

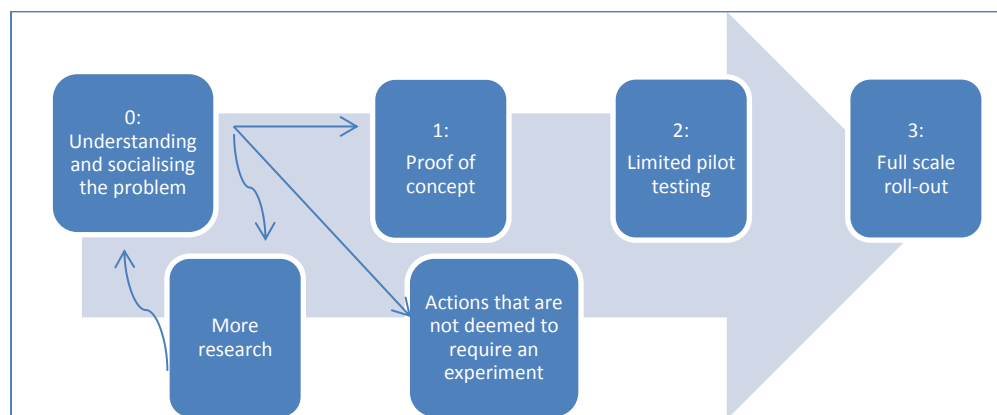
## CREATING A NEW MODEL FOR RURAL WATER SERVICE MONITORING IN GHANA

This document gives an overview of the progress made on the Triple-S experiment “creating a new model for rural water service monitoring” in Ghana. It describes the different phases the components of the experiment have gone through and the level of success reached in each phase.

### THE INNOVATION PROCESS

The Triple-S (Sustainable Services at Scale) initiative has led a process of learning and innovation to improve rural water service delivery in Ghana and Uganda. This document briefly describes one of the innovations with reference to the generic phases in an innovation process:

- Phase 0: Understanding and ‘socialising’ the problem, which leads to a clear articulation of a problem and generates awareness among stakeholders.
- Phase 1: Proof of concept, which leads to detailed articulation of an innovation and consideration of its feasibility.
- Phase 2: Limited piloting, provides evidence on outcomes, impacts and costs of the innovation and the requirements to make it work.
- Phase 3: Full scale roll-out, means application of the innovation (almost) nationwide and for multiple years.
- ‘More research’ ideas, which can be developed into further research into specific parts of the problem
- There are also actions that are deemed not to require an experiment, for example because the cost of an experiment would be higher than implementing the innovation.



**Figure 1 Innovation process: phases in experiments**

### BACKGROUND

Over the last two decades, various monitoring systems had been developed, tried and abandoned in Ghana. However, these systems were project driven, led by project consultants rather than by staff of the Community Water and Sanitation Agency (CWSA), and the transfer of

skills to the relevant stakeholders by the consultants was limited. In 2007 CWSA started the development of a uniform, comprehensive and computerised sector monitoring and evaluation system: the District Monitoring and Evaluation System (DiMES). At the start of Triple-S, sector stakeholders were aware of the importance of monitoring and the need to continuously work on the District Monitoring and Evaluation System (DiMES).

DiMES consisted of an MS ACCES database with the possibility of storing comprehensive data. However, this system was not fully operational at the beginning of the Triple-S initiative. Its limitations included the following:

- DiMES did not include a good framework for analysing and presenting data (beyond coverage) in a coherent way.
- Its technological platform was cumbersome to input the collected data and ensure effective flow of data and information from district to national level and back.
- There was little capacity and no clear process for collecting and updating the monitoring data and ensuring its quality, nor financial mechanisms for ensuring sustained monitoring.

As a result, DiMES was mainly used assessing rural water coverage, but besides that remained largely unused.

## PHASE 0: UNDERSTANDING AND 'SOCIALISING' THE PROBLEM

The Triple-S scoping studies on the state of rural water supply at the start of the project exposed the feeling among stakeholders that that sector norms and standards were often not met. The scoping studies helped engage stakeholders on the limitations of current monitoring and convince them of need to transition from counting systems to monitoring services for sustainability.

It was agreed the Triple-S would support the (further) development of the national monitoring system for the rural water sub-sector by developing and testing innovations for different components of a water service monitoring system:

- An indicator framework for monitoring water services, including functionality, service levels, service provider performance and service authority performance.
- A technological platform for collecting monitoring data. The innovation tested in this sub-experiment is the Akvo FLOW data collection system, using mobile phone technology and data storage in an online database.
- A technology and framework for collecting and analysing levels of user satisfaction. Sensemaker®, a tool for collecting and analysing stories was initially tested, but eventually discontinued and replaced with household surveys, using Akvo FLOW.
- The monitoring cycle from defining the purpose, to collecting and using data.

These components are interrelated, but progress on each component will be discussed separately.

## PHASE 1: PROOF OF CONCEPT

### The indicator framework

The development of the indicator framework started in the early days of the Triple-S initiative. Case studies were developed to provide insight into the delivery of rural and small town water services in relation to national norms and standards. In collaboration with regional CWSA staff and consultants, indicators on functionality, service levels, service provider performance and service authority performance were developed, based on the norms and standards of CWSA. This framework was tested with the (mostly qualitative) data from the case studies and subsequently refined. Application of the draft indicator framework was a first proof of concept for assessing and monitoring water services.

The CWSA M&E committee, in collaboration with Triple-S further developed the framework, which was presented to the CWSA Technical Committee and other sector stakeholders during the National Learning Alliance Platform meeting (November 2010).

The framework was used to analyse baseline data collected in the three Triple-S focus districts- Akatsi in the Volta Region; Sunyani West in Brong Ahafo Region and East Gonja in the Northern Region- in late 2011, early 2012. The indicator framework, with its corresponding data collection tools, analysis documents and methodologies were then further refined and presented at district, national and international fora. With that, the monitoring framework had successfully passed the proof of concept phase.

### 'Akvo FLOW'

The 'Akvo FLOW' system, using Android mobile phone technology and online data storage had already been tested for data collection elsewhere. The proof of concept was thus about exploring how the system would work in Ghana.

In late 2011, field testing of Akvo FLOW through collection of service monitoring data provided evidence that that the system worked well for data collection in Ghana. Paper-based surveys were converted into phone-based surveys. In subsequent monitoring rounds in 2013 and 2014, repeat data was collected of facilities for which static data (e.g. location, year of construction etc.) had been collected during the first monitoring round. This brought to the light a major limitation: Akvo FLOW focused on (one-off) data collection, rather than on (continuous) monitoring. This resulted in a rather complicated and error-prone process of data collection using different surveys and reconciling the different data sets over time in MS EXCEL.

Since then, Akvo has been developing monitoring functions of the Akvo FLOW system, which will facilitate monitoring of facilities over time. Further testing of the monitoring feature of Akvo FLOW for water service monitoring in Ghana is planned to take place as part of the SMARTerWASH

Project, which builds on the work done by Triple-S. Proof of concept of Akvo FLOW in Ghana was therefore achieved for (one-off) data collection, but not yet for continuous monitoring.

### 'Sensemaker®'

At the end of 2011, beginning of 2012, Sensemaker® was used to collect and analyse stories from the field in order to get better insight in water user satisfaction. However, after one round of story collection, the team concluded that Sensemaker® failed to provide proof of concept as a tool for monitoring user satisfaction. In subsequent monitoring rounds it was replaced with household surveys, using Akvo FLOW, which did prove to be a feasible way for collecting and analysing user satisfaction data.

### The monitoring cycle

After the first round of data collection in 2012, workshops were organised in each of the three districts, in order to clean and process the data. Much of the raw data cleaning, processing, scoring and presentation in tables and graphs was done by Triple-S staff. The results were presented to district level decision makers who identified and budgeted for remedial actions.

In 2013, after the second round of data collection, district level data cleaning and verification workshops were organised and results were presented to district decision makers. Again remedial actions were identified and budgeted for. These included the rehabilitation of six handpumps in Sunyani West and 14 in Akatsi and the establishment of two WATSANs in Sunyani West and 145 in Akatsi.

Findings from the monitoring rounds were documented by Triple-S staff, with input and support from district and CWSA staff. **The 'monitoring cycle' was documented in a 'How to-do' guide.** This included the description of a business model. However, the data processing and analysis process have not been fully streamlined yet and necessary tools have not yet been fully developed<sup>1</sup>. Therefore, this process still requires high levels of support from the Triple-S team. Because of this, the feasibility of the full monitoring cycle has not yet been fully proven and we consider this component **to be still in the "proof of concept" phase**

## PHASE 2: LIMITED PILOTING

### The indicator framework

The indicator framework was used in two additional rounds (2013 and 2014) of monitoring in the three Triple-S focus districts. A good analysis of the costs and the benefits of the use of the framework had at that time not taken place. Although the framework has been piloted in the three Triple-S districts over a period of three years, it can thus be argued that the experiment has (so

<sup>1</sup> It has been agreed that in the nation-wide application of water service monitoring, AKVO FLOW will be used as the data collection tool. DiMES will provide the platform for processing and storing data. However the links between AKVO FLOW and DiMES and the data processing features within DiMES are at the point of writing of this document still under development.

far) failed to provide robust evidence that the benefits of using the framework outweigh its costs. In that sense, the piloting can be considered not to have finished yet.

### 'Akvo FLOW'

Akvo FLOW was used for data collection over three annual monitoring rounds. Challenges and lessons learnt were communicated back to AKVO, which used these to further develop the system. Data were also collected on the costs of using Akvo FLOW for data collection. Although no comparative study was done on paper-based data collection versus data collection using Akvo FLOW, cost savings related to Akvo FLOW are estimated to be substantial, especially as there is no need for double data entry. It is also believed that it has contributed to avoiding data entry errors, as, especially during the first round of the experiment, data was monitored as it was being submitted, which enabled immediate identification and correction of errors.

### The monitoring cycle

The systems and processes for processing and visualising the collected data have not yet been fully defined and streamlined. The idea is that data collected with Akvo FLOW will feed into DiMES, which will process the data and will make it available in the form of standard (and customised) tables, graphs and maps. However, the FLOW-DiMES integration is currently under development and data processing and presentation presently has to be done using MS Excel, which is more cumbersome and error prone. Therefore, it is not possible at this stage to make a good assessment of the costs and benefits of having a well-functioning monitoring system and process in place.

## PHASE 3: FULL SCALE ROLL-OUT

CWSA has been strongly involved in all aspects of developing and piloting the various components of the new **service monitoring model**. CWSA's M&E committee has played a crucial role in the development of the indicator framework. Regional staff have been involved in data collection. Regional and national staff have contributed to data analysis and presentation of findings. CWSA leadership was kept up-to-date on the progress of the service monitoring experiment and was presented with the preliminary findings at different occasions. CWSA has taken full ownership of the development of the national service monitoring model and its nationwide application (full scale roll-out).

The **indicator framework** and "how to-do" guide for functionality and water service monitoring were refined by the CWSA M&E Committee in mid-2013 and published on the CWSA website in the first half of 2014.

CWSA is actively pooling funds from donors to enable the full scale roll-out of the new monitoring framework across the country. Following the pilots and the official adoption of the indicator framework by CWSA, a range of organisations have come forward to partner with CWSA to

scale-up service monitoring. Initiatives under which water service monitoring is being taken forward include:

- Service monitoring data collection in 12 districts in the Northern Region, with support of UNICEF.
- Service monitoring data collection in one district in the Northern Region and three districts in the Upper East Region, with support of SNV.
- Service monitoring data collection in 10 additional districts in three regions, with support of the Hilton Foundation.
- Further development of the model (including Akvo FLOW monitoring features, integration with DiMES and easy reporting formats) and baseline data collection in 119 districts in six regions, under the SMARTerWASH project, with support of the Dutch government and the World Bank.

Whereas this scaling up is very encouraging, some words of caution are needed. A detailed assessment of the costs and benefits has not been made yet – as should be in the pilot phase – but there is such widespread positive appreciation for this monitoring system and the Akvo FLOW platform that it is already being rolled out.

Furthermore, it will mainly be local government who will have to take up the responsibility for data collection, analysis and use. This will need to be funded through local government funding, but the mechanisms required for this are not clearly defined yet. That is probably an indication that geographical scale can be obtained – but raises questions on the temporal scale, an issue closely related to the direct support costs (see experiment “Adopting a life-cycle costs approach for sustainable service delivery”).

#### FIND OUT MORE

[Creating a new model for rural water service monitoring](#)

[CWSA 'How-To-Do' Guide on monitoring Rural and Small Town Water Services](#)

[Field Level Operations Watch \(FLOW\)](#)

[Framework for assessing and monitoring rural and small town water supply services in Ghana](#)