

## Component 4: Project Implementation

4.1 Implement pilot projects for renewable energy & energy efficiency and water savings & management in the three selected Municipalities

**Project Description:** Decorative plant nursery using treated water, composting and solar pumping Design, implement and transfer Nexus knowledge to Greater Karak Municipality through planting ornamental and decorative plants nursery using treated wastewater and renewable energy in the Lajjoun area, Karak.

Location: Lajjoun, Karak

**Implementers & contracting Authority:** Royal Scientific Society/National Energy Research Center

Project/Tender No: agreement not signed yet

**Executed By:** Greater Karak Municipality

Projected Fund: MINARET and in - kind contribution by Karak Municipality

**Consultant:** National Agriculture Research Center

Estimated Project Cost: JD 120,000

Actions	Preliminary Timeframe				Deliverables
	Q4/19	Q1/20	Q2/20	Q3/20	
1. Site Selection & Site design					The optimal site area proposed is 5 dunums to the east of the water treatment plant. Identified all physical and operational infrastructure requirements with elaborate identification of all technical specifications, and developed an Auto-cad three-dimensional design for whole site of the project.
2. Implementing all infrastructure works (Greater Karak municipality and Minaret project) with technical backstopping and supervision by NARC Project					
3. Initiating operational and productive processes under direct supervision and management of NARC. (Five months).					Production of Plants
4. Initiate staff training and capacity building of dedicated Greater Karak Municipality staff.					A detailed Training needs and recommended capacity building programs for Jordan Socio economic project main stakeholder was developed. This includes theoretical and applied training of workers on propagation and care of productive seedling in primary polycarbonate green house, acclimatization and transfer to secondary plastic green houses, acclimatization in shaded area, and packing of ready-to-sell plants

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5. Hand-over of project to Greater Karak Municipality					
6. Follow up activities after end of project (till June 2020) to cover up to two additional cycles of production of ornamental and decorative plants. (One month in December 2019 and follow up between January 2020 and June 2020).					

**Roles and Responsibilities:**

**Third party vendors** will provide all material required for the project.

**Greater Karak Municipality** will undertake all physical infrastructure works required for the project (opening a road to the entrance of the project, fencing, laying of cement bases for water tanks and the main green house, leveling the ground for installing greenhouses). This, alongside the dedication of full time staff.

**National Energy Research Center (NERC)** will provide all needed support to the project such as equipment procurement and tendering, technical specification for the required energy equipment (pumping of water, solar system, heating of green houses and lighting).

**National Agriculture Research Center (NARC)** will provide the scientific and technical knowledge, direct supervision of the different relevant stages of establishment and operationalization, and will systematically transfer theoretical and applied knowledge and skill building to dedicated staff from the Greater Karak Municipality to whom the project will eventually be handed over. In addition to that, NARC will handle the following tasks:

- NARC will develop detailed bills of quantities and contribute to the technical sections of third party tenders that might be issued for different works related to the chosen water pilot
- Provide water and soil tests, suitable seeds and seedlings for the area of implementation, integrated soil management resources, integrated pest management resources, agricultural guidance and instruction, amongst others.
- By Jan 2019, the nursery will be fully established, operational and first batch (up to 100,000 plants) of ready-to sell plants are successfully produced and acclimatized.
- Training and capacity building for the responsible staff.

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