

2.2.2 Project idea for drip irrigation and rainwater harvesting

Table 8: Detailed project idea for rainwater harvesting and drip irrigation

Name of Project Idea	Rainwater harvesting for agriculture applications in dry province of Rwanda
Introduction	<p>Rainwater harvesting is a technology used for collecting and storing rainwater from rooftops, the land surface or rock catchments using simple techniques such as jars and pots as well as more complex techniques such as underground check dams. Commonly used systems are constructed of three principal components; namely, the catchment area, the collection device, and the conveyance system.</p> <p>Drip irrigation minimizes runoff and evaporation, reduces runoff and non-point source pollution, improves groundwater recharge, improves soil quality and retards erosion. Socio- economic benefits include but not limited to: The creation of jobs in systems installations and maintenance, promotion of investments in components manufacturing, supply and systems installation, contribution to food security and increment of farmer’s income.</p> <p>This project idea aims at rainwater collection, storage and use for agricultural production in the driest province of Rwanda. The project will combine two selected adaptation technology options known as drip irrigation and rainwater harvesting</p>
Objectives	Increase climate resilience through transfer and diffusion of selected adaptation technology options
Outputs	<p>At the end of the project there should be:</p> <ol style="list-style-type: none"> 1. 500 units of small scale solar powered drip irrigation are installed. 2. A capacity 500 000 m³ of rainwater harvesting systems is installed.
Relationship to the country’s sustainable development priorities	This project comes to reinforce already existing government efforts of making Rwanda a food secure country while keeping the environment safe
Project Deliverables	<ol style="list-style-type: none"> 1. Demonstration sites combining the two technologies shall be established in selected district of the eastern province 2. Drip irrigation units shall be provides to selected communities based on best initiatives in rainwater collection and storage

Technology Needs Assessment for Mitigation and Adaptation to Climate Change in Rwanda

Project Scope	This project will be limited to selected districts of the eastern province and will only look at solar powered drip irrigation systems and rainwater harvesting
Project activities	<ol style="list-style-type: none"> 1. Organizing and directing training sessions for agro extension agents 2. Installation of demonstration sites 3. Organizing and directing farmers study tours 4. Provision and installation of drip irrigation units
Timeline	4 years
Budget (USD)	<p>Extension agents shall be trained on the transfer and diffusion of rainwater harvesting and drip irrigation. The cost of this activity is estimated at 150 000USD.</p> <p>Six demonstration sites in the most dry districts of the eastern province (Bugesera, Gatsibo, Nyagatare) shall be installed at a cost of 300 000USD.</p> <p>Study tours for selected farmers shall be organized and conducted at a cost estimated at 150 000USD.</p> <p>Drip irrigation units shall be provided and installed at a cost of 400 000USD</p>
Measurement/evaluation	One demonstration site is available in selected district of the eastern province and drip irrigation units are provided and installed for selected farming communities
Possible complications/challenges	<p>Limited funds are allocated to the transfer and diffusion of the technology</p> <p>Limited human resources/expertise is locally available to the development of drip irrigation</p> <p>Silting and sedimentation may compromise rain water harvesting and storage</p>
Responsibilities	<p>Ministry of Agriculture shall provide policy guidelines and technical assistance for the diffusion and transfer of the technology.</p> <p>Ministry of Natural Resources shall provide guidance and framework in which the technologies are transferred and diffused and assist in mobilizing and manage needed funds.</p> <p>The Ministry of Local Governance in collaboration with local governance entities, farmers' associations/cooperatives and NGOs shall mobilize local stakeholders.</p> <p>Communities will implement the technologies and make sure that it is used efficiently.</p>