

## Small-Scale Units for Treating Waste Water Treatment and Reuse for Irrigation

<b><i>Project Title</i></b>	<b>Utilizing Small Scale Waste Water Treatment Units for Waste Water Management and reuse</b>
<b><i>Project Duration</i></b>	30 months
<b><i>Estimated Budget</i></b>	The total estimated budget will be about <b>US \$1,650,000</b> , taking into consideration that one unit of small waste water treatment per house (including drip irrigation and seedlings) costs about US \$3,300 including project management and training cost. The beneficiaries' contribution will be 20% of the unit establishment cost with US \$660/households. Thus, the total beneficiaries' contribution will reach to US \$264,000.
<b><i>Stakeholders</i></b>	The project stakeholders will be the Palestinian Water Authority (PWA), local authorities, civil society, and the NGOs.
<b><i>Targeted Areas</i></b>	The project will target the following localities: Ash Shawawra, Tuqu', Al Maniya, Jubbet adh Dhib, Jannatah, Za'tara, Khallet al Louza, Al 'Ubeidiya, Beit Ta'mir, Umm Salamuna, Al Ma'sara, Marah Rabah, Wadi an Nis, Marah Ma'alla, Artas, Wadi Rahal, Beit Fajjar, Al Manshiya, Jurat ash Sham'a, and Khallet al Haddad.

<p><b>Map of Targeted Areas</b></p>	<p>The map displays the West Bank with various villages and their boundaries. Targeted areas are marked with red stars. The legend indicates: Governorate Border (black line), Village Boundary (grey line), and Targeted Area (red star). The scale bar shows 0, 3, and 6 kilometers. The Applied Research Institute - Jerusalem (ARIJ) logo and contact information are also present. An inset map shows the location of the West Bank and Bethlehem within the region.</p>
<p><b>Beneficiaries</b></p>	<p>This project will target 400 families (2,200 individuals).</p>
<p><b>Project Description</b></p>	<p>The targeted areas use cesspits and open channels to dispose of their waste water. This untreated wastewater is dumped in open areas; leading to health problems, such as the spread of diseases for the neighbors, insects and environmental problems such as the pollution of water resources (springs &amp; cisterns).</p> <p>These targeted areas will be provided with small scale waste water treatment units, since the unorganized housing distribution in these areas makes it hard to install medium or large sized plants.</p>
<p><b>Project Objectives</b></p>	<ul style="list-style-type: none"> <li>• To protect water springs and cisterns from waste water pollution resulting from cesspits.</li> <li>• To protect agricultural lands from waste water pollution.</li> <li>• To protect the environment and to reduce health threats.</li> <li>• To use the treated water as an alternative source for irrigation.</li> <li>• To reduce the costs of cesspits' waste water disposal.</li> <li>• To increase environmental awareness in the management of waste water.</li> </ul>
<p><b>Project Activities</b></p>	<ul style="list-style-type: none"> <li>• Holding introductory meetings to announce the launch of the project, formulate the project community committee and to provide the local</li> </ul>

	<p>communities with a description of the project.</p> <ul style="list-style-type: none"> <li>● Holding awareness campaigns to increase the environmental awareness concerning the importance and management of waste water treatment.</li> <li>● Preparing a preliminary study to determine and select the beneficiaries and the suitable locations for the construction of small wastewater treatment units.</li> <li>● Developing a project implementation manual and calling for bids.</li> <li>● Constructing the waste water treatment units with drip irrigation networks.</li> <li>● Provide the benefited households with the suitable fruit tree seedlings.</li> <li>● Paying follow-up visits to the beneficiaries.</li> <li>● Monitoring and evaluating the process.</li> <li>● Preparing the final reports and disseminating the results.</li> </ul>
<p><b><i>Expected Results</i></b></p>	<ul style="list-style-type: none"> <li>● 2,200 individuals (400 housing units) will have a good waste water treatment system.</li> <li>● Environment and health conditions improved in the areas where the small scale waste water treatments were installed.</li> <li>● Cost of waste water disposal reduced.</li> <li>● Environment protected.</li> <li>● Health threats decreased.</li> <li>● Treated waste water available for agricultural uses which reduce the pressure on the domestic water.</li> <li>● Agricultural irrigated areas increased by 200 dunums.</li> </ul>