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The SMART Centre Approach: training the private sector and scaling-up Self-supply via through a sustainable business model.

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Abstract/Summary

The SDG 6 promises water and sanitation for all but how to reach 'the last mile', the small remote rural communities? How to increase functionality of water points, how to scale up Self-supply (family water systems) and reach water related goals like reduction of rural poverty and increased food production? One option is the SMART Centre approach which includes the promotion of SMARTechs; Simple, Market-based, Affordable, Repairable Technologies by innovation, knowledge transfer and training of local entrepreneurs. This paper describes possible solutions though the SMART Centre approach.

Introduction

Self-supply and SDG 6

Of the 660 million people without an improved water source, 80% live in rural areas where piped systems or machine-drilled boreholes often are not possible or too expensive.
Many of the yet unserved households collect water from hand dug wells, often made by (groups of) families at their own expense. This is called Self-supply. Open wells can become improved water sources by low cost technologies such as installing a well cover and an EMAS-, Rope- or other hand pump. To ensure that the well has water all year round a 10 US$ recharge system can be installed, and to make water safe to drink, a 20 US$ water filter can be used. The government of Ethiopia promotes Self-supply with Rope pumps to reach 10 million rural families, seeing a number of advantages, such as less maintenance problems and families taking care of their own pump. (Holtslag, 2015, Mekonta, 2015). Self-supply can also increase family incomes by 100 to 500 US$/year (Maltha, 2015, Roosendahl, 2015) and contributes to food security.

The SMART Centre approach

One way to reach people with Self-supply is to use the SMART Centre approach. A SMART Centre is a knowledge and innovation centre that demonstrates and trains (entrepreneurs, technicians and other trainers) in the production of conventional and new rural technologies. Currently, there are centres in Tanzania, Malawi, Mozambique and Zambia and starting-up in Ethiopia, Kenya and Nicaragua. The Centres are all part of local NGOs or education institutes, and at the same time member of the SMART Centre Group to share knowledge and coordinate fund raising to scale up. The group is coordinated by the Dutch Social Enterprise MetaMeta and partly supported by Aqua for All and the Skat Foundation.

Focus is on the following topics:

1 Innovation
Introduction of new technologies (SMARTechs) that can be produced locally. Examples of SMARTechs are Rope pumps, EMAS pumps, manually drilled Tube wells, Wire cement rainwater harvesting tanks,

tube recharge for aquifer recharge, low pressure irrigation drip systems and locally produced table top filters for household water treatment. For example, in 2002 the Rope pump was introduced in Tanzania and now there about 10.000 installed of which 50% are for Self-supply, paid by families themselves.

2 Private sector
SMART Centres train the local private sector. Entrepreneurs and technicians will continue after projects stop, so there is a 'profit based sustainability'. The market potential is huge: as households and communities "move up" the water ladder, entrepreneurs and technicians can "move up" with them and add more advanced products to their collection of products.

3 Self-supply
Self-supply is a strong tool to reach a large part of the SDG6 target group. Family systems also result in increased incomes (poverty reduction) and more food security. Self-supply includes the promotion of Household Water Treatment to make water safe to drink.

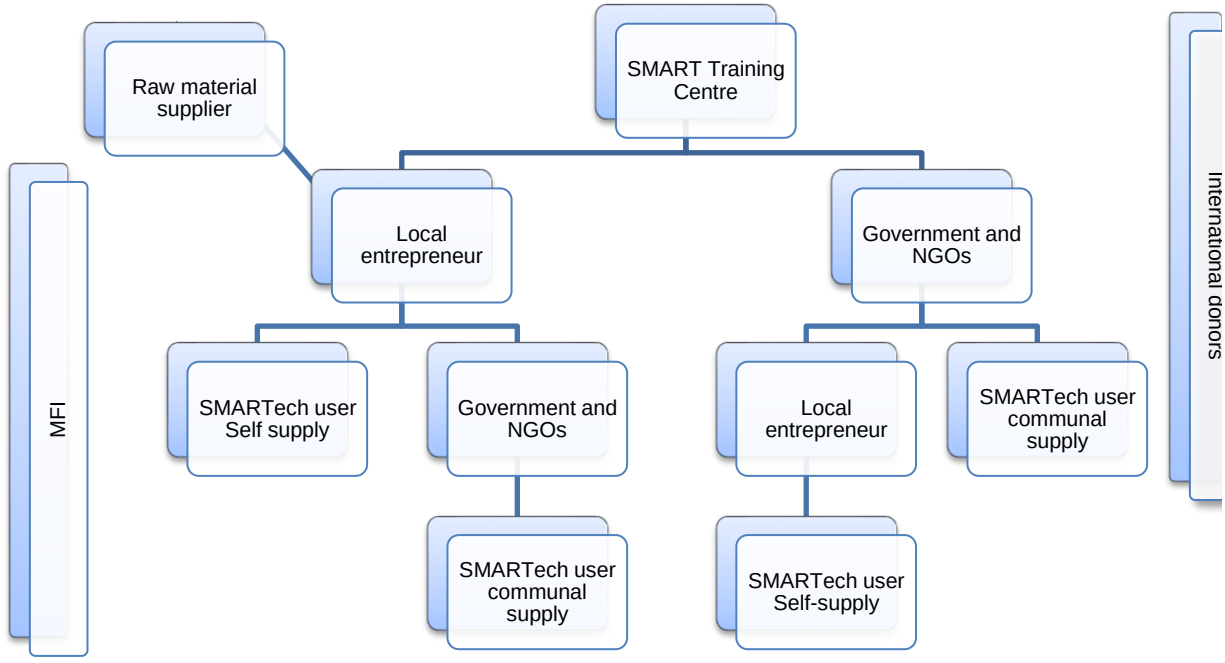
Study

To see how SMART Centres can become more financially self-sustaining, a study was carried out at the end of 2015 in Tanzania at SHIPO SMART Centre. (Maltha 2015). Open interviews were held with the SHIPO SMART Centre staff, the SMART Centre Group, local entrepreneurs and their customers, other NGOs and government.

Results

SMART Centre as a business

To be financially sustainable, a SMART Centre needs income and thus has to start thinking as a business. First of all, the study assessed the Supply chain of SMARTechs in Tanzania, shown in the flow chart below.



By means of the business model Canvas, the 'business' of the SHIPO SMART Centre could be visualised: who are the customers, what is their value proposition and in which way are they reached (Maltha A.,

2015; PPPLab Food & Water, 2016)?

The following customer segments were identified:
1. Local entrepreneurs and technicians.
2. NGOs or government, buying training for entrepreneurs and technicians.
3. NGOs, impact investors andothers who want to assist in reaching SDG6 and related SDGs such as poverty reduction, food security and job creation.
4. National vocational training institutes

In Tanzania and Malawi the SMART Centre revenue comes from:

1. **Selling training**: Although entrepreneurs increasingly pay for a part of the training, the main financiers of training are NGOs
2. **Contracting**: Implementing rural water points and subcontracting welders to make the pumps and drillers to make the wells. In this way the Centre generates income and can 'guarantee' the quality by guiding the companies. Now many pumps are also sold by the companies without the intervention of the Centre (spin-off).

Some of the encouraging results that have been achieved to date include:

1. Introduction of 15 new and cost reducing water technologies (SMARTechs)
2. Over 35 new local companies trained and functioning
3. Over 10,000 Rope pumps produced by these companies
4. Proven market based concept to scale up water access
5. In Tanzania the National vocational training institute VETA, now includes Rope pumps in the curriculum; a major step forward and an official acceptance of the Rope pump.
6. NGOs and government in general positive which resulted in new training.

A SWOT analysis has been carried out to identify the strengths and challenges for the SMART Centre Tanzania in order to learn and to improve processes:

Strengths	**Challenges**
• In-house training capacity, quality manuals and training material of (new) water technologies • Capacity for facilitating Wow visits (Visitors say "wow" seeing the SMARTechs • Proven market based concept to scale up water access • Demonstration field with new options • Trained technicians now are trainers themselves • Certification in progress to guarantee quality • Support to loans program for companies and users • Follow up support to entrepreneurs • International donor support • Support from specialist with over 25 years of field experience	• Financial dependence on Customer Segment 4 (vocational training centres) • More training skills on business and marketing needed • More skills, insight needed how to scale up the market for SMARTechs • Monitoring insufficient, e.g. mapping, functionality of water points • Network and dialolgue with policy makers needs improvement • Small teams, frequent changes in management and trainers limit the building up of experience.

Lessons

There are satisfied customers due to strong value propositions, a proven concept and good customer relationships. The number of customers, however, is relatively small and new customers (entrepreneurs and NGOs) are needed to increase income and scale up.

While the revenue model of training entrepreneurs is sustainable, the revenue model of the SMART

Centres is still dependent on donors and impact investors at this stage.
The SMART Centre approach needs more promotion among donors, impact investors and government.
If the SMART Centre wants to decrease its dependency on external funding, focus needs to shift to Customer Segments 1 and 2.
It may also be argued that the current model will create suppliers of SMARTechs who increasingly become able and willing to pay for training services.

Conclusions

- It has been shown that scaling up the use of SMARTechs and services is possible via the market-based approach and that it decreases the cost of rural water supply.
- Guarantee for sustainability: by anchoring the Centre to a local institute and building the capacity of private sector, embedded in local structures, the dissemination of SMARTechs continues even after intervention of the Centre
- The SMART Centres have successfully introduced a range of SMARTechs in 5 countries and can expand to many more countries via the SMART Centre Group.
- Similar initiatives have shown interest in cooperation and there is strong scope for creating synergy. Cooperation would result in efficient use of scarce global funding resources.
- External funding from international customer segments plays an important role in the first stages of scaling up because training of entrepreneurs is needed to establish a functional supply chain and a critical mass of users. After a critical mass has been reached, entrepreneurs can work independently to grow their business.

Recommendations

1. Create a solid basis for further scale up: follow up on all trained entrepreneurs and identified imitatiors, to assess the current size of their business in SMARTechs and to support them with technical and business skills.
2. Certify good quality entrepreneurs preferably together with a government body.
3. Explore the market for SMARTechs in the country of operation and in new countries and train new entrepreneurs by approaching WASH NGOs in those areas
4. Expand social marketing and realization of a critical mass.
5. Improve monitoring. Check installed SMARTechs on functionality, water quality, social and economic impact. A good mapping system is a good tool to attract larger donors active in WASH.
6. Undertake active advocacy and involve governments, WASH umbrella organisations and more policy-related NGOs to get more official support for SMART Centre approach.
7. Set a clear strategy and targets about the approach of each Customer Segment.
8. Continuously discuss the dependency on and availability of donated funds and slowly adjust the business model towards less dependency on donated funds. Explore additional income generating streams such as bulk acquisition of SMARTechs

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