Rainwater Harvesting as a Sustainable Alternative for Ensuring Food Security

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Introduction

Rainwater harvesting (RWH) has been used since ancient times and started gaining popularity recently. As simple, cost effective and sustainable alternative for securing food, RWH offers stability in terms of water availability for agricultural output for smallholder farmers in arid and semi-arid areas.

Objective

Seeking for practical solutions for food security in the absence of water system infrastructure in rural areas in Shybran village (Kyrgyzstan)

Hypothesis

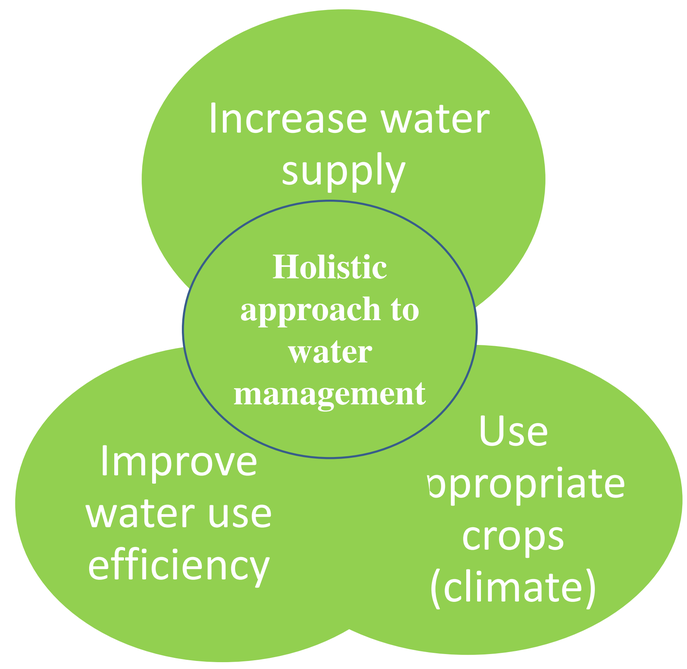
Rainfed agriculture is possible due to climatic conditions, raising awareness among the locals and financial support.

Problem

- Poor water maintaining capacity
- Increased level of evaporation
- Absence of calculation of local precipitation
- Actual annual need for irrigation water

Picture 1. Current rainwater collection method

Methodology: Capacity building activities



Picture 2. Training

Picture 3. Practical exercise

Objective results

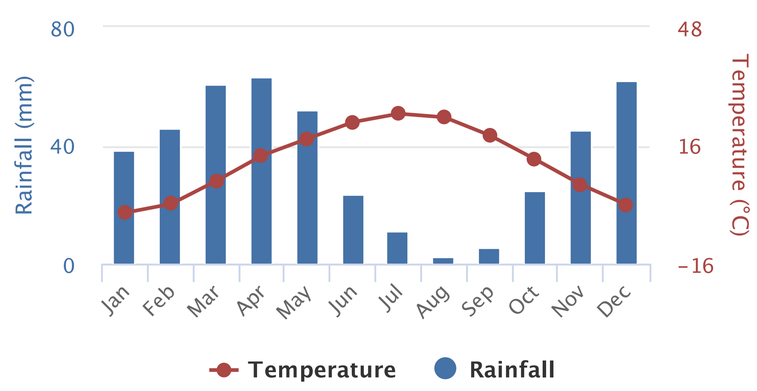
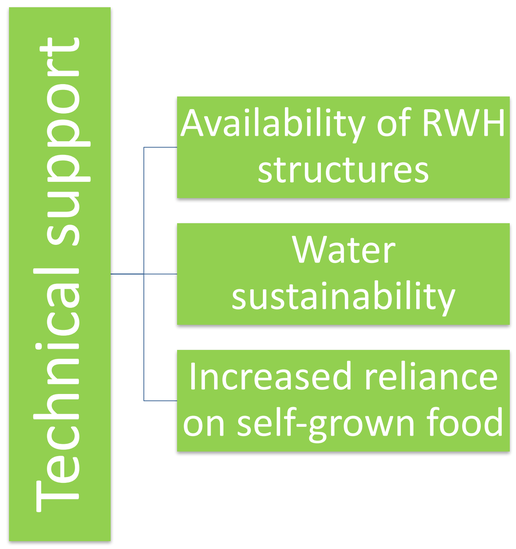


Figure1. Average monthly temperature and rainfall for Shybran 40.17,71.45 (1991-2015) (The World Bank Group 2017)



Picture 4. Different RWH structures built after the training

Conclusions

- Rainwater collected in rainy months be used in dry seasons
- Spreading knowledge on RWH and its potential is crucial
- Local acceptance of new water management methods requires awareness programs

Key words: Arid and semi-arid areas, climate change, local initiatives, water sustainability

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Reference

The World Bank Group (2017). *Climate Change Knowledge Portal*. Retrieved from http://sdwebx.worldbank.org/climateportal/index.cfm?page=country_historical_climate&ThisRegion=Asia&ThisCCode=KGZ

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