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Inspiring water entrepreneurship in Tigray-iWET An approach and a tool for system change

Paper for the WASH systems symposium

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The Government of Ethiopia, supported by development partners, has been successful in terms of creating access to safe water for its people. However, the sustainability of the services from the constructed water schemes has been compromised. For decades, communities have relied on government and non-governmental organisations for their maintenance and spare parts requirements, which has been delivered free or subsidised heavily. Because of the dependency syndrome built on the community over the years, many communities are now not willing to pay for maintenance and operation of their water schemes. As the number of rural water schemes increase in number and complexity, the human and material capacity to sustain the WASH services remain the same, and non-functionality and scheme downtime has started to raise significantly. As a result, non-governmental organisations start to look after the water points they constructed to comply with their donors' requirements. This discourages private sector engagement and leaves the sustainability of rural water services at risk. Key issues and major actors in WASH had to be identified, roles and area of improvements reviewed and strengthened. The Inspiring Water Entrepreneurship in Tigray (iWET) project is up and running with encouraging results because it is facilitating an enabling environment for a system change approach instead of responding to emerging incidents and complaints one after the other. As a result, functionality in some districts has risen from 80% to 95%, scheme downtime has been reduced from 30 days to three days and other partners have decided to rollout the model in other districts in the region and beyond.

Introduction

The Government of Ethiopia, supported by development partners, has come a long way in terms of creating access to safe water for its people. However, little emphasis has been given to sustaining the services from the constructed water schemes. A pilot project, under the name restoring and sustaining water systems functionality, designed to assess and address the system failures has been able to show encouraging results and come up with some recommendations to effectively reduce WASH schemes non-functionality. Inspiring Water Entrepreneurship in Tigray (iWET) was designed to scale up this initiative to 12 districts of the Tigray region of Ethiopia and has been running since 2017 to address systemic issues that contribute to productive and domestic water schemes non-functionality through private sector development. The private sector entities, which are going to be the prime actors in the system of WASH services provision, are known as private local service providers (PLSPs). Funded by the Dutch based private company AFAS Foundation, iWET is being implemented by a consortium of partners: Woord and Daad (project lead), SNV The Netherlands Development Organization, The Well in Action (TWA) and Digital Opportunity Trust (DOT). The partnership has been established to get the best out of the individual organisation's strengths in the different aspects of private sector development. The project is not only about improving drinking water, sanitation and hygiene services through system change, it is also about sustained provision of irrigation water and enhanced productivity of smallholder farmers from a year round water source. These farmer households in turn will be financially strong enough to support their livelihood and pay their users fee for drinking and production water services. Focusing only on the WASH component of the project, this paper presents the context in which it is being implemented, the methodology and tools employed and findings obtained so far. Challenges that require attention and lessons learned will also be highlighted.

Context description

Tigray is one of the drought prone regions in Ethiopia with an average annual rainfall of about 600mm that falls mainly in July and August - much of which runs off its mountainous territory with little left for infiltration. Only very few areas have a surface water source from perennial rivers and ponds. For their drinking water requirements, the largest part of the region has no option but to rely on shallow groundwater sources, many of which dry up in heavy droughts.

Government and non-governmental organisations have been engaged on WASH-related construction and post-construction services in Ethiopia. More than 500,000 rural water schemes of different complexity are available in the country, around 18,000 of them in Tigray, the region where the iWET project is operating. As a result, access to clean water supply at a 1.5km radius has reached 70% in Tigray (mid-2016 regional water resources bureau progress report), basic sanitation facilities coverage is at 89% while the improved sanitation coverage falls behind at 53% (Tigray regional health bureau administrative report, mid-2016). The Government of Ethiopia is determined to reach 100% access to clean water at a 1.5km radius and 82% improved sanitation coverage in rural areas by 2020, although it is difficult to realise.

According to One WASH National Programme and Education Management Information System (EMIS) assessment made in June 2016 on the situation of school WASH in Tigray region, it reveals tremendous WASH needs. Accordingly, out of the 2,297 schools, only 942 (40%) had access to safe water. Children walk long distances outside the school premises during class hours to drink water. Out of all the schools, 615 (27%) had one block, 918 (40%) with two blocks and 290 (13%) three block latrines. About 20% of them have no toilet and students are excreting in open fields. Only 9% of the 2,297 schools have hand washing facilities and the remaining schoolchildren do not wash their hands after latrine use. Similarly, 51% of health centres in the region lack access to clean water services (regional health bureau report, 2015).

Given all these gaps that the government and partners are expected to fill, it is unjust to subsidise communities who have access to safe water1. Even though the national water resources management policy issued 16 years ago requires rural communities to fully cover their operation and maintenance of their schemes, no region has fully enforced these provisions due to different excuses. Rural water schemes are led by community-elected volunteer members called water, sanitation and hygiene committees (WASHCOs) with a role of mobilising beneficiaries to pay user fees and do minor maintenance in their capacity. By assigning electromechanical personnel, necessary logistics and spare parts outlets down to districts, the regional water resources bureau tries to respond to the ever-increasing maintenance requests. As the number and complexity of rural water schemes increase, non-functionality and scheme downtime increases from months to years in some cases. People go back to unsafe water sources during these times risking their health, in which women and children are the primary victims. Yet, no one is accountable for any health problem that might have happened to the people as the service provider and the regulator are from the same government body.

Fitted with remote sensors, around 20% of rural water schemes in the region are under continuous supervision and maintenance support from one local NGO. Even with this arrangement, the rural water scheme's downtime could go on for months as they are under-staffed. On the other hand, the procurement process of the public sector is so long that district spare part shops may have not been restocked for years, which means even if maintenance personnel are in place, non-functional schemes will not be maintained on time.

A system response through a Public Private Partnership

The core idea in working on systemic change is that all different actors and stakeholders at the same time work in parallel on their own change ladder to achieve another level of sustainable services benefitting everybody. The engaged actors include the government, finance institutions, private sector (district level) service providers, community structures (local level service providers), households and farmer entrepreneurs. Deliberately, public actors are in close collaboration with private players for more efficient service delivery and market dynamics in scaling as either of the actors, whether public or private, cannot gain another level on their own. Qualified dependencies between the various actors are identified and taken as progress markers in the five year intervention.

Methodology

Two years prior to the inception of iWET, upon request from the regional water resources bureau, SNV had assessed the water scheme non-functionality situation and the underlying reasons behind non-functionality. It found that the number of government technicians in charge of maintaining rural water schemes, which is one per district, and the number of drinking and productive water schemes did not match. The two year pilot project in four selected districts ran to reduce non-functionality and system downtime through an approach with private local sector providers (PLSPs), and yielded encouraging results. It was decided to scale-up the approach but with more detailed steps to identify the underlying systemic challenges that gave rise to the setbacks shortlisted during the pilot project period. These include lack of sustainable spare parts supply, lack of finance for PLSPs to expand their business, lack of integration between key actors in the system, existence of free services by WASH actors in the region that contradicts the cost-based service of the PLSPs, etc. Rounds of consultations have been carried out with the key actors who could contribute to the ambitions

of system change and facilitate discussion and co-creation of the system change framework. The key actors included the public sector offices, non-governmental organisations, micro-finance institutions, the private sector, WASHCOs, households and farmer entrepreneurs.

After the draft design of a system change framework, there were validation sessions on each (and the sequence) of the progress markers defined on change ladders for each category of actors. These progress markers included all issues that surfaced during the many discussions, but then turned positively toward the desired change required for the ideal system to function. All stakeholders have had direct inputs into the framework in order to define all bottlenecks.

Consultants were hired to do baseline and market surveys to determine which data we paired with stakeholder discussions to fill the framework for the first time to reach our baseline values. The intervention (activities) are steered by the progress markers which are meant to push stakeholders higher up their own defined ladder.
Every half year during implementation, we assess what change can be observed and what dependencies on other actors' change holds back further systemic change. If progress is unbalanced over the actors, the outcome defines changes in the implementation plan. In this way, new issues are detected and included and responded to. As initial steps towards realisation of system change, the following has been done.

- Data was obtained from the consultants' assessment on the existing situation of WASH services in the region that includes non-functionality; systems downtime; availability of spare parts; key actors including the public sector; community willingness and ability to pay; policy provisions around rural water system operation and maintenance; private sector engagement; existing impediments in the service delivery and potential challenges etc.

- Set up a private entity comprised of ex-technical vocational education and training graduates in the name of private local service providers (PLSPs), pass them through intensive training on life skills and business development, technical maintenance skills and financial management.

- Equip the PLSPs with necessary tools and required transportation facilities; link them with WASHCOs and private small-scale irrigation owners and other WASH actors in the region.

- Since water is a social good that everybody has the right to access, the regional water bureau 1) fixes service fees that the PLSPs can charge communities for various repair types, 2) jointly monitors the performance of district level counterparts and the PLSPs, and 3) coordinates other regional partners' resources for strengthening the business model.

- Solicit micro-finance institutions (MFIs) for financial product development and loans to the project target groups to meet their financial requirements for both producer and consumer loans.

- Solicit support from like-minded non-governmental organisations to collaborate with and move the system forward.

- Set up a regional innovation platform and encourage local innovations around WASH services and products for rural settings.

System change measuring

To define, monitor and measure the actual system change through the project, a system change measuring framework is developed as a tool. The desired and ideal service level for WASH services has been pictured for various platforms of stakeholders. From these consultative meetings roles and relationships and dependencies between all stakeholders are defined for the system to function in an optimal way. This desired situation is used as a targetted ambition in the project, from which a change ladder for each of the actors is defined. A change ladder typically exists out of 10-12 progress markers that can be scored (on a scale of 1-3). The system change tool is scored twice a year in facilitated sessions for all the actors, as much as possible based on gathered evidence. Though the progress markers are mostly defined qualitatively, the filled framework produces a numerical score per actor, adding up to a total score for the system change. The scores are synthesized and visualised on a dashboard (all Excel based).

The value of this tool so far is found in 1) the discussion during the scoring exercise for it engages all stakeholders, and keeps the focus on the issues to be addressed; 2) an actual score that makes the outcomes (and not simply the outputs) of the past six month's work visible and concrete; 3) scores on a particular change ladder (for a particular actor) that remains behind point to the area that needs attention in the overall intervention, or in other words, to the area that actually prevents system change to happen further. In this way, the tool steers the planning on the go (adaptive programming).

Findings

The public-private partnership initiative that aims to transfer post-construction service in water supply from government to the private sector (PLSPs) has evolved progressively as partners and stakeholders start to appreciate what has been achieved so far and are seeing its potential in transforming WASH service delivery. Data obtained from water office reports indicate that functionality in some districts has risen from 80% of a baseline value to 95%, and that system downtime has been reduced from an average of 30 days to three days (based on customer feedback and a performance monitoring management information system developed for this purpose).The shift from free maintenance to paid, and the introduction of new financial products on the market by MFIs to enable the business case, are some added benefits realised with the support of the project. Other partners including the government itself have started rolling out the approach in other districts of the region and other regions in the country. Small-scale irrigation owners have started getting maintenance service for their generators on-site which would have otherwise been transported to nearby towns at an additional cost. Key actors in WASH have now started to discharge their respective roles which have been identified throughout the process in support of strengthening the initiative. As the system change practice holds, it will address sustainability, reliability, quality and inclusiveness of WASH projects in a meaningful way.

Another by-effect of introducing cost-based services is that the communities tend to try out minor maintenance services themselves, which they would have referred to a district based electro-mechanical expert before. On top of that, beneficiaries have now realised that there would be no free service anymore and that they have to cooperate with WASHCOs in contributing their monthly users' fees. In some places, communities have topped-up the PLSPs, a reward for their quick response. The capacity of beneficiaries to operate the system has never been seriously taken into account when designing water schemes. When it is known by all communities that beneficiaries are the ones to cover operation and maintenance costs, future end-users would cautiously choose the type of water scheme they want to have that they can afford.

The hope is that in the end, by developing the costing and their saving habits, communities will never look for external financial assistance to expand or upgrade the existing hand pump driven service to a motorised and piped distribution system.

Challenges

The dependency syndrome grown in the minds of the communities for years has brought up some issues when a cost-based WASH service is introduced, one of which is unwillingness to pay for services and prefer to go to unsafe water sources instead. This in turn has an impact on the revenue of the PLSPs, as the number of water points maintained is not enough to sustain their lives. Implementing partners are supporting them to raise their income by diversifying their businesses into areas such as spare parts and sanitation materials supply.

District based electro-mechanical experts in the public sector used to do the maintenance service. They now enable the PLSPs, monitor and evaluate their performance and link them to beneficiaries until they are able to effectively connect themselves directly. Unfortunately, some of the experts consider the PLSPs as competitors and sabotage the process.

The time it takes to professionalise the PLSPs and transform them into real entrepreneurs, and making them bankable is long and for some, it frustrates them easily.

Conclusion

The iWET project intends to bring lasting solutions to the water schemes' non-functionality and downtime issues that the rural communities are suffering by pulling key actors' collaborative efforts into focus. It took an approach that engages as many WASH stakeholders as possible and devotion to the public-private partnership that many of them agree to stand by. The stakeholders have to understand and monitor this and move forward together. It is believed that communities through their representatives (WASHCOs) have to have full ownership of their scheme and manage it by engaging with the private sector, (PLSPs). While there are various WASH service delivery models in other parts of the world that work under certain conditions, in all of these, someone has to pay for the post-construction services and it should be the beneficiaries, the end-users of the services. In a country like Ethiopia where a rural community's economy is low, a system that allows households to contribute in different forms for sustainable WASH services need to be in place. Because subsidy to post-construction service only creates dependency and undermines the principle of equity it should be avoided where possible. From what has been seen so far, many communities who can afford to pay monthly fees still depend on the government and NGOs subsidies. However, care must be taken not to forget some sections of the communities cannot afford to pay for services. With some enlightenment, we have to give communities a chance to decide on who should be exempted from certain fees

but we should not hamper a dynamic that creates water entrepreneurship and transforms service levels.

Upgrading the following key actors' capacities in the WASH service delivery system can further strengthen the community-managed private sector engaging models.

- Technical skill of PLSPs through focused trainings and coaching services.
- WASHCOs capacity to manage their scheme, facilitate community participation, accountable financial system set up.
- Enable the regulatory bodies to discharge respective roles and coordinate resources of partners for the same cause.
- Micro-finance institutions to develop WASH-specific products and ease the bureaucracy to access credit.
- Encourage local innovations and mention best practice adaptations.

Having all these, the iWET project is doing a lot in the business ecosystem to minimise the impact of the major challenges stated above until commercially viable private post-construction services are realised.

Photograph 1. PLSPs maintaining community water point, Hawzen district team

Photograph 2. PLSPs practical training on solar powered pumps

Photograph 3. PLSPs practical training on irrigation generators, Laley Maichew district

Photograph 4. PLSPs on community water scheme maintenance, Samre district

Photograph 5. Communities serving on- duty PLSPs with food and coffee

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Notes

1 As the district water offices are busy securing routine operation and maintenance services of rural schemes, water quality monitoring is not well taken care of during random testing. Many of the water schemes show some level of contamination.

Keywords

Entrepreneurship, system change, WASH services, non-functionality.

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