

KMNWater harvesting

Water harvesting is a broad term used covering a variety of means of collecting surface water for productive use. Four major water harvesting techniques can be distinguished:

- Rain water harvesting
- Runoff harvesting
- Flood water harvesting
- Subsurface water harvesting



Rain water harvesting refers to the collection of the rain as it falls, in many cases using roof catchment techniques.



Water running off from the roof is collected by gutters and conveyed into small storage tanks. Rainwater harvested from roofs can be used for:

- Domestic use (drinking, cooking, washing)
- Livestock drinking
- Gardening and small scale irrigation.

Volume of usable harvested water depends on:

- Precipitation characteristics, e.g. mean annual rainfall, intensity, duration, frequency and spread of rain showers
- Roof type and surface area
- Storage tank capacity and losses
- Water consumption patterns

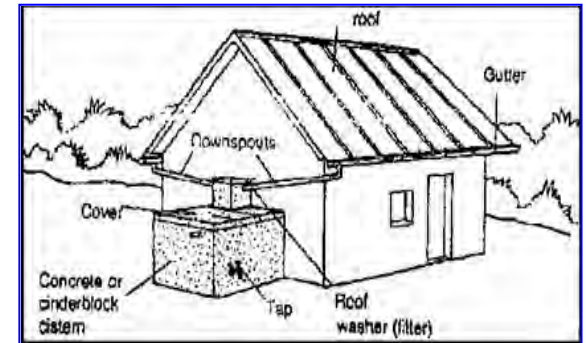
Hydrological potential for rainwater harvesting



The potentially available quantity of rain water is normally calculated using the following formula:

$Volume (m^3) = runoff\ coefficient \times rainfall\ depth (m) \times roof\ area (m)$

Runoff coefficient range from 0.7- 0.9, roof area is the effective area over which the precipitation is collected.



So:

For rainfall depth of 400 mm and roof area of 100 m², runoff coefficient of 0.8, volume of 32 000 liters per year can be harvested. Storage tanks capacity ranges from 2 500 – 5 000 liters.

Issues to consider

- Cost of tanks
 - Simple solutions cost little money
- Prevent contamination
 - Clean tank before rainy season
 - Use mesh to prevent small animals from drowning in
 - Option of adding chemical for purification/disinfections

