

SMARTerWASH - Mobile Monitoring for
Rural Water and Sanitation Services
that Last (FDW/12/GH/06)
Executive Summary of the Final Evaluation
Report

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Executive summary

Introduction

In the provision of water supply and sanitation in Ghana, infrastructure breakdowns are common. For a long time, these have not been sufficiently addressed in the water and sanitation management practices in the rural areas of Ghana. The malfunctioning of water facilities relates to limited access to spare parts and lack of (funds for) maintenance on the part of communities when breakdowns occur.

The SMARTerWASH - Mobile Monitoring for Rural Water and Sanitation Services project sought *“to scale up and consolidate WASH sector monitoring in rural and small towns of Ghana”*¹. The project planned to focus on *“upgrading and developing systems and tools for nationwide, long-term monitoring of services in rural communities. Using smart phones and other new technology, the programme aim(ed) to reduce down time and increase the functionality of WASH services.”*²The project set as priority the continuous tracking of the state of facilities and actions to ensure that service levels improved. The project developed and applied the latest IT and aimed to strengthen private sector investment to do so.

The partnership for this project grew out of an ongoing relationship. In 2009, IRC International Water and Sanitation Centre (IRC) supported the Community Water and Sanitation Agency (CWSA) of Ghana (CWSA) on the Triple S (Sustainable Services at Scale) project³ in the development of monitoring tools in the form of sustainability and service level indicators. The project piloted these using Akvo’s Field Level Operations Watch (FLOW) technology in three pilot areas⁴. After completion, the partners (IRC, CWSA and Akvo) decided to work together again to scale up the project and to combine the skills of the different partners in the SMARTerWash project. SkyFox came on board as a partner to introduce a handheld (USSD/SMS) technology to report breakdowns (on handheld phones) and to order spare parts. The project combined technologies of the three organisations: the CWSA’s District Monitoring and Evaluation System (DiMES), used for monitoring and evaluation, Akvo’s FLOW and SkyFox’s SMS platform that allowed for real time reporting of water point functionality problems via text messages.

This executive summary provides the key details and lessons learned from the institutional assessment performed of the SMARTerWash public private partnership. The objective of this final institutional assessment was to evaluate the (formation of the) relationship between the partners (over time), to analyse the contribution of this relationship to the outcomes of the project, and to ascertain the added value of the PPP. The focus of the assessment is on the ‘relational aspects’ of the PPP.

¹ Ibid: Appendix I, 2012:2

² IRC contracts

³ Triple S: http://www.waterservicesthatlast.org/countries/ghana_triple_s_initiative

⁴ Taken from SMARTerWash Project Plan: Appendix I, 2012: 4

Data was collected through a triangulation of sources: semi-structured interviews, analysis of secondary sources (project documentation) and personal observation (attendance at meetings). All interviews were transcribed, and the results coded⁵. The results of the interviews were complemented by a short questionnaire administered to the partners assessing the perception of the results and the added value of the PPP. The first round of interviews was held in 2015 for the baseline study, followed up by intermediate and short follow-up interviews in 2016 and 2017, and a final round in 2018. The final semi-structured interviews were held with all the contractual partners, for a total of 18 interviews in 2018. This small *n* approach was used to probe more deeply into the contextual issues, the processes and the interaction in the PPP, and the values, motivations and aspirations of the partners in the PPP⁶.

The partners, the geographic scope and finance of the project

Again, the partners were as follows:

Table 1: SMARTERWASH - Mobile Monitoring for Rural Water and Sanitation Services that Last

Partner	Sector	Description applicant
IRC International Water and Sanitation Centre, the Netherlands and Ghana	Private	A non-profit foundation knowledge centre on water and sanitation
Community Water and Sanitation Agency (CWSA), Ghana	Public	A national government agency with the delegated responsibility to facilitate the provision of safe drinking water and sanitation services to rural communities and small towns in Ghana.
Akvo, the Netherlands	Private	A non-profit foundation that builds open source tools for the web and mobile generations emerging rapidly in every community.
SkyFox, Ghana	Private	Ghanaian private company specialised in internet and mobile phone-based payments, transaction portals and database systems. SkyFox has expertise in web based and mobile based systems design and development, and in translating its systems to solve WASH problems.

The project was executed in the period 1 April 2013 – 31 March 2016⁷. In the original design, it was to be implemented in three regions (53 districts), however additional funding from the World Bank (the matching funding for CWSA required as part of the FDW project), gave the opportunity for the project to

⁵ Please note that the references to the comments of the respondents and quotes are treated as anonymous. On the quotes reference is made to the sector from which the respondent came. When referring to ‘respondents’ in the text, the information came from multiple sources.

⁶ This small *n* approach was specifically chosen. As the objective of the assessment was to analyse the relationship between partners and its contribution to outcomes, the decision was made to focus on understanding the relationship and the partnership from the perspective of the partners, the parties with intimate knowledge of the partnership. Discussions with external parties revealed less knowledge of the nature of the partnership; this also pertains to the understanding of the governance structure and relations as detailed later in this document.

⁷ Various project documentation, also internal evaluation documentation RVO, 31-01-2018

expand its scope to 6 regions (119 districts). Additional funding from UNICEF and Conrad Hilton for baseline studies during the project implementation period implied that the project worked in 13 additional districts as well. The bundling of finance and the increase in scope was a demonstration of the ability of the project to attract attention and additional funding. At the end of the project period, the partners requested a budget neutral extension of a year which RVO granted till 31 December 2016. The end of project financial information indicates that the total project budget (eligible) was €3,764,124.00 of which RVO⁸ provide 58.22% (€2,191,473.00)⁹.

Key stakeholders involved

In addition to the partners mentioned above, there were several ministries and other government agencies with ties to and influence on the project (Ministry of Water Resources, Works and Housing, the Ghana Water Company Ltd., The Ministry of Local Government and Rural Development, to name a few); these were external to the PPP. The CWSA took a primary role in coordinating activities with them (also through a steering group in the Ministry of Water Resources).

Over the length of the project, the project forged new relationships with various organisation, working to extend the use of the model. The partnership worked with the National Development Planning Commission (NPDC) to set indicators of the national planning framework. It spent time trying to build bridges to the Ghana Statistical Services, an institution that was working with another donor. Relationships seemed 'cordial' though in the long run coordination of activities did not occur. In addition, UNICEF became an increasingly important partner, as did Water Aid, World Vision, and Safe Water Network.

Though IRC was the main applicant for funding, CWSA was in the 'driver's seat' on the project. CWSA had the overall responsibility for the in-country, day to day coordination, with support of IRC Ghana. This '*includes coordination, operations and progress reporting*'. CWSA was also responsible for activating local networks and key stakeholders as well as ensuring political ownership. Internally in CWSA, there was a country coordination committee in place that has the responsibility of the '*integration and alignment*' of different work streams, implementation of work plans and reporting on/ monitoring of progress¹⁰.

Also, of note is the division of labour between IRC Netherlands and IRC Ghana and their role in the partnership. IRC Netherlands (the project within IRC was managed by a programme director) managed the project, had overall responsibility for partner relations and managed client relations with RVO (coordination, communications and reporting); IRC Ghana functioned as a coordination and communication link between all partners. IRC Ghana organised all partners meeting and all inputs made

⁸ Please note: this document refers to RVO as the major contact, recognizing that the contract party is actually the Dutch Ministry of Foreign Affairs.

⁹ Documentation RVO and IRC (undated but received December 2018)

¹⁰ Final Project Plan (2012), pg. 11

to the required reports. IRC Ghana also had an important function as intermediary: in situations of conflict, to intervene on behalf of CWSA when requested, to facilitate communications and negotiations. IRC perceived its role as a facilitator¹¹, ensuring that the project ran smoothly.

The partners formed thematic sub-committees made up members of the partner organisations to guarantee communication and coordination between all partners: the Management and Strategy, Communications and ICT committees. They met on regular basis to plan, make strategy and coordinate on activities. The ICT, for instance, met to discuss the inter-operability between the three different types of software being used on the project (DiMES, FLOW and SkyFox's handheld technology).

Challenges

In execution, the project and the partnership ran into a number of challenges. Of note is that challenges 1, 4 and 5 below were challenges encountered in the project, and 2 and 3 were challenges in the partnership relationship. The partnership managed to deal with these effectively.

1. *Challenge 1- The issue of interoperability: the coordination and collaboration needed to solve the issue.* Interoperability, getting the 3 systems to feed into each other and writing the codes to allow for this, became a problem. The implication of this for the project was that partners spent a great deal of time on technical issues, to the detriment of other activities. Via intense interaction, the partners settled the interoperability issue close to the end of the project. This required a great deal of effort and coordination as the different parties were geographically separated, and communication was sometimes difficult.
2. *Challenge 2- Managing relationships:* During the interaction, there were some frictions: partners developed certain misconceptions about each other. IRC mediated these differences, allowed partners to discuss during bilateral meetings, and to create some clarity on perceptions. This resulted in an adjustment in behaviour and in an improvement in the relationships.
3. *Challenge 3- Initial lack of understanding of mutual benefits:* in some cases, partners did not fully understand the benefits of other partners could provide; it took time and a great deal of interaction for partners to gain an better understanding of the benefits of each of the parties. This happened despite the fact that partners knew each other when setting up the partnership, but working at this scale asked for more substantial inputs.
4. *Challenge 4- the market for products and services (the business model):* the business model fell short of expectations. One the one hand, at the outset of the project, the spare parts market was monopolized by one provider who was inflexible on pricing of the parts. On the other hand, the end users were unable to pay for the parts. This required the project to look for 1) alternative spare part providers, and 2) at alternative sources of income to pay for the parts, i.e. at potential financing schemes for payments by communities.

¹¹ Sometimes called a 'boundary spanner'

5. *Challenge 5- matching funding from the World Bank and the donor timelines:* on top of funding from RVO, and Conrad Hilton, the project was able to obtain matching funding from the World Bank to expand its scope to 6 regions (119 districts). This also implied that the project was required to adapt to the different timelines and reporting requirements of the donors involved (RVO, Conrad Hilton, etc.). Though additional funding provided an opportunity, it also meant doing more in the same amount of time and added to the complexity of (the administration of) the project. This affected the outcomes of the project.

The test of a PPP lies in the ability (and willingness) of the partners to react and deal with challenges. The challenges (2 and 3) faced in the relationship are not unusual in a partnership and take time and interaction to resolve. The partners were able to resolve these to the point that the relationship improved. The approach of the partners to the inter-operability and business model issues also helped in cementing the relationship.

Added value

When looking at the added value of the partnership, the team executed a short questionnaire amongst the partners (N:18); this was done to complement the qualitative methods used during the assessment. The questionnaire asks them to reflect on whether this partnership resulted in benefits that are argued to be present in PPPs; these include:

- Sharing of key expertise or resources that otherwise would not be available otherwise;
- Additional investments, beyond what was planned.
- Increased innovation (ideas or solutions);
- Improved risk allocation;
- Improved cooperation and coordination;
- Reduced transaction costs.¹²

Of note is that PPPs are also argued to ADD to transaction costs, stemming from the additional time spent negotiating between partners, dealing with differences in interest and coming to conclusions that is amenable to all. The questionnaire also tested for this.

The responses in the questionnaire were, overall, quite high (all above 4.4 out of 5).

As an additional question, the questionnaire asked respondents if the project could have been executed without the partnership (and the knowledge and skills of each of the partners). To this last question, the resounding answer from all was NO! (100% response rate). All agreed that the project could not have been achieved by partners working individually. This is an excellent indicator of the added value of the PPP. Respondents mentioned that the PPP provided skills that a project would not normally have had.

¹² Batley, R., 1996. Public-private relationships and performance in service provision. *Urban Studies*, 33(4-5), pp. 723-751. Available at: <http://usj.sagepub.com/content/33/4-5/723.full.pdf+html> [Accessed 29-10-2015]. Pennink, (2017) the Trust Cycle, trust and it influence on risk and outcomes in PPPs.

The different skills-sets also helped to minimise mistakes that would have added time and costs. Also mentioned was the learning that came from working together and the attempts partners made to look for different ways of doing things better. Several respondents reflected that it would have been possible to work separately, but that the project would not have achieved the same outcomes and the process would have been less focused on quality.

Results of the questionnaire revealed an agreement that partners invested more time and resources than originally planned. The glue that held them together, according to multiple respondents was the common vision that the partners were building a system for rural water monitoring over the long term. This meant spending more to get the job done.

In addition, results indicated that working together resulted in more innovation: the frequent interaction and the need to deal with some of the technical challenges of interoperability meant thinking outside of the box. There were, however, some negative aspects of this innovation, namely related to the absorption capacity of some of the players and the difficulties of application in Ghana.

Respondents underlined the ability of the partnership to deal with the novelty and the scale of the project, but also the enormous risks that came with this. The results also underlined the benefit of sharing that risk. For one, having the resources, also human, of the government, as well as the powers of the government, helped to reduce risks. CWSA was exercising its public powers. IRC had a key role as a broker, in solving bottlenecks, coming with ideas, contributions and solutions, how to create outputs. Akvo made special efforts to be physically available in Ghana. SkyFox was influential in changing the role of the locally based community representatives. The perception was that everyone went the extra mile and took on the risks they were most able to bear.

Most respondents mentioned that the interaction improved the cooperation and coordination between partners in the PPP and that this led, in their perception, to the streamlining of activities (and therefore a reduction in transaction costs), as well as improved quality of the outputs.

In the long run, the consensus was that the added value of the PPP was that it was NOT based on purely financial interests and gain only, that partners were in it to achieve something that had never been done, to innovate, to go beyond the status quo. There was collective will to ensure that something big could be done in the sector. There was also an interest on the part of the partners to maintain lasting working relationship after completion of the project.

Comments and reflections on the PPP

The overall assignment included assessing 5 PPPs (2 in Ethiopia, 2 in Ghana and 1 in Colombia). In discussion within the team on the similarities and the differences between the cases, the question arose as to whether the different relationships actually constituted a Public Private Partnership (the feeling was that in some cases they did not). Using the 5 criteria of developmental PPPs as defined by the IOB

(2013:17), this relationship appears to have met the criteria cited. The partnership had both public and private partners (criterion 1), there was a clear agreement on the goals of the PPP (criterion 2), the project was financed by a mix of public and private funds (criterion 3), there was a clear agreement on the sharing of resources and tasks (criterion 4), and there was a distribution of risks between the public and private partners (criterion 5).¹³ In effect, in the conceptualisation and design of the project, these aspects were taken into account and from the perception of the partners, were essential in making the project work. The argument was that through the sharing of skills and resources, as well as risks, the partners were able to achieve more than if they worked alone. $2 + 2 = 5$, the synergy between partners provided added value.

It was commonly recognised (by partners, RVO, in the end of the project evaluation) that the project was over-ambitious (at the scale to which it grew), the timeframe was too short to achieve what SMARTerWash had intended, and that the project ended with certain aspects unfinished. On the other hand, there was (and still is) a general 'pride' amongst partners in what was achieved (and that this was due to the partnership). If one of the key questions is related to the extent to which the partnership contributed to outcomes, this consensus on the value added of the PPP is an important one. The consensus was that this was a PPP characterised by the 'normal teething problems' but a PPP that was able to deal with challenges in an effective manner. As PPPs go, the manner in which the partnership was conceptualised and the nature of the interaction can be characterised as a 'best (learning) practice', particularly in Ghana.

This was a tightly knit PPP, meaning that the partners worked closely together as a 'team'. The interaction was positive and productive¹⁴. Partners put issues on the table and discussed solutions. Discussions took place with a high level of professionalism. There was a perception on the part of the partners that the team would find a solution to problems. The successes that the project realised gave the partners confidence. There was a common perception that the partners are there for a common purpose, that the project was of importance and of value, and that each partner had a clear and important role in the process¹⁵. There was clear interdependence in this PPP.

There were several factors that contributed to the positive nature of the PPP and the belief on the part of the partners that the PPP had added value:

1. The end of the project evaluation makes the following statements: *the programme logic and rationale for the approach are clear and sensible and the partners involved bring the right skills and influence at least for these initial stages*. Respondents agreed that, in the project design there was a

¹³ Public-Private Partnerships in Developing countries. A systematic literature review. IOB Study no. 378. Ministry of Foreign Affairs of the Netherlands. April 2013.

¹⁴ Gleaned from observation of the interactions: partner meetings, focus group discussions

¹⁵ Note: many of these points are from interviews and were also observed. These points were mentioned consistently.

clear linkage and rationale for the involvement of the partners, SkyFox for instance, completed the value chain. The evaluation also added: . . . *the partners work well together and recognise each other's contribution and role* (pg. 4). Given the challenges of the project, different timelines and reporting requirements, partners managed these challenges with little tension and a positive attitude. This underlines one of the lessons: that, to have a partnership that works, partners must have the willingness to make the relationship work and a common goal that binds them.

2. Most of the partners (excluding SkyFox) worked together before and 'grew into' this PPP. The working relationship had been tested during the previous project, and there was already a level of trust built. *That synergy existed already and it really helped the partnership. Because we sincerely believed that there was value added because of the partners (NGO respondent, similar others)*. This points to the fact that previous working experience, and positive experience, makes a difference., in particular when faced with serious challenges.
3. Still even though the partners knew each other, there was still a common belief amongst the partners that the success of interaction was dependent on a substantial investment in relationship building. *Leadership is important. Also, you need to pay attention to the relationship. And nurturing the relationship so that partners feel like they are valued; that they bring something to the table, that feeling of belongingness. So, this is not just a collection of people just for the sake of accessing funding from the Dutch government. Really, we have things that we bring on board to improve the process. This became evident when we were dealing with SkyFox. They thought: 'CWSA needs us, we should make ourselves available to contribute to the process' (NGO respondent, similar others)*. In this PPP the relationship between the partners was given a change to evolve further.
4. IRC put as a priority that this should be a government-driven PPP, with CWSA at the helm. So even though IRC was the lead partner as relates to RVO, and all contracts were signed by IRC and the various partners, CWSA was given and took over the ownership of the project. CWSA was 'firmly in the driver's seat'. Given the fact that this was only one of CWSA's many projects (1% of its budget), the attention it received was a positive sign. This role for CWSA was essential: the PPP could not have worked without the involvement and intervention of the public sector. This points to the fact, that in a PPP, there are some things only the public sector can do, with its mandate and public powers.
5. Again, IRC, mainly IRC Ghana, took on an interesting role, and that was to make sure the project and the partnership ran smoothly (one respondent called IRC the 'midwife', another term is 'boundary spanner'), and that the "*broad goals of the project were met*". Again, the existence of the local office was essential in achieving this. IRC's strategy involved:
 - An IRC staff member was actually seconded to CWSA to work closely with CWSA staff members. He was there to provide support when needed but was also seen as a member of the CWSA team.
 - Linking knowledge transfer to execution: building capacity of the staff of the CWSA and district staff to monitor services (collection of data, cleaning of data, etc.) and providing support when needed in the execution of activities. Slowly tasks were being transferred to the CWSA. This was

in contrast to previous years and projects with CWSA when IRC actually acted more as consultants for CWSA.

- Facilitating communication between partners and dealing with key issues when they arose. IRC recognised the importance of dealing with potential cultural differences have developed mechanisms to deal with these. *“We had to adjust our communication style, you cannot impose on government, you have to guide.”* (NGO respondent).

Sustainability

The end of the project evaluation commented on some unresolved issues related to sustainability, namely the institutional relations to take the project forward, the financial sustainability of the venture and options for integrating the system and software into other national monitoring programmes in the future¹⁶. All these points were confirmed during this assessment. The report also had a long list of recommendations on the actions that could be taken to ensure and improve the sustainability of the project.

In looking at sustainability, of note is that sustainability relates to both the *partnership* and the *project*.

Comments on the sustainability of the *partnership*

At the time of this institutional assessment, there was a strong likelihood, that with a continuation of funding (still unsettled), the partnership would continue, most probably in its current form, with a roll out of the project strategy and activities as planned. Partners were committed to this. Again, this is a strong indicator of the added value of the partnership; that partners were planning to commit to working together beyond the scope of the FDW funding. However, this funding was far from sure.

Institutionally, the governance structure appeared to be embedded in national and local institutions and processes (partners of the project, key ministries and local government and development partners). The end of the project evaluation commented that the partnership would have benefited from strengthening its relationship with the Ministry of Local Government, and thereby ties into the district assemblies, as a key strategy to roll out the system locally, thereby strengthening sustainability.

Comments on the sustainability of the *project*

As stated before, there was serious disappointment that the timeline of the project was too short to achieve all that SMARTerWash had intended. The disappointment was in not being able to see the business model through, to see if it could work. There were real concerns on the financial sustainability of the business model, namely stemming from the (in)ability of the end user to pay, and to provide revenues to make the venture viable of the longer term or, in absence of this, from the budgets provided by the government. This situation did not improve substantially by the end of the project.

¹⁶ End of Project Evaluation, Partnerships in Practice, April 2017.

As some of the partners indicated: It is all about the funding. At project completion, CWSA needed to upgrade DiMES to a web-based system to make the 3 platforms completely interoperable. Distance in coordinating the platforms was a funding issue. Visiting the district assemblies to provide support was a funding issue. Doing baselines in the districts that have not been treated was a funding issue. Continuous monitoring was a funding issue. The capacity and willingness was there, but the funding was not. Dependency on donor funding remained. This put in question the sustainability of the project.

Technology was an essential aspect of the design of the project and appeared acceptable in the Ghanaian context. The capacity and skills to use the technology over the longer term seemed to be present. However, this technology needed to be used at the local level, by the district assemblies and the end users, and this had yet to be worked on. This also related to social sustainability; there was still a question on the extent to which project beneficiaries, district assemblies and communities had ownership of the tools and the data, felt they were relevant and could use these in sustainable manner.