

## Roof Rain Water Collection



### **Why to choose this solution?**

Rainwater harvesting is a simple and effective tool to collect and store water for domestic and institutional use. The solution provides a cheap and easier way of collecting rainwater from the roof. Materials, which can be used as gutters, are locally available, which include, bamboo, banana fibres, iron sheets e.t.c Water for domestic use such as drinking, bathing, washing, water for animals and irrigation water is made readily available.

### **Savings per day or production:**

Rainwater harvesting reduces household expenditure on water in terms of time and money used to get the water. For communities that moves distances to fetch water it helps them save the time for other productive activities. Money that would have been used for buying water is also saved for other necessities.

### **Cost in money and in own time to construct:**

Gutters from banana plantations are free of charge, bamboo gutter costs about 4,000-5,000 UGX. (1-1.5 USD) and metallic gutters can cost between 5000 € 10,000 UGX (1.5 € 2.9 USD) depending on the size. A small drum for harvesting water around 100 litres costs 60,000 UGX (17.1 USD) it takes about 3 hours to construct and can be used immediately after construction.

### **Lifetime:**

This gutter together with the drum can last for over 15-20 years. However, for the case of bamboo gutters insects like termites and woodborers may destroy it before that time.

### **Maintenance needed:**

Seasoning of the wood for the case of bamboo gutters before construction is needed and regular control of insects such as termites is required. Gutters should be cleaned periodically after leaf fall. The banana fibre gutters; these can be replaced every after two weeks. Jars and other storage containers need regular cleaning inside.

### **Resources needed in use:**

Water storage facilities like pots, tanks, etc. are required for water collection and storage. Water treatment for better quality may also be needed.

### **Problems and limits:**

The bamboo gutter is easily susceptible to insect destructions. It may require specific species of bamboo to

construct. It may also require the involvement of a carpenter. Installing the gutters on the roof also need a skilled personnel. Storage water systems are expensive such as drums and tanks making them not affordable to some households and the quality of water collected is affected by the cleanliness of the catchment surface.

**Where and how can you get it or make it?**

The metallic gutters can be accessed from metal fabricators. Storage containers such as pots, drums, tanks can be bought anywhere within Uganda. People from all regions of the country use the technology to collect rainwater from the roof. Bamboo and banana fibres are available in most parts of the countries.

**Skills needed to produce, install, maintenance, use:**

A skilled personnel may be required during the installation of the water gutter.

**How to use it:**

Not necessary

**How to maintain it:**

Not necessary

**Climate effect (if any):**

Rainwater collection is reducing floods in heavy rain periods, and the water can be used in the dry periods. Most of the materials used in construction and use are recyclable.

**Where it is used and how many users are there?**

Around 30,000,000 people in Uganda harvest water from the roof top using gutters and there is a big potential for people staying in the grass-thatched houses using the technology in Uganda.

**Why is it successful?**

It is successful because it is made by using locally available materials, it requires less knowledge and skills, small quantities of bamboo, banana fibres or metals are needed to set it up and it is easy to make.

**If you can make it, a short description, typical problems, materials needed:**

To use the technology, gutters and water storage containers are needed. Banana fibres need to be replaced every after two weeks and the bamboo or metallic gutters will need cleaning every after 6 months. Installation needs a skilled person.

**How to make it (if possible):**

Not necessary

**How is it delivered and by whom?**

Skilled ToTs / personnel (Trainers of Trainers) who will install these gutters in the homes of those who are interested and these ToTs will charge the beneficiaries a small fee for installation of the gutters. Skilled persons / ToTs are also crucial in maintaining and ensuring the quality of the installed gutter. JEEP also promotes the technology.

**Successful financial model**

Support for development, trainings, and establishment of organised ToTs union.

**What policies and strategies helped the success?**

Private sector programs of ensuring increased access to water in rural communities and increased resilience to climate change and increased awareness on the benefits of rain water harvesting.

**More info:**

<https://www.mwe.go.ug/sites/default/files/library/Rain%20Water%20Harvesting%20Handbook.pdf>

<https://www.diva-portal.org/smash/get/diva2:23019/FULLTEXT01.pdf>

**Sources:**

Support for development, trainings, and establishment of organised ToTs union.

**When was the case uploaded?**

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