

Using the Technology Applicability Framework (TAF) tool for Urine Dry Diverting Toilet (UDDT); technology evaluation and recommendations for sustainability in Burkina Faso

Authors

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Abstract

The Technology Applicability Framework (TAF) is a participatory evaluation tool developed by the WASHTech project that identifies blockages likely to impact on the overall sustainability, scalability and performance of a specific WASH technology. The TAF examines specific technologies through the lens of stakeholders' interpretation of technology performance and its potential for scaling up, based on six sustainability dimensions, and 18 stakeholder-specific indicators. Perspectives of users/ buyers; producers/ providers; and regulators/ investors and facilitators are used for the analysis. The TAF was used to assess the Urine Dry Diverting Toilet (UDDT) in Burkina Faso at Poa, in the province of Boulkiemdé. Research and fieldwork were conducted with support from the communes in charge of planning and monitoring sanitation actions; decentralised governmental institutions in charge of overseeing sanitation in rural areas (DRAH); communities using the UDDT; and the NGO in charge of promoting the use of the UDDT in the area. A data validation workshop was organised, convening diverse informants, and other relevant actors working in the WASH sector. Results showed that the UDDT is a successful technology, is politically sustained, and validated official documents' reference to UDDT as a recommended technology. Findings also revealed that the UDDT is socially accepted, widely available, and may facilitate safe use. Despite these positive outcomes, unfortunately UDDT is not viewed as a profitable technology by private operators because of its high cost. In terms of financing, the research found that a UDDT can only be constructed with the help of subsidies; communities do not have the means to pay for the technology. The results also showed that it is relevant that the research shall continue to explore the sanitary risks at parasitological level and the management of water from anal cleansing. Overall, in order for the UDDT to scale up as an effective technology, findings point out for the need to put in place financing mechanisms that increase subsidies and reduce user fees. In Burkina

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Faso, all sanitation technologies are subsidized by the government, projects or NGOs. The fundamental question then is: is the subsidising of WASH technologies the best approach for technology introduction in the case of Burkina Faso? The TAF tool can be a tool for helping the government in improving or changing the approaches for technology introduction.

Key words

UDDT, TAF, WASH, WASHTech, tool, sustainability.

Introduction and purpose

This paper aims to show the usefulness of the Technology Applicability Framework (TAF) developed in the WASHTech project in analysing WASH technologies—in this case the UDDT—offering recommendations on possibilities for their scaling up.

Context

The water and sanitation sector is not lacking in searching for new and emerging technologies. Despite this, hardly any technology is adopted as part of national strategies, as in the case of Sub-Saharan Africa (SSA). None is widely taken up and promoted by private enterprise. A key constraint in reaching sector targets therefore appears to be in the lack of methods that assess the potential of a technology, as well as the absence of guidance in bringing new (appropriate) technologies to scale, effectively. The WASHTech project (www.washtechafrika.wordpress.com) contributes to this through its development of the TAF tool.

The TAF has been applied on the UDDT technology—a proven technology recognised by Burkina Faso’s National Program for Water and Sanitation Supply (PN-AEPA). The UDDT is hailed to be instrumental in improving agricultural production, posing minimal risk to the environment. Ironically, the technology is not widely used in the country. To understand this, the TAF was used to identify the factors that have stunted the scaling up of a technology perceived to be successful. The application of the TAF also allowed for the research to offer recommendations on how to scale up the technology in the country.

Methodology

The TAF was used as the methodology for analysing the UDDT, accompanied by methods of field testing and scoring.

Presentation of the WASHTech and the TAF: The WASHTech project is a consortium project implemented in three African countries: Burkina Faso, Ghana and Uganda. The main aim of WASHTech is to introduce a tool that effectively assesses the potential of technologies for scaling up. From the project, the Technological Applicability Framework (TAF) was developed, consisting of 18 indicators, six sustainability dimensions and three perspectives groups. The application of the tool took place in four phases: screening, assessment by field visit and scoring workshop, presentation of the result, and interpretation. The TAF has been applied in Burkina Faso for six technologies

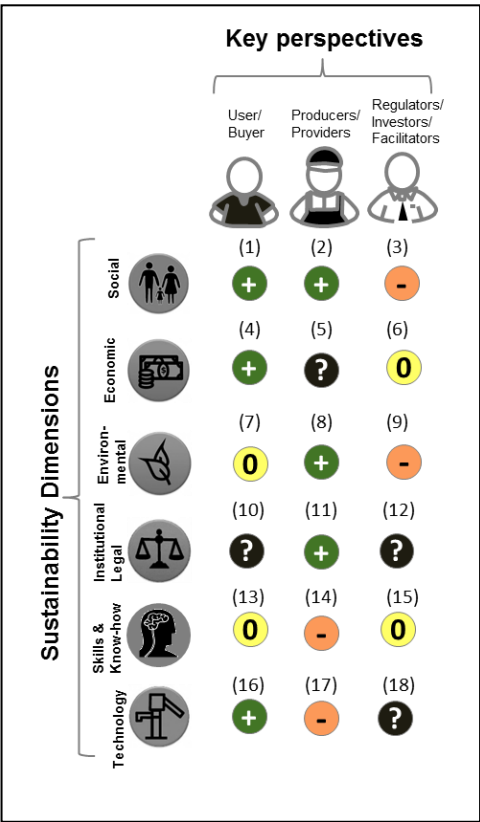
through three rounds of testing. In this paper, the process and results from examining the UDDT technology in the province of Boulkiemdé, are presented.

Screening: Before entering the field, a screening sheet was used to obtain insight into the applicability, and the need for the technology in the study site. For this purpose, a screening questionnaire was disseminated to local NGOs, decentralised institutions and communities.

Field testing: A survey was conducted at Poa, in the centre (West) of Burkina Faso. For the purpose of the survey, a research team composed of representatives from WaterAid, WSA, District, DRAH and local association was constituted. Perspective-specific questionnaires were developed prior to field testing, for targeted groups including the decentralised institution, the producers of the technology and the communities. Focus group discussions were held with each of the targeted groups. Before field testing commenced, researchers received training on the use of the TAF in a three-day workshop. Once data was gathered, the field research team consolidated and synthesised responses received, applying the TAF. The consolidated TAF was used as a reference for discussion during the scoring workshop.

Scoring workshop: The scoring workshop involved representatives from national institutions in charge of water, research institutions and NGOs working in sanitation, as well as the research team. In order to achieve a wider validation process, individuals who were not directly involved in the research process were invited. This allowed the validation process to benefit from a wider knowledge and experience base to ensure objectivity in scoring the technology. Before scoring the technology, the TAF and the WASHTech project were presented to allow newcomers to understand the methodology and the project’s objectives.

Visual presentation of the results and interpretation: To visually present the findings of the research, analysis of each indicator was assigned a colour-coded symbol (see image). In terms of process, participants decided on the most appropriate symbol for each indicator, based on discussions on the sub-questions and the scoring questions used, as well as raw data drawn from the field.



Findings and discussions

Evaluation

Before the TAF was applied, the UDDT was considered a promising technology. The UDDT is recognised as a technological option in the framework of the implementation of the PN-AEPA (MAH, 2006). Many funded projects by the UE promoted the use of the UDDT, complemented by sub-products in agriculture in peri-urban and rural areas. Beneficiary communities reported to have benefited from these projects, and the results reported were encouraging in terms of environmental protection and agricultural productivity (SAWES, 2009). Success in community uptake of the UDDT is largely due to subsidy arrangements already organised, with communities taking responsibility for a small part of the financing. Applying the TAF tool showed that the technology was successful as there was high demand from the communities. However, the TAF also identified some barriers to the scaling up of the technology. The UDDT technology was found to not bring significant profits to the private sector. The TAF also showed that there did not seem to be any major impact on the environment, however, such a statement should be further explored. UDDT was found to be socially accepted, but training on the operating and maintenance aspects was lacking. The users were reported to be very satisfied with the UDDT, but the cost was too high for them.

Clearly, there is a demand for the UDDT. A major challenge is found in scaling up the technology, with support of the private sector. There is thus a need for the government to revise its strategy for introducing the technology. The fact that the technology is largely subsidised discourages private sector investment.

The UDDT is a complex technology that poses health risks to users if safe use is not practiced and clearly communicated. Added research focused on impacts like sanitary aspect, management of anal cleansing water, gender aspect, etc. will be beneficial. For a large upscale of the technology there is a need for increasing the subsidies from the government before the strategy of implementation is revised. It is required to increase the awareness at national level by showing the evidence of the impacts of the technology on agricultural production and at sanitation level.

Conclusions

The application of the TAF on the UDDT pointed out the current issues that research is trying to overcome. It also pointed out the relevance of the technology in agricultural production and in sanitation. The tool indicated what needs to be done to make the technology sustainable. The tool also pointed out why the technology is not yet scaled up. The TAF tool can be used as a tool for technology evaluation and technology introduction approaches. This process involved the host institution of the TAF in Burkina Faso which gives a good opportunity for embedding the TAF in Burkina Faso.



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See also the web site of WASHTech at <http://washtechafrica.wordpress.com/>