

Accelerating SMARTechs for water in Tanzania, using a market-based approach

Simple, Market-based, Affordable and Repairable Technologies

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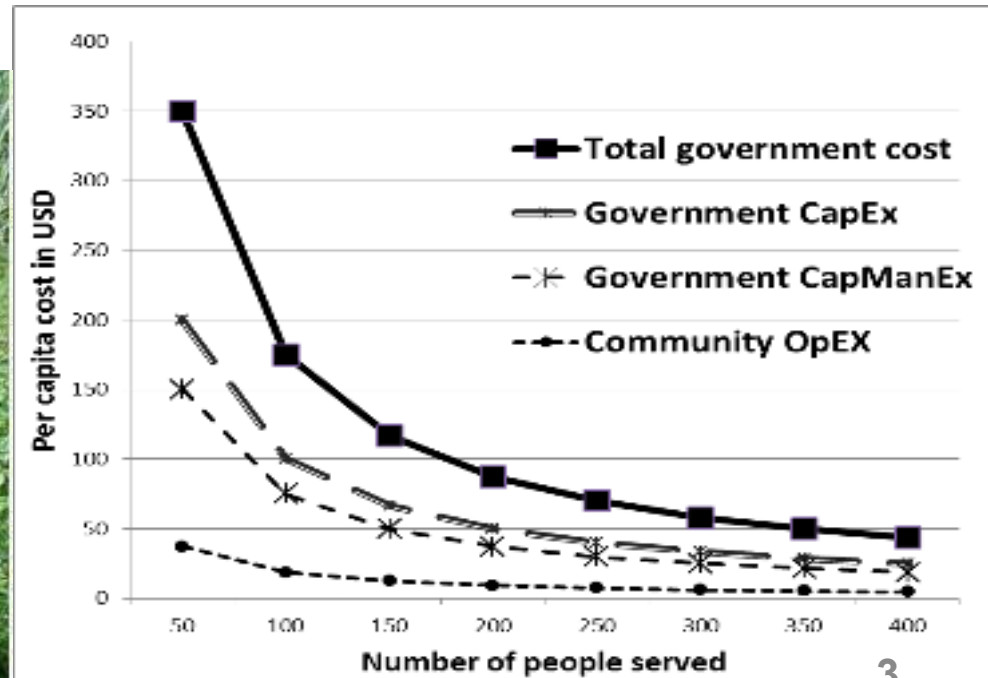
1. Background

Challenge: Reaching SDG 6 in rural areas

- Machine borehole for 250 people. Capex \$30 /capita
- Village of 80 people. Capex convent. system = \$100 /capita

Who is going to fund this?

- Need for lower cost technologies
- Need for income to pay for maintenance



(Source: Sutton S. RWSN 2016)

Cont...Background

A solution!

SMART Centre approach
(self-supply + SMARTechs)



Simple
Market-based
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Technologies



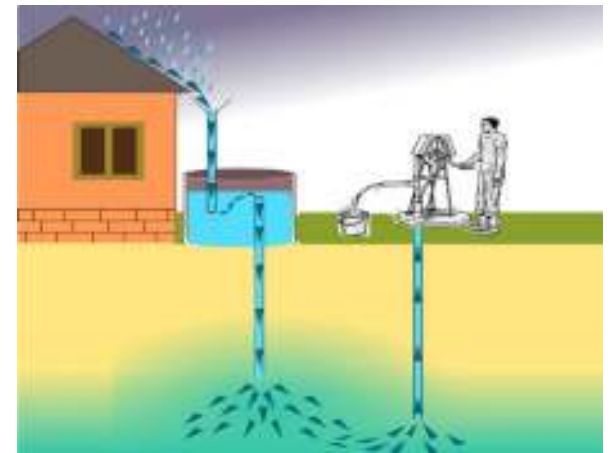
- **Reduce the cost and increase functionality:**
innovative technologies, local production and repair
- **Productive use:** Irrigation, livestock
- **Create demand for Self- supply**
- **Private sector development:** train and support the local entrepreneurs to start their business on SMARTechs
- **Household water Treatment**



2. A solution!

Examples of SMARTechs:

Manual drilled wells 10-50 m deep



Rainwater harvesting tanks/ well recharging system



Rope pumps
5 - 35 m. deep⁵

3. Objective

To accelerate scaling up of SMARTechs for water supply in Tanzania.



4. Methodology

- Questionnaires (Mufindi, Njombe districts)
- Direct interviews
- Observation/field visit
- Reports review (mWater surveyor –Southern Highlands-)

5. Capacity and Achievements



Capacity:

SHIPO SMART Centre:

- Show 20 SMARTechs, innovative low-cost WASH products
- A workshop for training

Achievements:

- **5,000** hand drilled wells
- **10,000** Rope pumps
- **50** enterprises trained
- Over **500,000** people now have an improved water source (over **50% self-supply**)



6. Results

- **High functionality**

Higher in self-supply (92%) than in communal (80%)

- **Productive use of water**

Family wells and pumps increase yearly incomes by 100 to 500 USD

- **Family owned becomes community served**

Water is shared with 1-35 households in self-supply


- **Subsidised communal wells created market for Self-supply**

- **Best marketing : bottom-up approach** (needs come from the customer)



7. Challenges

Among the main challenges...

- More insight needed into the Tanzanian market for SMARTechs and how to develop this market.
- Because entrepreneurs work independently, mapping of water points is challenging and there is less control on quality and functionality of the water points.
- Collaboration with policy makers: 

7. Challenges

➔ SHIPO SMART Centre supports the Tanzania National ➔ Water Policy:

1. Policy of 2002 states in Section 1, Subsection 4.11

4.11 Legal and Regulatory Framework for Water Resources Management

Objective: to have strong and effective legal and regulatory framework for management of water resources

The Water Utilization Act of 1974 and its amendments is the principle legislation governing the utilization and pollution control of the water resources. This legislation and associated regulations do not adequately meet present and emerging water resources management challenges. Thus the legislation needs to be reviewed in order to address the growing water management challenges. In order to have an effective legal and regulatory framework the following will be done:

7. Challenges

- ➔ 2. Current regulations for exploration and drilling (licensing regulations, 2013) are determined by the depth of the well:

Groundwater drilling license Clause 17:

17. The Ground Water Drilling License shall be in the following classes determined by the depth of the well:	Classes of Ground Water Drilling License
(a) Class one with a capacity to drill a borehole of <u>more than 100 metres</u> ;	
(b) Class two with a capacity to drill a <u>borehole of up to 100 metres</u> .	

The regulation does NOT address small drilling companies who drill low cost and shallow wells to 50 meters deep

8. Next steps

- **Support** existing workshops with all aspects of the supply chain and to enhance their **technical** and **business skills**.
- **Certify** good drilling companies and metal workshops in order to guarantee **quality**.
- Introduce knowledge on SMARTechnologies into **vocational education**.
- Improve the **collaboration** with the **Government**:
 - With the SMARTechs, the Government, with the same budget, can reach more people and so reach SDG 6 in remote areas while collecting taxes (sustainable and cost-effective water supply).
 - Revise the Water policy 2002 and groundwater drilling regulations 2013 to include the SMARTechs.

9. Take-home messages

- **SMARTechs** contribute to reach **SDG 6**, especially in areas where conventional technologies are not feasible or too expensive.
- The **SMART Centre approach** has proved to be a **profit based sustainability** strategy.
- **Collaboration** with the **Government** is key to continue with the **scale up** of WASH related SMARTechs.



Scale up? No fish but a fish rod, and...training how to make the fish rod

