

Challenges Resolved and Impacts produced through Smart Technologies Transferred in EWTI

Introduction

The Sustainable Development Goal (SDG) for water promises Safe and affordable water for all. However, increasing access to safe and clean water is a remarkable challenge, since 80 % of the total population of Ethiopia has been living in rural areas with lack of infrastructure. Often in rural villages/communities where machine drilled boreholes and imported hand pumps are too expensive. Some 35 % of the hand pumps installed in the past 15 years in Ethiopia are not functioning. How do we reach the yet unserved population? How can we assure that existing and new communal water systems will be maintained and repaired? How do we get more water for productive uses (garden cultivation purpose)? How to develop water use culture and community sensitization? All those questions are still the issues outstanding.

In these regard, all the above mentioned challenges are come to be the areas of concern for EWTI and other stakeholders. To be consistent with actual economic circumstances of the country, EWTI's engagement has been focusing on the Low-Cost **SMARTech** (**S**imple, **M**arket based, **A**ffordable, **R**epairable **T**echnologies) take-up from Smart Technology Group of African Countries. The institute is also working to become a member of this group and to serve as the **Center of Smart Technology** in the country.

Smart Technology encompasses several sorts of:-

- Manual well drilling methods and tools,
- Water harvesting and ground water recharging methods,
- Low - cost water lifting mechanism/pumps,
- Household water treatment & safe storage (water filtering) and
- Sanitation latrines protecting water pollution.

Implementation is based on Self Supply Principles and follows incremental improvements to water supplies that are mainly financed by the users themselves.

Challenges Resolved by SMARTech

Realization of Smart Technologies in rural communities can resolve the following challenges:-

- Improve manual household wells drilling difficulties;
- control water pollution and provide safe/protected water;
- Advance water lifting mechanism;
- Increase cultivation seasons
- Progress household water treatment & safe storage;
- Recharge the water source (ground water recharging)
- Improve services and sustainability of supply chains

Impacts of Smart Technologies transferred

- **Increased access to water (household water provision of rural communities)** by promoting self-supply acceleration activities
- **Prevented water borne diseases** by providing household water treatment & safe storage - Water filtering;
- **Produced an increased income** by means of garden cultivation through Smart Technology Options (water lifting devices) and advice;
- **Protected environment and water pollution** through provision of Sanitation – Latrines
- **Increased job opportunities** for entrepreneurs

In general **Smart Technologies** can be produced with local skills and materials and its application can both reduce the cost of communal water supply and scale up the options for Self-supply at family level.