 

**Rainwater harvesting system play significant role to food security**

Rainwater harvesting is the collection, filtering, storage and distribution of rainwater. It can be used for irrigation, as an emergency supply of water or a complete off-the grid system. It can be stored in water tanks or reservoirs. Water scarcity is a major problem in many developing countries. Depending on precipitation intensity, rainwater constitutes a potential source of drinking water. In addition, its proper management could reduce water and food crises in some of these regions. Rainwater harvesting (RWH) is a technology where surface run-off is effectively collected during yielding rain periods. In order to support such technologies, RWH systems should be based on local skills, materials and equipment. Harvested rainwater can then be used for rainfed agriculture or water supply for households. Unfortunately, rainwater might be polluted by bacteria and hazardous chemicals requiring treatment before usage. Slow sand filtration and solar technology are methods to reduce pollution. Membrane technology would also be a potential disinfection technique for a safe drinking water supply.

Water paucity remains a major threat to poverty, hunger alleviation as well as sustainable development. Innovative water technologies, such as rainwater harvesting (RWH), have the potential to improve rural water supply and contribute to the provision of the first 6 kl of water consumed monthly. RWH can also be the solution to South Africa food security by increasing water productivity of dryland agriculture and enabling homestead gardening. Although it has been used for decades in South Africa, rainwater harvesting (RWH) is still far from being utilised to its full potential as unresolved challenges prevent its wide-scale adoption. There are challenges and opportunities to the upscaling of RWH in South Africa. Key challenges preventing the nationwide expansion of RWH are the current water related legislations, the lack of finances and the absence of a national coordinating umbrella body. However, opportunities lie in the worth of knowledge gathered by research projects funded over the last two decades on the biophysical and socioeconomic impacts of RWH.

**Benefits of rainwater harvesting:**

* rainwater harvesting systems are environmentally sound
* reduce municipal water demand
* reduces sewerage outfall
* reduces the capital needed for expensive dam building
* eliminates the need for new sewerage treatment works
* stored water is available during future water outages
* adequate water for irrigation
* very cost effective
* storm water from roofs to street is almost eliminated
* large, yet unobtrusive (out of site) water tanks; pipes from house to water tanks hidden underground
* reduces the need to top up swimming pools
* simple designs and concepts
* systems are very easy to maintain, quick and easy to install, (all work done in two days)
* exempt from all forms of water restrictions
* personalised installation
* option of override during a power outage
* improves the quality of your lifestyle
* Rainwater harvesting systems imbue one with a passion to conserve.

**LandCare programme intervention**

This programme recognised the importance of conserving and storing rainwater through rainwater harvesting systems by funding all the provinces with conditional grants to procure JoJo tanks for harvesting of water during the rainfall season so that the water can be used as a source of drinking water and address the issue of food security because more food would be produced in homestead gardens.