in only three districts in Ghana. And for an organisation like IRC to have been able to work together with government to scale the process to 131 districts is a major achievement. We haven't done that alone. We had funding from the Dutch government and the World Bank to start with. But along the line, we have been able to work with the Ghana government to attract other donor funding and to also receive the government's own funding to get the process to other districts. We've gotten collaborative funding from UNICEF, SNV, and the Conrad N. Hilton Foundation. And all these resources came together to get SMARTerWASH to where it is now. What we could have done differently was to step up our efforts at mobilising additional resources. It took longer than expected to bring the results back to the sector. Originally, the SMARTerWASH project was supposed to be only 65 districts. But when we had collaborative funding from the World Bank, it wanted the project implemented in all six regions

where we are working. Therefore, by working at that scale, we focused on finishing all the data collection before bringing the data to the sector. If we should have done something differently, maybe we shouldn't have waited until we had all 131 districts completed and had all the fact sheets prepared to start with sector engagement. We are almost in the last month of the project, but we have done sector sharing only once or twice. We are now doing regional sharing, where all the districts are brought together. And presenting that data is stimulating a lot of interest, as all the districts learn what is happening in other districts. So if we were to do SMARTerWASH again, we would probably present the data as we go instead of waiting until the end.

Interview with Ofori McCarthy, Regional Director of CWSA, Northern Region

Ofori: I think that we don't have a culture of maintenance. It's an African problem, it's a Ghanaian problem. We tend to react when things are broken down, instead of planning and maintaining our systems that we put in place. Because of what we learned through the SMARTerWASH project, we now want to ensure that we think about maintenance and not just concentrate on repairs and broken-down systems. And for that reason, monitoring of the facilities is important. We need to continue monitoring the facilities in the various communities to be sure that the water system is functioning smoothly, and if not, we need to address the remedial issues so that we won't have down times. So the essence of maintenance is to ensure that we avoid down times. If we are strict about maintenance, we can avoid down times, because then we will not be reacting to the need for repairs; we will be proactive in ensuring that the facilities never break down. So that is what I am preaching. That is what people should begin to think about.

Interviewer: Can you give us a quick insight about the remedial corrective action that you have undertaken?

Ofori: Yeah, the correctional action can be a simple thing like replacing a water seal that is causing a leak so that the hand pump is not effective. Simple things like that. Simple things like even ensuring that we chlorinate the system so that people can get potable water, to ensure that the water quality is good. This is done simply by dropping a can of chlorine into the water system in a small town. And that's all. So there are basic things that I believe we can do to ensure the quality of the water. As an indicator, we have set five levels of parameters to ensure that the water meets the basic requirements, and one of them is quality.

Interviewer: How important is monitoring in your district?

Ofori: Monitoring is the soul of the water system. I mean, if you don't monitor, you will not be able to know that there are things about to break down. But if you monitor, you can always anticipate breakdowns, you can anticipate down times so that they do not occur. So that is very, very important. I believe that is key. And that's why I believe that issue, establishing monitoring needs, is so important. The monitoring that I am talking about is set to be done periodically. It could be every month or every quarter that we send people around to see if the facilities are functioning effectively. They can identify problems at the time. It's just a way of checking up.

Interviewer: Are you keeping the data you collected only for the district or do you share it with the other districts?

Ofori: No, the data is shared beyond the district. The other districts and the NGOs all have access to the data. The private sector also needs to have the data, because it will have to provide

the parts. So, almost every stakeholder in the water sector has access to the data. It's an open system; as long as you know the code, you can enter.

Interview with John Aduakye, Chief Hydro Geologist of CWSA, Tamale

Interviewer: Can you explain why 31% of parts are non-functional?

John: Basically, at the time we did the survey, we realised that 31% of parts were not working after we had done the drilling and installed the pump. It could be that after the pump has broken down, the community has not gathered enough money to put it back into use or possibly doesn't have access to an area mechanic who can get the spare parts to fix it. Of course, I acknowledge that the groundwater conditions in the north part of Ghana are some of the most difficult. So it could be that in a few cases, the water discharge is very low and eventually no water can be pumped at all. But I am expecting that to be the situation in very few cases. Most of the pumps can be repaired and put back into use. And it is important to do that. We need to determine which ones are not working so we can find the means of putting them back into use by asking someone to repair the pumps that have broken down. And for the ones that we think are out of use, we need to remove the pumps and install them at places where we can get water.

Interviewer: There is also a concern that the quality of water systems is not very good. When you test the community, you drill a borehole, and you test at that moment that water quality is good. Five, ten years down the line, the same borehole is again tested. Do you often do routine testing to ensure that the quality of the water is safe for drinking?

John: The essence of the routine testing is to make sure that the water quality remains the same as it was when we placed the pump, or perhaps has even improved, and is still in a condition that is good for human consumption. That is the essence of water quality monitoring. Now if you look at the monitoring in that area very carefully, you will realise that the quality of the water was one response we had that was very good, because almost all the communities were satisfied. This means that the initial decision to put a pump in each of those locations for water for human consumption was very good. We need to check the quality at least once a year, but this has been a challenge, because we expect the users to collect money to contribute to the laboratory to provide them with that information. We expect the district assemblies to educate the users, to remind them and help facilitate the process we are working on ourselves, as community water, and with the district to make sure that every borehole is checked and running. But generally, before we install a pump, we make sure that the water in that location is good for human consumption.

District Success Stories

Frank Tdidzi, IT Specialist, CWSA Sunyani, Brong-Ahafo Region: We have reached a stage where we realise that it is important to use ICT tools to do the monitoring. In other words, we have moved away from the traditional method of using paper questionnaires to capture data. The SMARTerWASH project seeks to improve the reliability of data so that municipalities and districts, the national government, development partners, and other stakeholders will have credible data to use for sector policies, programming, targeting, and so on. In our country, we have four main field surveys, so these are the main services that we installed on the phone: hand pump management survey, pipe service survey, pipe system management survey, and the service authority. A total of 3,959 hand pumps were surveyed in 2014. The most common type of hand pump used in Brong-Ahafo is the modified African, followed by modified Indian.

Simon Akasuya, WASH Engineer, Nabdam District Assembly: Before SMARTerWASH, we were not able to do proper monitoring as far as WASH programmes were concerned. But with the coming of the SMARTerWASH programme, we have been able to do monitoring to a larger extent. Why? When we are going to do monitoring, we need to concentrate on areas that need more intense monitoring. So the project has helped us in our monitoring because we are going into areas where we don't have information and are capturing data there. It has also helped us both plan and budget very well, especially for WASH programmes. And we are now going to intensify our monitoring, especially in communities that have weak water and sanitation management teams, so that we can bring those communities up to the task. So I think the SMARTerWASH project has helped us a lot.

Kwesi Owusu Mintah, Planning Officer, Sunyani West District Assembly, Brong-Ahafo Region: The use of Akvo FLOW has really helped us. Previously, we had to go into the communities with a lot of materials trying to gather data. But Akvo FLOW has made data collection from our various communities much easier, and because of that, we are able to monitor a greater number of facilities than before. With the Akvo FLOW system, we are able to use mobile phones to locate our facilities within the districts using the Global Positioning System (GPS). We can also use our mobile phones to compile data from our facilities within the district, which lets us know which facilities are functional and which are not functional. That has really helped us in our planning. We have learned and achieved a lot from Akvo FLOW.

Simon Alebga, WASH Engineer, Talensi District Assembly: Before the SMARTerWASH project, we didn't have any data, and monitoring was very difficult. We didn't even know where the facilities were. Then this SMARTerWASH project came, and it was very good; it was a relief to my work. Since the SMARTerWASH project, I am now able to locate where all the facilities in the district are. I know the communities they are in, the number of each area council, so monitoring is now easy for me. We now know which facility is in which community. So that is how it helped me in the monitoring of these facilities. Also with the monitoring, I discovered that we had facilities that didn't provide the basic services to the people. So we just started with the support from management, the district coordinating director, organised an NGO consortium working in the WASH sector, and displayed the data to them. And some of them were shocked—they were very surprised to realise they had been going around and putting in service facilities that were not providing the basic service needed to the people. So we have some NGOs, especially WaterAid, that decided to repair some broken-down systems. We were able to repair five of them. That is how we are using the data we got on our communities. So we speak with confidence that this is good and it is working, and we can use it for our planning processes.

Michel Baidoo, District Planning Officer, Suaman District Assembly: Suaman is one of the newly created districts, and the water situation in its villages and communities was very bad. The boreholes have been broken down, and people are competing with animals for water. Thanks to SMARTerWASH, we made an effort to assess the number of boreholes that were broken down, to give the district a good idea of how the water situation can be improved. We did that, and fortunately for us, after the programme we noticed that almost half of the boreholes drilled had been broken down. As a result of this, our District Chief Executive got hold of it, and immediately funds were made available. Out of the 20 boreholes that were broken down, 10 were still good to restore. And this means that 10 of those 20 that were not able to get water are now able to get water. In fact, if it had not been for this programme, likely those broken-down boreholes would be difficult for the district to assess. The way forward that I think should be put in place is that in our newly created district, this project should be sustained.

Mohammed Kpegla Adama, IT Specialist for Community Water and Sanitation Agency, Western Region: I am really glad that an intervention such as this has come to the region. It has been very, very timely, and it has also been very, very beneficial to the people of the Western Region. The full activities have shown that we have more facilities on the ground than we have captured. That is the first benefit that we realised from the programme. Second, at the regional level, it has been extremely difficult to capture information from all the communities up to the district assembly level and then to the regional level. But with the introduction of this project, by training people at the district level to obtain the data, it has helped us in the data collection exercise. Some level of decentralisation has eased the burden on the regional office.

Gordon Domayele, District Coordinating Director, Sene East District Assembly, Brong-Ahafo Region: If you have worked with the district assembly for long, you realise that emphasis has always been on what you can touch, what you can feel. But this study has highlighted the need to emphasize service, to ensure that the facilities are always delivering water to the people, and at the right time. So we in management have appreciated that, and it was achieved through regular and continual engagement with the DCE (district chief executive), all management and heads of departments, and the executive committee of the assembly. District staff has been equipped with the skills, tools, and knowledge of guidelines and indicators for water service monitoring in Ghana. SMARTerWASH and other projects also led to a revision of several documents that have been made available to us to support us in our water service delivery responsibilities. One benefit of having the data from monitoring is that it caused us to take immediate actions, and we have rehabilitated 34 boreholes since 2015.

The water situation in Ghana wasn't good; in fact, it was very bad. There was a need to bring the water systems at least to a level where the communities and other stakeholders could continue with the process. So the assemblies together with the communities intervened by rehabilitating some of the broken-down water systems. The WSMTs were trained immediately after the survey. Our work has been made much easier, because we now have at our disposal all the indicators we need to monitor water. Yes, in other areas we might still be struggling, but with water and water-related sanitation, we now have data that we can use to improve the service levels of water facilities in the districts and also to help in decision making at the district level. The knowledge we gained from SMARTerWASH has been marvellous. Now we are aware of where problem areas exist, and the documents are there for our reference on how to increase service levels of water facilities. This is the critical aspect, which we need to work on together.

Abdulai Ibrahim Alhassan, Planning Officer, Sene East District Assembly, Brong-Ahafo Region: The project helped us collect data, innovative data that has helped us in making decisions on the provision of water facilities and also the rehabilitation of malfunctioning ones. Previously, we needed to go to the communities carrying a pack of questionnaires to gather data. But with this project, it is now as simple as using a phone to get all the information that we need. Data gathering is much faster than when we needed to visit the communities and carry a pack. So I think this is better than before. We were surprised when this project revealed the number of water facilities we had that were not working. As high as something like 45% were not working. But with the data, we were able to know the steps we needed to take to rehabilitate those that were not working. So the project has given us some insight and also more motivation to work, to act.

Kyei Asare Bediako, Water Engineer, Sunyani West District Assembly, Brong-Ahafo Region: The SMARTerWASH project has really helped me, as a district engineer, to identify the number and types of hand pumps we as a district are operating. On the ground, we need to do continued

monitoring. What has really changed in the district assemblies is that districts are actually shifting from the provision of infrastructure to sustainability of the existing facilities. Previously, we were just providing facilities for districts. We didn't even think about the sustainability aspect. But now we have gotten deep into the sustainability aspect, rather than just the provision of infrastructure. The SkyFox SMS experiment has really helped the district in receiving reports on functionality and data on whether facilities are broken down or are working. And because of this experiment, a community will now get a mechanic and parts within three days for the repairs of broken-down hand pumps.

Daniel Nnebini, Planning Officer, Kintampo South District Assembly, Brong-Ahafo Region: After the data collection, the information we had gathered was very, very helpful. The project has changed our way of doing things. We used to focus on providing physical facilities, new boreholes in the district. But after the project, we shifted our focus from providing physical infrastructure to repairing the broken-down facilities. In our district, we discovered that many of our facilities were totally down, and some of those that were functioning were only partially functional. Looking at that, we realised that if we continued just providing the facilities, the assembly would not be giving the communities any services. So we have restructured our planning system. We shifted our focus a bit. We still provide new facilities, but now a portion of our budget goes to repairing boreholes, training WSMTs, and building capacities of other stakeholders that are in the sector.

As a district, we are working with other development partners, including World Vision, which has provided funding for some of the boreholes. After the data was collected, World Vision, the CWSA team, and the district assembly management came together to analyse and clean the data and look at some of the questionnaires. We validated the data we had and shared this information among the partners, which are using the data in their planning. Looking forward, the assembly plans to continue to support the team that collected the data. The assembly will also consider making financial allocations to make sure that the water data is updated and validated, having the team go around and collect data, if not annually, maybe every two years.

Paul Kofi Twene, Cluster Manager, World Vision Ghana: I was here today to be part of the data dissemination of community water and sanitation at the regional level. And it was in line with the SMARTerWASH survey that was conducted by the agency. I am aware that this has been carried out in all the districts where data had been collected on the functionality and condition of the facilities that had been provided. And this was to enable us to have the dissemination today. In fact, I am not seeing the data for the first time. I remember that in one of the sessions and at a meeting of a Hilton-funded project, the data was shared in an Excel template with all the district assemblies. And we are supposed to come back and do some implementations to address the issues. So today's experience for us was to share what we have been able to do as a result of these resources that we shared some time back. And I am happy with the way the process has gone. I am very much interested in the commitment of the district assemblies that have come and have contributed very positively. So for me, coming in as a partner and as a development person, and especially working with World Vision and working with a district that has been one of the districts where the survey was conducted. I think it is a wake-up call for us to look at the level of functionality of our facilities and how we are able to improve so that the level of service delivery can be seriously improved. So for me, it is a wake-up call for us to be able to work with the district so that we are not just providing facilities—we also need to ensure that we deliver services to the people that we serve in the district.

Patrick Apoya, CEO of SkyFox Ltd., Water Exchange Visit 2015: I would say that the SMARTerWASH project has been a very big success. One way is the fact that now it is possible for NGOs, government, and the private sector to collaborate and learn from each other's strengths. Gathering information or giving feedback that can be used by policy makers—for me that is something that I thought would have been impossible a few years ago. But of course, it also comes with challenges, and we should recognize that. And as much as we have had some successes, we still need to improve.

In my experience so far, working with the government partners and the NGO partners, for me the starting point is trust. Formerly, there was an environment of mistrust, where government people looked at private businesses as if for them it was only about their business interests, about profits. Business people were thinking governments were protective; they couldn't do it alone, and yet they were holding on to things that were not of comparative advantage. That trust was cultivated as far as SMARTerWASH is concerned. When the project was being developed, all the stakeholders sat at a round table and tried to determine what would be the best approach. Common interests and goals were the starting point for cultivating that trust among the private sector, the government, and the NGOs. And definitely on all sides, everyone had something to be proud of.

For SkyFox Unlimited, a private organisation, one cannot imagine that on its own it could have gone to districts individually all over Ghana to discuss the opportunity to be able to interface with our technology, which definitely has value to them. Without a project like SMARTerWASH, the districts would not have been able to imagine how they could take advantage of that technology. The project was able to facilitate a number of districts to interface with our technology, to take advantage of an SMS platform that allows communities in these districts to easily determine which pumps are broken down and where to find access to spare parts from suppliers even in distant cities. That this platform has enabled communities to do all that is something we are very proud of. It is not about selling our technology; it is about solving problems. We do know that many communities are better off today with the SMS system than they were before. My colleagues can testify that apart from a few instances, most requests for repair parts that have passed through our platform have been processed and delivered within 24 hours.

Benedict Kubabom, Director for Planning and Investments, CWSA: Basically, the SMARTerWASH project has come to facilitate the work of the department of planning and investments in the sense that we need to have knowledge of what is happening to the facilities on the ground, because as planners, we need to work toward replacing broken-down systems; we need to work toward full coverage. So we need to know what population is out there, how many have been served, and how many have not been served. Of those who have been served, which water systems are functional and which are not functional. Then we will have an idea of the level of investment required for us to meet full coverage. Nowadays, the development goals are aiming for full coverage by the year 2030. So it helps us to really define the extent of investment needed for the sector. It also helps us to establish the existing level of coverage. The department of planning and investments needs to know how many people normally are served at each point in time yearly. Once we know what percentage of the rural population has been served, then we now know how many still need to be served. And then we will realise the extent of the problem in terms of universal coverage. So for us in the department of planning and investments, the data will be useful in establishing coverage and determining what level of investment will be required to reach the population that has not yet been served.

And then we will need to track this data. Data is housed in the department of planning and investment, and we have both regional and national IT personnel. The regional IT personnel are mandated to carry out the implementation of this monitoring within SMARTerWASH. They have to ensure that data is collected in the various districts. The three planners in our department have been detailed to keep track of the regional IT staff so far as the SMARTerWASH project is concerned. Right now we are all in the field, doing the dissemination of the results. Ten members of the regional staff work with the district staff to ensure that the data is reported. We have a dashboard that is being monitored at the national level by the IT committee so that at any point, staff is able to report on whatever is happening on the dashboard.

For us, the best way to go forward from this point is to collect real-time data on the state of the facilities, which is critical now. We should not need to wait until the results reach the national or district level to be analysed. With real-time data, we would know the status of a particular facility. We are currently collaborating with the SkyFox SMS text system, which will allow us to make informed decisions about each hand pump and the kind of repair required.

Samari Ibrahim, Assistant Director (WASH Desk Officer), Bawku West District: SMARTerWASH has come in to help us in many ways. One way has been with the training of IT staff to gather data for this programme. And previously, we had problems tracking our facilities, knowing where they were and how to monitor them. But with the SMARTerWASH programme, we can see the number of facilities that are in an area council or community. With the SMARTerWASH tools, it is possible to develop our WASH plans, and we will be able to factor in some of this data. And now WaterAid had come to us, based on this data, to help us to find and repair broken-down boreholes. Thanks to SMARTerWASH, we have gathered a lot of information and obtained support for more such facilities.

Daniel Atchulo, WASH Desk Officer, Bawku Municipal Assembly: We do monitoring to make sure the objectives that we set are being met. Periodically, we have to move from community to community to ensure that whatever we have put in place is being followed up and that every community has access to potable water for the people. The works department is made up of community development officers and environmental officers, and we bring these people on board to help us, and we assist them in collecting information. These are people who are actually in the field, doing the day-to-day activities in the field. Gathering the information for the community is very easy for us. So the project has given us first-hand information about what is actually going on in the field, and this allows us to plan well. In our annual action plan, we assign the activities of water and sanitation and ensure that any problems that exist in these areas in the communities are resolved.

But one area I see that needs improvement is that although we feed the data into DiMES (the District Monitoring and Evaluation System), which is supposed to be updated, up to now we have not yet received an update, so updating the information we collect from the field becomes a problem. New boreholes are drilled, and others break down, so that means that the information we have may not be as accurate as we think it is. So our suggestion is that the data input into DiMES should be submitted immediately to the district so that we can update our information. For DiMES to be up-to-date, we can go around and collect the data and update the information for the districts.

Dari Kasim, WASH Engineer, Gushegu District: With the help of the FLOW data, we were able to determine the number of facilities that are not functional and those that are functional. And based on that, we have been selecting 10 communities every year in which to do rehabilitation.

So for now, I can say yes, things have changed compared with before (the project) came in, with the help of the FLOW data. Now, even when I am sitting in my office and someone calls me on the phone and asks: 'How many facilities do you have? How many of them are functional?' I can give numbers. It was based on this data that we have been able to achieve all these things. So we have been improving all those years.

Obeng Aseidu, WASH Engineer, North Gonja District: So far, we did an analysis with the raw data that had been sent to us. Last year, we repaired around 12 boreholes in 8 communities. And this year, we picked up a system where we were able to repair 10 additional boreholes that were broken down. This year and last year, we also have been training about 16 communities on their WSMTs. It really helped us to know in which communities the WSMTs were not in place.

Sulemana Abubakari, WASH Engineer, West Gonja District: There were also some other institutions that needed water, like the schools. Some schools, like the primary and high schools, were in communities where potable water was not accessible. It was also a plus (when they were provided with functioning water service) because those schools were very, very happy and students no longer had to travel to get water.

Mike Adjei, regional director, Western Region: Already there is every indication that as a result of the work that has been carried out under the SMARTerWASH project, district assemblies have taken actions to improve some of the facilities in their districts, water in particular. For example, the district water and sanitation plan has already been updated. The assemblies have been able to leverage funding at a district level to re-establish water and sanitation teams where they currently do not exist. So water and sanitation teams are being reorganised and retrained, and some districts are thinking of replacing teams that are not really working. The district assemblies are also going to put in 25 new replacement boreholes. This is all being done as a result of the data collected at that level. And so I would say that we are already seeing positive results. These are some examples of the benefits of this project. And I also want to say that it is going to reduce the cost of monitoring at the regional district level.

Estherine Mensah, district planning officer, Wassa East District Assembly: Because of this project, we realised that most of our communities do not have WSMTs and about half of the boreholes and hand pumps were not functioning. As a result, the district organised a stakeholder meeting with all of our partners to determine the way forward. Based on that, we prepared a district water and sanitation plan for 2016–2020. The plan was approved, and a budget has been allocated. We also have solicitors for the funds for the construction of 25 boreholes in our communities and institutions for health and school facilities. To ensure the sustainability of SMARTerWASH, we intend to train area councilpersons to make sure that they will collect the data from the base and then provide this information to the districts. Moving from the district assembly to all the communities is going to be a challenge for us, so we think that training our council chairman and councilpersons would be the best way to ensure that they will always update the district assembly on the facilities that are in their council areas.

Mohammed Ibrahim Adokor, principal planning investment analyst, CWSA Head Office: The districts are the legal owners of the facilities, but the district does not have the capacity to go to every single facility in every single community to manage these facilities. That's why the communities are supposed to manage them for their own good. And so, I advocate that the districts take the facilities at the local level much more seriously and assign supervisory powers over those facilities to be able to manage them. They could, for instance, put a small amount in the tariff-setting formula to be used for continuous monitoring or any other form of monitoring,

technical needs, or financing the facilities, so that at every point in time the districts will know the reality on the ground. So I would suggest that in the tariff-setting formula—which includes the distribution costs, operation costs, maintenance costs, and so forth—the district assemblies could designate maybe 1% of the total revenue of the system for small towns, especially with regard to small-town piped systems in the districts. The district authorities can use this revenue to fund the continuous monitoring agenda and also other forms of monitoring at the district level. Some of the funding can be used by the districts for basic logistics and other needs, such as motorbikes to enable the district officers to go to the facilities for monitoring and then bring the results to the district level to inform planning and decision making.

Belinda Bukari, District Planning Officer, Chereponi District: We have to reconstitute the watsan (water and sanitation) committees, because they have been there for several years and they are not working. And on some of the committees, there are no women. Water is the preserve of women, but there are no women. A lot of the women that are in the management team are there to see the place but not to make any meaningful decisions. So we are trying to make the committees reconstitute so that we have even more women on the committees. I'm not saying it because I am a woman, but I am saying it because water is the preserve of women. It's not that I say the men are not working, but you have to have more women in the leadership positions.

Kyei Asare Bediako, Water Engineer, Sunyani West District Assembly, Brong-Ahafo Region: Because of the initiatives and projects that have been rolled out under the SMARTerWASH project, and with the intervention and support of our development partners, such as the World Bank and French funding agencies, a lot of facilities have been constructed in our region. And also, I should not forget to mention the support of our NGOs in the region, as well as individuals and companies. The baseline of coverage in 1994 was just around 18%. Through these interventions, as of December 2015, rural coverage was 56,04%. Now, CWSA's mandate of facilitating and providing the facilities hasn't ended there, because it is not just a matter of providing facilities, but of ensuring that these facilities are sustainably managed over the years. So along with the funding agencies, CWSA supported projects like SMARTerWASH to provide innovative ways of monitoring our water facilities in this country. And this monitoring had to be based on information and communication technologies, using models or tools. This has led to the monitoring of our water services in the rural areas and establishing baselines in all of our 27 districts. The information that has been gathered by the various district representatives has all been put together on fact sheets. Every district has its fact sheet that clearly indicates the number of facilities in that district, those that are functioning, and those that are not functioning. There are immediate actions that we need to take in order to continue what was begun during this project. We need to look into the findings that have come out of the districts and determine how we can together leverage the support of all the stakeholders—the NGOs, our development partners, and the government, the district assemblies themselves. How can we manage these facilities that we have in a sustainable way? And also, how can we bridge the gap that we still have? Because if we are at 56,04%, that means we have a deficit of 43,96%, if my math is correct. By 2025, we plan to have universal access, providing water for all.

Frank Tdidzi, IT Specialist, CWSA Sunyani, Brong-Ahafo Region: Now that the project has been facilitated in all 27 districts and fact sheets have been made available, we are going to deliberate on them, make suggestions, and consider immediate actions that should be taken. And therefore, for our objectives, we are going to examine the baseline findings on the water services in the region and identify gaps in rural water service monitoring. The fact sheets reveal that there are a lot of things that need to be done to get to where we want to be. This is a district-owned project,

and therefore, as key stakeholders, we must be able to track the use of the data and ensure that we continue to update it so we can use it for policy planning. Achievements in ICT technologies and progress in the establishment of regional-level baseline data can lead to improved investment decisions. The SMARTerWASH project used ICT tools for monitoring, so we want to evaluate how effective it was and how we can continue using the data to update. The fact sheets are from 2014 to 2015, and we need know if any new facilities have been added since then. We need to determine how we are going to use these technologies to ensure that we have accurate and reliable data. We will also explore emerging issues, and then we will engage ourselves in building support for service monitoring. Last but not least, we will discuss the opportunities to leverage existing funding sources and partnerships for supporting district-level collection of baseline data and continuous monitoring. In the WASH sector, we come together to look at how we will move forward from where we are now.

A District Officer of Sunyani, Brong-Ahafo Region: One thing we can do is to strengthen the WSMTs to be able to undertake the monitoring activities and to do the education about how to manage the water properly, so that the politicians are not the ones doing this education. It all comes down to having a budget for monitoring. And when we strengthen the WSMTs, this will remove a lot of the burden from the district assemblies. Water is life, but as you all know now, nothing is free. If you want quality water, you need to be prepared to pay for it. The people must be prepared to pay for the water they consume.

Paul Kofi Twene, Cluster Manager, World Vision Ghana: We can do better when we do joint monitoring, with the NGOs and district assemblies working together. We don't have the resources and personnel to do it all ourselves, but when we work together with the district assemblies, they provide us with human, material, and financial resources, and we are able to do proper monitoring. There is a need to focus more on service delivery. In the past, NGOs have been accused of just providing the facilities, but I think that the NGOs have learned their lesson, as they are now not only providing the facilities but also ensuring that there is service delivery.

There is a tendency, especially among the NGOs, to focus on meeting our donor targets, and this results in a focus on the provision of new facilities at the expense of old ones. However, we need to sustain the existing facilities. We must not only provide new facilities but also rehabilitate the old ones in the districts where we work. Continued monitoring is important, and we as NGOs need to support training of our own staff, as well as the district assembly staff, so that all are able to do proper monitoring.

A District Official of Sunyani, Brong-Ahafo Region: SMARTerWASH has helped us gather information and learn much about the facilities. Now, as the owners of these facilities, it is time to see what the districts can do when the project has ended. At this point, we have to stay within our mandate, because that is what the act stipulates that we must do. CWSA will be here to provide the necessary support to continue what the project began in the coming years.

Abdulai Ibrahim Alhassan, Planning Officer, Sene East District Assembly: The SMARTerWASH project has helped us in so many ways. Previously, we didn't know that some of our boreholes were not working. But as a result of the project, we learned that more than half of our facilities are not functioning. Through monitoring, the project provided efficient data that we can use for our planning activities within the district. And we can see that the development of the districts in terms of water is improved. Apart from taking immediate action, we are also using the monitoring data in our district's annual action plan, which we revise every year. Previously, we had a little in our annual action plan in regard to water provision. But now every year—even

currently, as we are now revising our 2017 action plan—water provision will be part of our district's annual action plan.

Clement Bugase, chief executive of CWSA: We have worked closely with IRC on a couple of projects, including the SMARTerWASH project, which looks at monitoring. Collaborating on water services has caused us to work even closer. And I want to state that we have had a very positive relationship, a very good relationship with IRC. We've learned lessons together, and we are now scaling up what we think is doable and will produce results for the people of Ghana. And we appreciate IRC and pledge to continue to partner with them and hope that they will want to continue to work with us.

With SMARTerWASH, we established a baseline, which indicated that 30% of our facilities, especially our hand pumps, are non-functional at any point in time. That is a big proportion as far as we are concerned. And we see that it is necessary for CWSA to work to do more. We and the other stakeholders at the district level must take remedial measures to ensure that the non-functional facilities are brought back into service and that facilities that are partially functional will be fixed so that they give complete service. This must be done so that rural areas can benefit from the water and other services that people need to have provided. As a result of this project and the collection and analysis of data, the district assemblies have come to realise the extent of their responsibilities and are including these things in their plans for the future. They are also using the data to reach out to other partners to help them do things better than in the past. And that will lead to improvement in the functionality of the facilities and the provision of water in the various districts that we have covered so far.

For CWSA, the data that we have collected and analysed has given us insight into what we are presiding over as a government agency: a nation with a lot of facilities that are not working well. And that has now pointed us in the right direction. Apart from telling us about functionality, the data has also revealed to us that there are geographical gaps in coverage, areas that we have not reached well. So in our plans, we are taking that into consideration. We think that this is good information for CWSA, and we are also able to brief our higher authorities on what is happening on the ground so that when there are issues about rural water, we can better appreciate the problems and can make decisions together that will help bring equity, fairness, and improvement in functionality generally in the country of Ghana.

Appendix B: Excerpts from articles about SMARTerWASH

Minister urges MMDAs to adopt SMARTerWASH project

7 October 2015

Dr. Kwaku Agyemang-Mensah, Minister of Water Resources, Works and Housing, has urged stakeholders to work towards making the SMARTerWASH project adopted by Metropolitan, Municipal and District Assemblies (MMDAs) for full-scale nationwide monitoring. He said this would ensure the provision of real time data on the state of water facilities for the purposes of national development. The SMARTerWASH project, a cutting edge technology by the Community Water and Sanitation Agency (CWSA), which enables the Agency to get real time data on which of its pumps, mechanized boreholes, or water systems, is providing the desired services to the people of Ghana. The technology involves the use of text messaging (SMS) by means of mobile telephones to report on the state of water facilities.

The SMARTerWASH Project is being implemented through a partnership with IRC, Akvo and Skyfox, with collaborative funding from the Government of Ghana, the Dutch Government, the World Bank, UNICEF, the Conrad N. Hilton Foundation and SNV. The beneficiary regions include the Upper East, Upper West, Northern, Brong Ahafo, Western and Central. Dr. Agyemang-Mensah said the project had come to address the communication gap between policy makers, service providers, and beneficiary communities. He said the technology would enhance data collection and analysis of the functionality level of service provided and management of rural water services. He observed that the project was helping to establish the architecture for nationwide and long-term management of WASH services in line with the vision and guidelines for monitoring in the rural water sub-sector. He said this could also be useful for other initiatives in the water sub-sector, stating that "monitoring is essential in project delivery; it enables us to effectively manage and control a project for the benefit of targeted communities".

Dr. Agyemang-Mensah noted that in the 1990s, rural water coverage was just 27 per cent, but today rural water coverage stands at 64 per cent. He said this was shown in 27,555 bor(e)holes fitted with pumps, 636 pip(ed) schemes and 526 Ghana Water Company Limited rural connections; adding that this infrastructure constitutes a huge asset base for government and beneficiary communities. He said in spite of the huge amount of money already sank into the provision of rural water infrastructure, government and its partners would continue to further invest in the sub-sector. "In this era of technological advancement, it is important that we apply modern tools to improve rural water services delivery. "It should be possible for us as policy makers to have access to real time data policy decision making. We no longer have to wait for quarterly and annual reports to update sector data," Dr. Agyemang-Mensah stated. He observed that real time data was required to ensure the functionality of water systems, scale up services and reduce water loss. "On many occasions a simple breakdown of a water supply system can cause a community to be without water for days. This occurs when we are unable to bridge the gulf between the community and the service providers," he said.

On results attained so far from the SMARTerWASH project, Mr. Clement Bugase, the Chief Executive, CWSA, mentioned the establishment of a robust ICT infrastructure for mobile phone monitoring of water services in 131 districts out of the 216. Others are the training of over 700 MMDA staff in the 131 districts on baseline data collection and management and generated statistical data and reports on the state of water services in each of the 131 districts. The rest are operationalization of an SMS system by community members to alert private sector service providers on the need to fix their broken down water facilities and actually leverage the means

to do it. He gave the assurance that the project would be scaled up in the near future to cover the rest of the country. Mr. Ton Schouten, IRC Netherlands representative, lauded the project, and further urged governments and development partners to take a serious look at water and sanitation issues.

http://www.ghananewsagency.org/economics/minister-urges-mmdas-to-adopt-smarter-wash-project-95419

Monitoring rural water services for sound evidence-based planning and finance decision making

by M. Adank, B. Kubabom & J. Atengdem, V. Duti (the Netherlands/Ghana)

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 analysing 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 realised 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. . . .

. . . 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.

http://wedc.lboro.ac.uk/resources/conference/39/Adank-2551.pdf

It's not the hardware – but the service that matters

based on an interview with Jeremiah Atengdem

After eight years of working in Ghana, IRC has achieved a paradigm shift in monitoring and delivery of WASH services. . . .

The baseline study by the Community Water and Sanitation Agency (CWSA) has prompted a conversation on a new way of monitoring water services as opposed to counting of facilities. The paradigm shift seems to be taking root from the responses registered at the stakeholder meetings. There is an appreciation that the era of just focusing on physical infrastructure is behind us, and the new era demands that attention should not be just on the infrastructure but much more on the end product—safe water service provision. . . .

Use of data at different levels

Assessing the piped schemes and the management as part of the baseline study raised issues of concern as the number of facilities on the ground did not match with what was documented as planned and implemented. Harmonisation and coordination in the planning and delivery of WASH services is an issue. . . .

The districts did not know what the situation was on the ground—it was assumed that all people are well catered for and that there were sufficient facilities. But the data showed that there are huge gaps in the services provided. This was a wake-up call for people to realise that there is a lot of work to be done. This will bring into focus the way people work to support service

delivery—it will affect the way they plan, budget; the way districts monitor because they clearly realise the need to step up monitoring and do more resource-based monitoring.

It also calls on the districts to provide more support to the water service providers—using the data collected by CWSA under the SMARTerWASH initiative allows them to more effectively use and maximise their resources.

At CWSA level it's not only working with the District Assemblies to collect the data, but there is a need to go beyond that and to work with them to implement remedial actions. Only then will the 'monitoring loop' will be completed.

The District Assemblies need to be supported and helped to turn data into action to ensure that eventually we are able to reduce downtime and provide water indefinitely.

http://www.ircwash.org/news/it%27s-not-the-hardware-but-the-service-that-matters

First upload of data from FLOW to DiMES PPP SMARTerWASH

by Mark Tiele Westra of Akvo, 9 Oct 2014

We reached a great milestone yesterday: the first import of FLOW data into the DiMES database! As a first start, we uploaded 1944 handpump data points in the Brong Ahafo region. Today we will focus on generating reports—what do the users of the various systems want to see? What kind of maps and graphs help them make better decisions?

http://rsr.akvo.org/es/project/2082/update/6654/

Meeting the regional IT coordinators, day 1

by Marten Schoonman of Akvo, 14 Oct 2014

Today was the first day of the CWSA National training workshop on data cleaning and analysis. With representatives from all over the country the successes and challenges were shared.

Challenges include the accessibility of some areas due to rains. Overall the system, processes and data collection is working very well with over 12,000 data points collected. While several trainings are still taking place, data collection is already over 50%.

http://rsr.akvo.org/en/project/2082/update/6738/

CWSA introduces SMARTer-WASH to monitor functionality of systems

from Environment News Ghana, 25 June 2013

Commenting on the importance of the new technology, Benedict Kubabom, the Director for Planning and Investment at Community Water and Sanitation Authority (CWSA), said it is no longer useful to count pipes and pumps to determine whether people have access to water or not. "If CWSA really has to ensure sustainable WASH services, then it must move from the current un-structured, ad-hoc data gathering, storage, analysis and dissemination processes," he said. "Our position is that continuous investment in new WASH facilities, without reference to the already existing ones, is not the right way to go. CWSA's position is to grant equal attention, if not more, to the monitoring of functionality and sustainability of WASH systems with guaranteed continuous service. And to take corrective measures based on the monitoring

reports as carried out by the various WSMTs (water and sanitation management teams) and service authorities. So CWSA is calling for all hands on deck to ensure that happens," he added.

For his part, the Chief Executive Officer of CWSA, Clement Bugase, lamented that past projects have often come with their own monitoring tools, many of which were deficient. He admitted that this resulted in a situation where piped systems and boreholes which had completely broken down for long periods, were counted as providing service. . . . "The (DiMES) tool has worked well for us up till now. And as and when we have the resources and are able to deploy it at the regional and district levels, we've been able to gather data, analyse it and report, though there are limitations as at now," the CWSA CEO stated further. He has therefore called on all WASH sector stakeholders, especially Development Partners, to buy into the Smarter-WASH project, which he believes is the surest way of tracking functionality and providing more satisfactory and better access to water for the people of Ghana. . . . Meanwhile, available records show that at any given time, up to 30% of boreholes across the country are dysfunctional.

http://www.washghana.net/page/1519

So far, so good. The way up for water services in rural Ghana

2 December 2014

IRC Ghana and its contribution to help build Ghana's rural water monitoring seems to be going very well. "Indeed, we are firmly on the path to support the establishment of a national system for rural water monitoring in Ghana", says country director Vida Duti. . . .

Mid-November, IRC Ghana welcomed Dutch RVO (Netherlands Enterprise Agency) account manager Hans Smolders to the field who came to monitor the Sustainable WASH Fund initiatives in Ghana. SMARTerWASH is one of the programmes they fund. Mr. Smolders met the partners and the co-financer, the World Bank. His conclusion? According to Mr. Smolders, SMARTerWASH was "one of the best initiatives of the Fund".

He praised the excellent partnerships, good progress and clear plans. "The intent of the project is to strengthen systems to improve efficiency in delivery through partnerships and SMARTerWASH contributes to this objective," he said. Mr. Smolders was happy to hear that the prime beneficiaries of the project, CWSA and SkyFox were enthusiastic about the project. . . .

Together with some IRC staff members, Mr. Smolders met with Chief Executive Officer of CWSA, Mr. Clement Bugase, who shared his personal experience. Mr. Bugase said he is already using the uploaded information to track progress from his office and uses it as a management tool to ensure that Regional Directors are up to speed on the implementation. When asked about how he felt, he said with a beam—"Hitherto, I had to send my team to the field to collect data any time I needed specific information, travel to the field to see what is happening or read reports after the fact. But now in the comfort of my office, I am able to track on a daily basis what is going on."

http://www.ircwash.org/news/so-far-so-good-way-water-services-rural-ghana

A stone in the water or a change of the tide?

by Ton Schouten and Vida Duti, 21 October 2015

Is the rural monitoring system "a stone in the water or a change of the tide"?

What the CWSA has done in the framework of the SMARTerWASH project makes the heart beat: creating a data base for 6 out of the 10 Ghanaian regions, 119 out of the 216 districts in Ghana, 20,000 water systems mapped on a great number of indicators in line with national norms and standards. On Wednesday October 7, the CWSA presented the findings and it appealed to the Ministries and the Development Partners (DPs) to support its monitoring system and support the CWSA in adding the remaining 4 regions and 85 districts to the data base and ensuring continuous monitoring. This could be a "change of the tide"!

The metaphor also softens what is too harsh to say directly: even with the four remaining regions added, what will happen after the project ends? If there is no project money, who will pay for continuous monitoring? How will District Assemblies (DAs) be stimulated and regulated to update their data? Is this just a snapshot and will we sit on an outdated data base in three or five years' time?

This could be another "stone in the water". Project closed –SMARTerWASH in September 2016– job done, we move on to the next project! Or could this be a "change of the tide", another way of doing water service delivery? A way which will be showing 119 DAs taking ownership of their data, acting on it, going out to re-train malfunctioning water boards, repairing broken down hand pumps, using the data in their annual plans and reporting to the national government. A way showing Government of Ghana (GoG) taking ownership of the data, accepting accountability for sector performance, incentivising DAs to update the data, using the data for targeting national finance, organising annual Joint government and DP Sector Reviews and reporting data in accessible reports and atlases. A way showing Development Partners aligning with the national monitoring system and actively supporting it. Is this really a system's change, a change of behavior?

Maybe there are reasons to think that indeed this will be a "change of the tide". The SDGs are ambitious, they cannot be achieved with the usual aid and infrastructure driven approaches but demand strengthening governance and planning systems and a change of behavior. They demand good quality management information systems such as the one created by the CWSA in Ghana. Another reason to think that this may be the "change of the tide" is the economic growth in many African countries. This could be used for an increase in national budgets for public service delivery a/o for WASH. It could lead to stronger citizen's demand for reliable services. It already does lead to bigger confidence of governments and greater ownership; that certainly is the case for the CWSA. Another sign of change is that some NGOs are willing to use the CWSA data to track the performance of their projects and support DAs to maintain their data bases, instead of creating their own parallel monitoring systems.

Is it a "stone in the water or a change of the tide"? Saying it is a "stone in the water" is secure and comfortable: project over, job done, no one was asking anything beyond that. Saying it is a "change of the tide" is scary and insecure, asks for trust, taking risks and long term engagement. Maybe it is a matter of choice, going for comfortable or taking a risk.

On 7 October, the CWSA presented the data for water supply in rural areas and small towns to the sector in Ghana. The data show that around a quarter of the water systems are non-functional and only around 10% are providing the service level people in Ghana are entitled to. You do not need a lot of metaphors to show that is not good enough and something needs to change.

http://www.ircwash.org/blog/stone-water-or-change-of-the-tide

CWSA, Triple-S, use mobile technology to tackle water, sanitation facilities breakdown

by Patrick Baidoo, 19 June 2013

The (SMARTerWASH) project aims at establishing the architecture for nationwide and long term monitoring of WASH services in rural communities and small towns in Ghana. Based on the national indicators for the provision of WASH services in the rural water sub-sector, comprehensive baseline data of water supply facilities in the project pilot districts was collected by district staff using mobile phone technology based on Field Level Operations Watch (FLOW) application. FLOW allows all (these) features to be integrated into one phone and data collected is sent to a central database over a local mobile data network where it is shared instantly for action.

The experience of using FLOW in the Triple-S project pilot districts showed that data collected is more secured, decisions making is based on field data, and there is greater transparency and accountability in data access and use.

In that regard the chief Executive, CWSA at a workshop to share the beneficial outcome of FLOW and the SMARTerWASH project with its partners as a result of some piloting on the concept noted that the new technology, "enables water points across the entire regions or communities to be monitored affordably–with accurate data that is easier to gather and share".

The CWSA Boss, also indicated that his outfit was reviewing existing national strategy documents and guidelines for the WASH sector in due cause to ensure sanity.

http://ghwashtimes.blogspot.com/2013/06/cwsa-triple-s-use-mobile-technology-to.html

From data to impact: leveraging partnerships for sustainable rural water services in Ghana

8 October 2015

The Ghana Rural Water Forum took place in Accra yesterday, October 7, 2015 at the La Palm Royal Beach Hotel under the theme, 'From Data to Impact: Leveraging partnerships for sustained rural water services' under the distinguished patronage of the Minister for Water Resources, Works and Housing. . . .

Yesterday's event signified government's public commitment to strengthen country systems for sector monitoring through partnerships that assures collective impact for the delivery of quality water services.

http://www.washghana.net/page/1729

Interview with Ton Schouten

Box 2 Interview with Ton Schouten

SMARTerWASH Is Only the Start of a Very Long Process

Interview with Ton Schouten, 20 May 2016

The SMARTerWASH project started with 64 districts in Ghana and soon was scaled up to 119—almost two-thirds of the country. This major project helps the Ghanaian government monitor most of their water services. One of the monitoring champions behind it, Ton Schouten, spoke just before his sudden death about realising this project, about international donors and how to create government buy-in.

Can you tell us something about your work in Ghana?

In Ghana, IRC was already piloting a monitoring system at the district level. A funding opportunity, Sustainable Water Fund, came up. We thought it was a nice opportunity to scale that piloting up to the whole country.

Monitoring systems are important because they show the quantity of water being provided, the reliability and accessibility of the supply. Monitoring means that in a district, you map all the water systems and collect the data from those systems with phones. With this data, the government official can see the status of all the water systems on a screen with all the details. He can make his annual plan and knows where to invest. The system also lets him know if 20 pumps break down and he needs to do something about it tomorrow.

The project was called SMARTerWASH. It was done together with the Community Water and Sanitation Agency (CWSA), Akvo, Water for People, and SkyFox, and funded by the World Bank, Cisco, and the Bill and Melinda Gates Foundation. It will end in September 2016.

How do you scale up a major project like that to cover most of the country?

CWSA has offices in the whole country, and the districts have professionals working on water. They are trained to do the data collection and analyse it. So it is not IRC, but the government that does this. Everything we do in Ghana —the daily operational activities— is always done with the government.

IRC designed the whole monitoring system—the indicators, the surveys to be used. We train at the national level, CWSA trains the regions, the regions train the districts, etc. IRC provides content for the training.

What was striking for you in Ghana?

In many countries, including Ghana, monitoring is project monitoring. The government has to adapt first to the monitoring system of donor X, and the next time to the system of donor Y. The government does not feel that it has ownership of its own monitoring system. The SMARTerWASH project basically tried to create a monitoring system for the government where it could use the lessons learned from the past but would not be dependent on the donors and their projects.

I think it is striking that now the government of Ghana is very proud of its monitoring system and very confident that this is the monitoring system that it wants. When the next project comes along, government officials can say, 'We have a system; we don't need your project monitoring system'.

It is of emotional or psychological importance that all levels of government, from national to district, become more mature and confident about their own work, approach, leadership, and ownership. The monitoring is, of course, very important. You can't improve water services if you don't know the status of the facilities. So it

is a first step in doing better.

But it is very important that government leads that step—that it is motivated, convinced, and committed, and that it turns down other projects or asks them to support its own monitoring system instead of having more than one project monitoring system at the same time.

Donors are famous for being inflexible, for having their own ideas. Would they be willing to comply with systems owned by the government?
Most international NGOs working in the districts still have their own monitoring systems. But some of them are now cooperating with the government and to some extent aligning with the monitoring system in the districts. That is what's done in the Hilton project that IRC is leading.

World Vision, WaterAid, and Safe Water Network are now also working with the government monitoring system. They still have their own systems, but at least in the districts, they support the government monitoring system. That's already a big step.

What 'stick' or 'carrot' does the government have to make sure international NGOs comply with their ideas? Or are they dependent on what donors want?
It is more soft power, I would say. The stick the government could use is to say, 'Get out of the country', but they won't do that.

But do you still believe that a monitoring system will be successful on a national level if so many international NGOs still use their own systems?
It is successful. It is there; the districts are using it. The districts are talking with donors and projects to bring them in and show them their data. They can't force the donors to use their systems, but they can create dialogue and ask for support.

How does IRC help in that?
IRC has set up learning alliances in some districts in three regions. At that level, district governments and international NGOs often meet. That is the place where the government can show its monitoring system to the international NGOs and can ask them to start supporting it. You can't take big steps. International NGOs are steered by their headquarters in Chicago, Amsterdam, or wherever, and not by the government of Ghana. It is difficult to change that overnight. So it is very important to appreciate the small steps that can be taken.

One of those small steps is that in some districts, the district government now meets with some international NGOs. Together they look at the data and maps to see where the problems are, and together they plan the investments. Now an international NGO invests where the government thinks investment needs to be made, where there are problems. In the past, international NGOs mostly chose for themselves where they worked. Now it is more coordinated. The data provides an opportunity for better coordination between district governments and international NGOs.

Do you find there is much mistrust from NGOs toward government?
Yes, they do mistrust the government, and they probably have good reason for that. But if they don't feel they can trust the government, then they should leave. Government capacity is often low, and there is the difficult issue of corruption, but the NGO should not replace the role of the government. That is the point. If they don't like it, then they should go somewhere else. There is never a reason—not even charity—to substitute for the government.

Is this your main lesson of the past years as you have been doing this work?
Yes. I'm a social democrat. I'm convinced about the leadership of government in the delivery of public services. And water is one of these services.

What are the next steps for SMARTerWASH?
First of all, to make a good assessment of what we did and did not achieve. And then to see which of those issues that we did not achieve can be picked up by other projects of IRC or by CWSA and which need more funding proposals.

What I've learned in the three years of SMARTerWASH is that you can't institutionalise a monitoring system in a country in three years' time. I've learned it with SMARTerWASH, but I also learned it in Uganda. In Uganda, it took 15 years. There are so many different aspects and angles, from ownership to technical detail to processes to incentives. It is so complicated.

Are there big differences between countries in what works and what doesn't?
Uganda already has a sector-wide approach, so it coordinates with donors at a national level. That has resulted in greater progress. Because of the coordination at a national level, and because of the Ugandan government being pretty confident about what they want, more progress has been made, including more progress in monitoring. A good monitoring system in a country is also important to donors, because it gives them an opportunity to say to the government, 'You have been doing this, but you have no results there'—so the data becomes a platform for dialogue about action in the future in what they call a 'joint sector review'.

The Ugandan government is more confident and more mature, with greater capacity and far better coordination because of the sector-wide approach. In Ghana, the ministry doesn't have a lot of capacity. CWSA as an agency for rural water, instituted by a government act, is strong. It has its own CEO, logistics, and offices in the regions. The same is true for urban water. But Ghana has no strong ministry.

In the past, CWSA drilled the boreholes itself. Now the districts need to do that. The role of CSWA needs to change from an implementer to a facilitator or regulator. It can do that. The problem in Ghana lies with the ministry. The ministry has insufficient capacity to coordinate with the donors, insufficient guidance, insufficient power in the larger government system, and insufficient funding, and because of the weaknesses of that ministry, CWSA is hanging in the air. CWSA is also dependent on that ministry for changes and reform. But it does not get guidance.

In Uganda, rural water is overseen by the ministry and is decentralised down to the districts. So it is part of the government. In Ghana, there is too much distance between the agencies and the ministry.

DGIS has funded SMARTerWASH. Do you believe it got value for its money? Is the system sustainable?
Yes, I do. But the big question is how sustainable the whole system is. CWSA and IRC are 'working their asses off' to make that happen. There are other ways of making the data collection and use sustainable. For example, trying to bring in the international NGOs to see if they will support it. CWSA now is talking to the planning committee in Ghana to see where the monitoring system can become part of the planning cycle of districts. When a district needs to plan for next year, it needs to show that it has been using the data. And there are other ways.

It's not black and white; it is not like 'it stops or it continues'. It will not completely stop, and it will not completely continue. Since we are in the country with our own office, we can still do a lot to help CWSA continue. But, of course, everybody would have liked the ministry to say, 'We provide the funding, we

support you, we adapt the policy, we help CWSA fulfil its role, we do etc.' It's not there yet.

So we should try to talk more with the real power—the ministry of finance, the presidency, the members of parliament—to say to them, 'Do something about it. It is not good enough'.

Is this problem typical for Ghana, or have you seen it in other countries as well?
Every country has its own problems. Of course, in the end, the problem is always insufficient political buy-in, lack of capacity, lack of commitment, you name it. It always comes in different forms. The problem is very specific in Ghana: There are two strong agencies but a very weak ministry at the top.

But you know, in Ethiopia, the ministry is stronger, but there the country is so big and the problems are huge. So every country has its own problems.

Ton Schouten died on 22 May 2016 of a heart attack.