

Drip-irrigation in Zimbabwe tackles water shortage at its roots

Report from a project visit in Chihota district, Zimbabwe, by Jabu Masondo, a Junior Professional Officer (JPO) from South Africa on an exchange programme between IRC and partners.

We visited a rural community in Chihota district, ward 10 and 14, where they are using drip-irrigation to irrigate their gardens. With close to six million people in Zimbabwe facing critical food shortages, mainly due to adverse weather conditions and political instability, a local NGO introduced the drip-irrigation outreach programme to help local farmers grow drought resistant crops, such as soya beans, millet, and sorghum.

The NGO, Linkages for the Economic Advancement of the Disadvantaged, with assistance from USAID has supplied more than 600 rural households with low-cost drip-irrigation kits for household gardens.

We visited a local head-man in the Chipitiri area who is using the drip-irrigation system on part of his land. Three sons took us to one of their gardens to see it in operation.

The new system is effective but it has to impress people who are used to traditional irrigation systems that soak the land. Many feel that vegetables must grow better if everything is soaking wet. People therefore need to be convinced as one of the sons explained. "We are only using this system as an experiment. It's a new concept to us. We use it mainly to irrigate tomatoes and soya beans. I will not say it is an effective system because it is only watering a root plant not the entire place and we are used to see the whole place wet."

Perhaps because people have still to be convinced the drip-irrigation system is still in its early stages, installed mainly on the land of people who have HIV/AIDS or old people who find it difficult to collect water.

Low cost, slow drip, high saving

The system is low cost - a 25 litre drip-irrigation kit with enough tubing to irrigate a 30 m² plot, costs approximately US\$ 5.

Traditional sprinklers throw water at a rate of gallons per minute into the air and onto plants where much is lost to evaporation. In contrast, drip-irrigation works by applying water slowly through plastic piping directly to the soil. Micro-irrigation emitters apply the water slowly - measured at a rate of gallons per hour - and they apply it close to the soil and the roots of plants. This is said to result in a 70 percent saving in water. Unlike sprinklers, drip-irrigation is practically unaffected by wind conditions, nor is it affected by soil surface conditions. Soil is maintained in a continuously moist condition, which also reduces the need for fertilisers.

The main advantage, however, is the substantial saving of time and energy. Drip-irrigation only requires a single trip to the well or borehole to fill the water container. Once the container is full, it can last up to four days, as the water seeps out of plastic piping.



Garden with drip-irrigation in Chihota district, Zimbabwe, Photo: Jabu Masondo, IRC