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WASH FIELD NOTE FN/20/2019

Piloting the implementation of Water Safety Plans through CLTS teams in Afghanistan

SUMMARY

The Government of Afghanistan (GoA) is looking at several options to achieve access to safe and affordable drinking water (SDG Goal 6.1), the introduction of Water Safety Plans (WSP) has been one of the options selected by GoA, together with Water Quality Testing (discussed in a separate paper). The focus of the WSP is on the identification of risks or potential risks to the safety of water, extending from the source to the moment of consumption. In the Kama district of Afghanistan, a simplified WSP was developed and piloted in 32 villages which were mainly served through hand pumps, it also has an ongoing community-led total sanitation (CLTS) program where the CLTS teams were trained in the WSP process. The outcomes of this pilot were overwhelmingly positive: the drawing-based booklet depicting potential risks to water safety were found to be both useful and easy to understand. A quick assessment of two of the communities post-WSP implementation found that they continued to benefit from the WSP process, applying its key lessons. Unfortunately, security concerns hampered the other 30 villages benefiting from this post-WSP assessment, limiting the scope of the assessment and the understanding of its short/medium term impact. However, based on the success of the WSP process and its endorsement by the communities in which it was piloted; rolling-out the WSP process in community-led programs with hand pump water services in Afghanistan is both feasible and beneficial in ensuring the sustainability of interventions.

Introduction

To ensure communities have access to a sustainable and consistently safe drinking water supply service, WHO recommends the implementation of Water Safety Plans (WSP) as the most effective approach. The Water Safety Planning approach is the assessment, prioritization and continuous management of risks to water safety from catchment to consumers (WHO, 2012). In Afghanistan; a fragile state with limited capacities to regularly monitor water quality and services, the national WASH Policy (2016-2020) calls for the introduction of community-based WSP, and to this end, the Ministry of Rural Rehabilitation and Development (MRRD) is exploring how a simplified WSP package can be introduced into rural water supply and sanitation programs. To support the MRRD in this task, UNICEF, in cooperation with the Danish

Committee for Aid to Afghan Refugees (DACAAR), has designed a simplified, community–based WSP model and piloted it through the UNICEF-funded *'Accelerating ending open defecation in Afghanistan'* program implemented by DACAAR in 32 villages of Kama district of Nangarhar province. A quick assessment was carried out through a standardised questionnaire used with the Community Led Total Sanitation (CLTS) teams who were trained in the implementation of the WSPs process, as well as visits to two of the villages part of the pilot. to fully understand the Water Safety Planning process that was adopted in this context, this Field Note will also share the concept and process of the simplified, community-based water Safety Plans, in this case designed specifically for hand pumps. The results of this first WSP pilot are encouraging and fruitful in regards to the lessons learned; however, more evidence will be needed to assess the impact and outcomes of WSP in rural settings in Afghanistan and abroad, notably for other water service technologies. Finally, it will be crucial to ensure that Afghanistan can effectively implement and adequately monitor the WSP in rural settings taking into account the continuously changing political situation in this fragile country.

Description of Intervention

The WSP pilot intervention in Afghanistan's Kama district (Nangarhar Province) will be presented in two parts:

1. The concept and development of the Simplified Community-Based WSP Model developed for Afghanistan
2. The implementation of this WSP model pilot in the Kama district.

As mentioned previously, the WSP have as objective to consistently ensure the safety and the acceptability of the drinking water supply by comprehensively assessing and managing the risks to the water supply service, from catchment to consumer. These plans are meant to be flexible to suit all types and sizes of water supply systems and applicable in all contexts. For urban settings, 11-step modules have been designed to inform the WSP, while for smaller and rural water supply systems, a modified approach with six tasks has been developed (can be found at WSPortal.org). Please refer to *Figure 1* for the WSP six task process that was used to develop the WSP model for the Afghanistan pilot. The simplified, community-based WSP is largely based on the involvement of the consumers in their water service and the WSPs.

KEY POINTS

- WSP are useful tools for communities to assess the safety of their water sources from catchment to consumers
- Effective WSP require the mobilization and participation of its community members
- In fragile states like Afghanistan, where project level monitoring can be challenging, a solid WSP will ensure that communities can independently and continuously assess and improve their water source and prevent hazards from affecting their water source through rapid corrective actions.

The WSP sets about by asking a number of questions on three key areas pertaining to the water supply service: 1) The surrounding environment of the water source and the potential hazards present around the source such as nearby latrines, rubbish dumps, stagnating water or poor drainage that could directly affect the quality of the water source, 2) The actual water service equipment and its technical and infrastructural soundness such as the quality of the hand pump, the apron, the protective structure surrounding the water source, and 3) The water collection and storage containers used by the community members and their cleanliness, hygienic practices. Please see Table 1 for the full pilot WSP. This assessment, carried out by the WSP community team with support from program staff, will enable them to gauge if a hazard is present and what the immediate, medium- and long-term risks are. Following this, an improvement plan is elaborated ensuring corrective actions

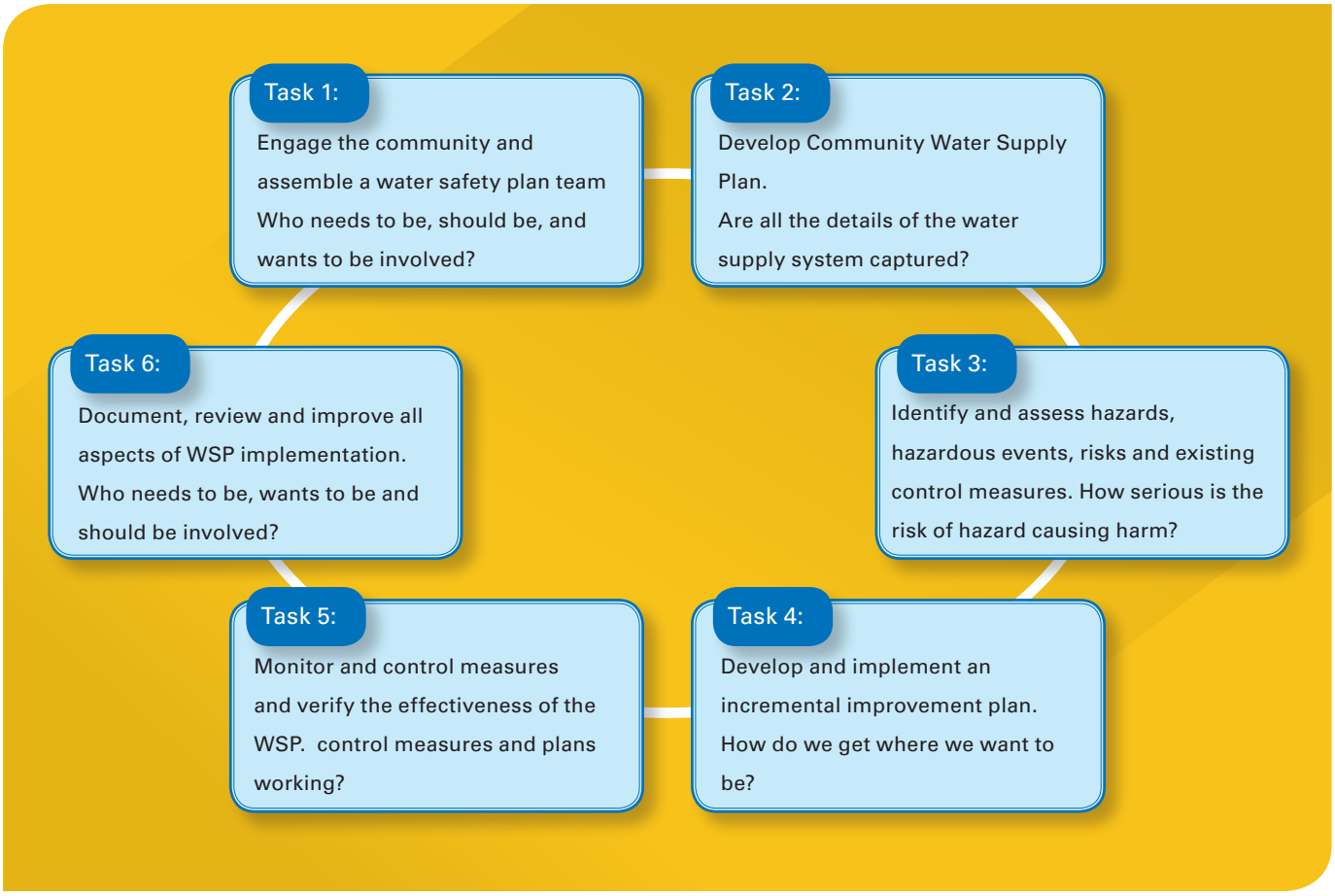
are undertaken to mitigate the risks present and integrate this issue in the continued monitoring plan, continually upgrading and improving the WSP.

To support uptake and ease of understanding of the WSP process it was proposed to present visuals depicting the hazardous events observed in the field and to use these photos for information and advocacy purposes. In the case of Afghanistan, a drawing-based booklet was developed to support the Water Safety Planning process (see Figures 2 and 3 for selected drawings from the booklet).

The booklet was designed to target Afghan communities and so the images are contextualized to the lifestyles commonly found in the targeted areas. Although under each drawing a clear description explains the issue and intent of each picture, the pictures can also stand-alone, as they are self-explanatory and so can be used for all types of populations, regardless of literacy levels.

This pilot was carried out under an ongoing project entitled *'Accelerating Ending Open Defecation in Afghanistan',* implemented by DACAAR in the Kama district of Nangarhar province, starting in mid-November 2017. Thirty-two villages with 42 public hand pumps were selected to participate in this pilot, and most of these villages were already declared open defecation free (ODF) when the pilot was initiated. The CLTS facilitating teams active in the project were trained in the use and implementation of the WSP process. In total 18 facilitators and four supervisors were trained in the WSP process, and gender balance was considered during the training.

Figure 1: Process of setting-up a simplified WSP for smaller water supply services (Adapted from WHO – UNICEF, DACAAR, 2017)



The selection of the participating villages in this pilot was done taking into account several factors: their open-defecation status; favouring those villages that achieved or nearly achieved ODF, the willingness of the community leaders and members to participate in this pilot with the understanding that this pilot would not generate further investment in the water supply system or other types of investments, and

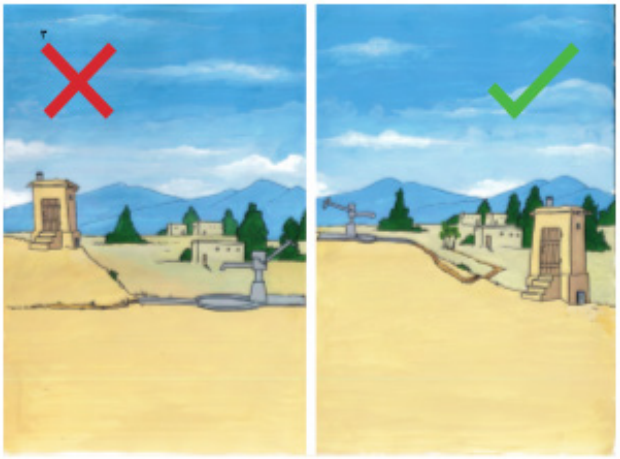


Figure 2: Drawing extracted from the WSP Booklet on the Do's and Dont's in WSP

the relative safety of these villages so that the pilot can effectively be implemented and monitored by DACAAR staff members. Once the villages identified, selected and committed to piloting the WSP, each village was then requested to assemble a WSP community team headed by the Hand pump (HP) caretaker. This team was then tasked with the following: 1) By means of a transect walk, create a village map showing drinking water sources and surrounding activities relevant to drinking water quality, 2) Identify hazards and assess the effectiveness of existing control measures, evaluate the risks from the hazards to the drinking water from catchment to consumers, 3) Plan, prioritise and lead improvements to the water system, 4) Plan and lead on-going monitoring of water systems including household practices, 5) Meet as agreed to check the WSP activities are being carried out as planned and to make updates to the WSP if necessary.

Due to the cultural context in some regions in Afghanistan, men and women aren't allowed to work together. Hence, in parallel to men carrying out the activities described above, female CLTS staff

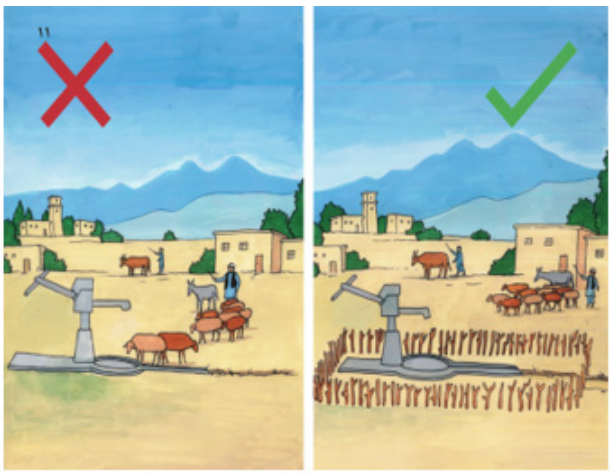


Figure 3: Drawing from WSP Booklet explaining the need to keep animals away from the water source.

arranged similar activities with female community members focusing on water transportation and storage in the homes. Each community was visited 3-5 times and the WSP implementation was considered completed when all the risks identified during the transect walk had been mitigated. On average the process took approximately 1.5 months.

To record the experiences from the pilot a rapid assessment was carried out to collect lessons learnt and to explore the impact of WSP integration in a CLTS program. Key objectives of this assessment were:

- Collect feedback from the CLTS staff on the WSP training they had received
- Record CLTS teams' experience in the implementation of the pilot
- Assess the usefulness of the WSP drawing booklet for hand pumps from CLTS teams and community members
- Collect feedback from community members on their perspectives regarding the implementation of the pilot

The assessment was organized over two days (17-18 January 2018). In total ten teams made up of four CLTS supervisors and 16 CLTS implementing staff (10 male and 10 female) were interviewed at the DACAAR office in Jalalabad. A questionnaire was designed for this interview: the four CLTS supervisors were interviewed in one group and the eight implementers were interviewed in another. Each interview lasted from 60 to 90 minutes. To

cross-check the CLTS staff's feedback and to observe visible results of the WSP, field visits were organized to two of the WSP pilot villages. Initially six villages had been selected for this post WSP implementation assessment. However, because of continued insecurity plaguing the region, it was extremely challenging to effectively carry out more than these two field visits at the time. During the field visits the objective was to assess if any improvements and positive changes were realized after implementing the WSP; check the surroundings of the water source, the hand pump and its maintenance and the improvement at the household level in terms of water collection, handling and storage practices. A final quick discussion was held with the WSP community team about the WSP booklet and its impact.

Outcomes

The results of this pilot were encouraging and leads us to believe that rolling-out the WSP process at a wider scale in Afghanistan is both feasible and desirable. The summarized information described below was obtained through the interviews held with the CLTS team members, the field visits in two of the participating villages and discussions with the WSP village committees.

The WSP training of the CLTS teams was widely appreciated by all the facilitators and supervisors. Although some of the topics such as 'water quality' had been discussed previously within the ongoing CLTS project, details on different risks to water contamination, safe water storage, the water cycle and the WSP booklet were new and found to be easy to understand, pertinent and consistent with local context. It was suggested to add a number of topics to the training on: water-related diseases, information on chemical contamination, household water treatment as well as water quality testing. It was also suggested to increase the duration of the training from two to three days, with two days in class and one day in the field.

The integration of the WSP process in the CLTS approach was seen by all CLTS teams as highly relevant. In fact, all the CLTS teams believed that the WSP and CLTS process were directly linked and that the WSP process strengthened the CLTS approach. The WSP process fitted seamlessly into the CLTS approach and allowed them to reinforce aspects of hygiene and maintenance around the water source that was already part of the CLTS approach. When it comes to new Water Supply and Sanitation Programs that are considering integrating the WSP process, according to the CLTS team the best moment to integrate WSP is after the triggering of the community, during the hygiene promotion training. Starting WSP at this stage will allow for the CLTS teams to perform timely monitoring on the WSPs and progress made.

Preparing the community for the WSP process took a couple of days, this was to ensure that key members of the community were informed and able to attend a first meeting. These meetings were in general attended by the HP caretaker, the mechanics, the water and sanitation committee, the elders, teachers and religious leaders. Furthermore, as meetings for men and women were carried out separately due to the Afghan cultural customs in that region, this needed to be taken into account in the planning stage. The first meeting established a WSP committee, from there on 3 to 4 meetings lasting on average 2 hours took the communities through the WSP process. One of the key moments of the process was the collective visit to the hand pumps by the CLTS promoters and the communities to assess the potential contamination risks to the water point and propose solutions with the help of the drawing booklet. This physical verification of the situation allowed the communities to effectively visualize the potential risks together and propose mechanisms to mitigate them.

DACAAR CLTS teams continued to visit the WSP pilot communities until the end of March 2018, at which point the monitoring process was handed over to the trained community elders. Long-distance monitoring continued through mobile phone and according to the CLTS reported the WSPs continue to be followed and updated.

Table 1: Model WSP for Boreholes fitted with Hand pumps

Water supply components	Sr. #	Specific diagnostic information for hazard identification and risk assessment	Hazard present?		Risks	Monitoring (Sanitary/ Visual Inspection)		Corrective Action to be taken if "Yes" (by the WP Caretaker and the WP User Group)
			Yes	No		When	Who	
Water source surrounding	1	Is there a latrine/septic tank within 20 meters of the hand pump?			Latrines close and at higher ground may affect water quality, especially in the wet season, as faeces (and other contaminants) may flow/infiltrate into the ground water source.	As quickly as possible	Water Point (WP) Caretaker/ WP User Group	Move/relocate latrine or improve latrine/ septic tank design
	2	Is the latrine on higher grounds than the hand pump?						
	3	Is there any other source of pollution within 10 meters of the hand pump? e.g. manure pit or a rubbish dump, sewage and septic system discharges, storm-water flows and discharges etc.			Pollution sources close to the hand pump increases risks of water source contamination.	As quickly as possible	WP Caretaker/ WP User Group	Remove/relocate the manure pit/rubbish dump
	4	Is there ponding/stagnating water around the hand pump?			Stagnating water around hand pump could provide breeding site for flies, mosquitoes and seepage may contaminate shallow ground water.	Weekly	WP Caretaker / WP User Group	Fill in the holes and properly backfill around the apron of the hand pump
	5	Is the drainage channel broken/cracked or overflowing within the first 2 meters from the apron?			Broken/cracked or overflowing drainage channel could lead to ponding water around the hand pump and increases risk of water contamination, especially when combined with water spillage and poor sanitary conditions.	Weekly	WP Caretaker / WP User Group	Clean and improve the drainage channel in the surroundings of the water point
Water source	6	Are cattle easily approaches the water source directly?			Without fencing, cattle can damage the hand pump and will contaminate the water source surrounding.	Monthly	WP Caretaker / WP User Group	Check the fencing at the site as well as check whether animals are routinely in the area
	7	Is the apron radius less than 1 meter around the well?			The apron is built to prevent backflow of water into the borehole.	Annually	WP Caretaker / WP User Group	The apron needs to be at least 2 m in diameter.
	8	Is there ponding/stagnating water at the apron?			If water does not drain away from the apron area, then water (possibly contaminated) could backflow into the water source. Stagnating water at the apron could provide breeding site for flies, mosquitoes and seepage may contaminate shallow ground water.	Weekly	WP Caretaker / WP User Group	• Clean and repair the drainage channel • Empty the soak-away pit, remove the sediments and replace the rough stones.
	9	Are there any cracks in the well apron?			Cracks in the apron may leads to seepage of contaminated water to the well.	Weekly	WP Caretaker / HP Mechanic/ WP User Group	Repair the apron by cementing the cracks.
	10	Is the hand pump loose at the point of attachment?			The hand pump must be securely fixed to avoid breakdown and prevent water entering the well from the surface.	Weekly	WP Caretaker / HP Mechanic	Fix the nuts and bolts and advise community for extra care during water pumping
	11	Is any repair of hand pump for damage, wear and tear required?			Any damage or defect in hand pump will result to less or no safe drinking water to the users	Weekly	WP Caretaker / HP Mechanic	WP caretaker to inform the HP mechanic to come and repair the hand pump
Water collection and storage at household	12	Is unsafe storage and unhygienic handling of water is practiced by the community? (unhygienic surrounding around storage tank/ container/reservoir and uncovered container at household)			Water stored in containers with a damaged or absent cover can easily be contaminated. Unsafe storage and unhygienic handling of water at households are major risks to drinking water contamination.	Weekly	Community Health Promoters / teachers/Molla	• Identify the causes and notify water user committee • Community education through health promoters and school teachers • Speech by Molla in mosque/community gathering on importance of hygiene and cleanliness • Empower women's groups to educate personal hygiene • Point of use disinfection (boiling and use of chlorine)

The WSP booklet was well received by both the CLTS teams and the communities alike. The communities appreciated the drawing-based booklet as most of them cannot read, the drawings were logical and consistent with local Afghan culture. According to the community members, the good and bad situation pictures made it easy to identify risks and propose mitigations. The booklet was also much appreciated by the women in the communities, in particular the information on safe water handling and storage, avoidance of clothes washing on the apron of the hand pump and fencing the hand pump area. Some women suggested making posters of some of these drawings so they could be hung on the walls inside houses and on public buildings, with a focus on the risks so that it can be seen every day by the family as well as guests. Regarding the ease of use of the drawing-based booklet for the CLTS teams, the teams were happy with the booklet and thought it was easy to use with the communities. Several suggestions for improvement included making the drawings bigger so that they could be seen more clearly, and distinguishing the images from those used during the CLTS training process, as repetition led to some mix-up by the CLTS facilitators.

The field visits allowed for cross-checking of the information received by the CLTS members, and obtain visual evidence of the improvements and positive changes that had occurred since the WSPs implementation. In both villages visited, Shah Jahan (Mustali CDC) and Awal Kalay (Narai Wiala CDC) considerable changes were made following the implementation of the WSP. In Shah Jahan, fencing was put up around the hand pump to prevent access for animals, thus preventing animals from watering on the apron. A latrine construction near the well was stopped. There are no longer activities of clothes or child washing on the apron, and the drainage for waste water is kept clean. At the household level water storage containers were seen to be clean and covered, jerry cans are now the preferred option for water carrying and storage. Furthermore, considerable improvements were also seen in the removal of waste from around the households. In Awal Kalay the hand pump was thoroughly cleaned leading to an improved taste of the water according to the community members. The cracks in the top ring of their well was repaired by the WSP team and the drainage for waste water was kept clean. Overall the households said they were increasingly concerned with keeping their houses and in particular kitchens clean. In the discussions with the community members from the two villages it became clear that the communities felt increasingly concerned with the safety of their water and thanks to the WSP process understood that this is a community level responsibility and not only that of the hand pump caretaker.

Limitations of the assessment should be noted as field visits were only carried out in two of the pilot villages whilst six had initially been planned. Security issues in the region meant that only two villages were visited, reducing the scope of the outcome assessment and providing only a partial understanding of the WSP impact in the communities.

Lessons Learned

The response to the pilot has been overwhelmingly positive from both the CLTS teams trained in the implementation of the WSP process as well as the beneficiary communities. The training on the 6-step simplified Water Safety Planning process has clearly been successful with the CLTS teams. Although the content of the training was new to most of them, they were all experienced facilitators, comfortable with the community led approach on which the WSP process is also based, this gave them confidence in implementing the WSP process and although they suggested to add one day to the training for field work practice, none of them encountered any challenges in the field. ***It seems that the strong experience of the facilitators both in the community-led approach and in the ongoing project may be one of the reasons for the successful implementation of the WPS pilot and this will be taken into account when rolling out the process to other water supply programs.***

The experience of implementing the WSP process in the Ending open defecation in Afghanistan program was very smooth as the WSP process seemed to perfectly complement the CLTS approach used in the program. The program places the communities; the consumers, at the heart of the project, and promotes and informs them on hygiene and the need to construct toilets as to end open-defecation. The WSP model uses the same approach, by giving consumers greater involvement and control over maintaining their water quality and giving them the tools with the WSP process to address these issues. ***This consumer- centred approach must have contributed greatly to the pilot's success and should be taken into account when looking at the implementation of WSP in more complex or top-down programs.***

The drawing booklet is a key tool in the WSP process, as the drawings are clear and self-explanatory, everyone in the community, even children can easily understand the messages they convey. Although certain small suggestions were made, such as also printing the images of the booklet on flipcharts that can then be used during the training and the meetings with the WSP committees, ***it is also suggested that each WSP committee member gets a booklet that they can then use in their own promotion with the community members.*** This WSP booklet specifically drawn for Hand pumps is simple and easy to use, however it will need to be adapted and tested for other types of water schemes.

The communities in which the WSP process was piloted were particularly welcoming of this new project component, however ***it is important to clearly establish what the WSPs objectives are and ensure that the communities do not get unrealistic expectations of new investments in their community.*** This issue came to the forefront during the discussion that the CLTS facilitators had with the WSP committees, questions such as: Will we get a new water point? or, what will we get in kind from the WSP project? where just a few amongst the questions highlighting expectations. It is important that the CLTS teams are properly trained in how to respond to such questions. In the pilot, the CLTS facilitators responded sensibly but directly to these questions, making it clear that there were no direct material benefits that came with the WSP process and that this was an opportunity for the community to increase their understanding and ability to respond themselves to improving the safety of their water service and the quality of their water.

Next Steps

The objective of this pilot was to assess to what extent a simplified WSP package can be introduced in WASH programs using the CLTS approach as well as regular water supply programs in Afghanistan with the aim of improving the water service and the water quality. This small pilot has demonstrated that WSPs can easily be introduced in certain ongoing water supply projects, in particular if the process used in the project is community-led and the community has been sensitized to water, sanitation and hygiene issues.

One of the follow-up actions suggested is to revert back to the field and carry out another post WSP implementation on a larger sample of the pilot communities, but this depends largely on the security situation in the region and the availability of funding. A further assessment of some of the WSP pilot communities would provide the Government with further information on the potential of the WSP for communities using hand pumps.

The WSP model used in this pilot is currently only applicable for Hand pumps, for other types of water schemes such as solar-powered or gravity-fed systems, more information will be needed to adapt the WSP model for these schemes. These models are currently in development and will be piloted in the coming months. Once the findings of the other pilots of gravity fed and solar powered systems are available, the Ministry of Rural Rehabilitation and Development (MRRD) will be able to take an informed decision on the integration of WSPs in CLTS programs at the national level.

References

DACAAR Water Expertise and Training Centre (2017) The Concept of Piloting Simplified Community-based Water Safety Plans (WSP) Model.
DACAAR WATER EXPERTISE AND TRAINING CENTRE AND UNICEF AFGHANISTAN (2017) WSP Booklet for Hand pumps.
DACAAR Water Expertise and Training Centre (2018) Lessons learned and Expertise recorded from Water Safet Plan Pilot Implementation in Kama District of Nangarhar Province.
Barat, Mohammed Azeem; Prades, Gemma (Paper for SACOSAN VII, Islamabad 2018) Introduction of Water Safety Plans during CLTS implementation. Lessons learned from Afghanistan.
WHO (2017) Guildelines for drinking-water quality
WHO & IWA (2012) Water Safet Plan training package
WHO & IWA (2009) Water Safety plan manual: Step by-step risk management for drinking-water suppliers

Photo Credits

The photo is courtesy of DACAAR Afghanistan.

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