



SUCCESS STORY - 08

Low-Cost Gravity Drip Irrigation: Assisting Water-Harvesting Schemes

USAID/AMAREW supports development that helps farmers combat low moisture stress in crop production, the primary production and productivity limiting factor making over half of the Amhara Region food insecure



Photo: AMAREW Project

An encouraging result has been obtained from a low-cost gravity drip irrigation experiment carried out in Adet Research Center. This appropriate technology development endeavor assisted by AMAREW has developed a drip irrigation system that overcomes the inhibitory cost factor of such systems. Its use by farmers will facilitate the shift of the production system from its focus on low value grain crops to high value commodity crops such as vegetables and fruits with good market attraction.

Water harvesting schemes implemented in the Amhara Region are intended to contribute to improving the food security and household income of the rural population. Farmers have increasingly come to recognize the benefits from this technology, and the demand for more water harvesting efforts is coming from the rural communities. Due to the limited amount of stored water, the schemes must be supported with appropriate and efficient water application methods in order to realize the anticipated benefits.

Farmers normally apply water to their small plots of fruits and vegetables by manual flooding using hand carried buckets or similar watering containers. This method entails excessive loss of valuable water and may even be insufficient to cover the crop demand for a season. The use of the appropriate irrigation method would help solve some of these problems. One such method is drip irrigation which is recognized for its applicability and water use efficiencies and saving of labor. However, the high initial cost mostly discourages smallholder farmers to invest in the system.

With the initiation and support of AMAREW, researchers at Sekota and Debre Berhan Agricultural Research Centers of ARARI have satisfactorily tested low-cost gravity drip irrigation. A graduate student under the supervision of AMAREW staff has also successfully carried out a field experiment of low-cost gravity drip irrigation using locally available scrap materials and confirmed that it has performance comparable to imported equipment. It is believed that the system components can easily be reproduced by the local people after receiving the necessary training. Farmers can increase their annual crop yield and income several times with the utilization of low cost gravity drip irrigation scheme.