

**Third Party Evaluator's Opinion on
Irrigation Perimeters Improvement Project in Oases
&
Treated Sewage Irrigation Project**

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Relevance

The agricultural sector plays an important role in the Tunisian economy. It represents 11% of the GDP; therefore the Tunisian government is putting a high premium and many challenges on this sector. 9.3% of the exported products are agricultural ones; dates are classified as one of the major export products of the Tunisian south. At the same time, Tunisia suffers from a shortage in water resources and a progressive depletion of groundwater, which is highly noticed in the Tunisian South. Treatment of sewage water for irrigation purposes was chosen by the Tunisian policy as the way to ensure a stable supply of irrigation water and consequently the conservation of groundwater, the stabilization of agricultural production and the increase of crop yields.

Considering the growing needs of water by various users and the country's socio-economic development, Tunisia implemented a new strategy, which targets the management of demands through a rational and profitable water usage. Since 1995, The Tunisian government has adopted a national program for irrigation water, staying as main objectives:

- Rationalizing irrigation water use in order to make its use more profitable
- Maintaining irrigation water supply to a compatible water level with the available resources

These objectives are meant to cover the irrigation water demands for the long term 2030, and to reduce water consumption based on the following points:

- ✓ 30% water saving measures for usage, thus improving the efficiency at the transmission level and in plot irrigation.
- ✓ Preserving 7% of the natural resources through the use of non-conventional water sources such as by desalination and treatment of sewage water.

Therefore, it became important to put an emphasis on the management of water sources, the level between water demands and water supply, on the improvement of the irrigation infrastructure, and on opting for the use of non-conventional water for irrigation. In fact, as a way to solve the water sources scarcity, the Tunisian Government opted for the usage of treated sewage water for irrigation (the Long-Term Water Sector Strategy 2030 « Eau XXI: FY1998»). Hence, The Irrigation Perimeters Improvement Project in Oases runs in line with the governmental policies as it consisted in improving the irrigation devices, more precisely through converting terminal earth canals into concrete canals. This conversion put an end to the leakage and water infiltration problems; thus enabling farmers to have a stable water supply and improving the drainage network. It is then important to underline that the project was highly relevant to the Tunisian agricultural development, needs, and strategies. The

Treated Sewage Irrigation Project also turns to be highly relevant to the needs of the agricultural sector as well as to the governmental policies.

Impact

The two projects counted positive impacts either at the environmental, economic or the social level. The Irrigation Perimeters Improvement Project in Oases counted positive environmental effects since it contributed in protecting the oases, the nonrenewable resources, the soil, and in preventing desertification. According to important studies and research conducted, no harmful effects were reported neither at the level of the soil nor at the level of agricultural production in relation to the Treated Sewage Irrigation Project. Yet, some preventive measures were set by the Tunisian Ministry of Public Health that all farmers in contact with treated sewage water have to receive inoculation against infections (such as tetanus disease), and wear gloves.

The economic dynamic created by the two projects allowed the beneficiary farmers not only to improve their income, their crop yield (for instance the dates export volume went up), and to diversify their production (fruit, fodder crops...), but also to participate in the improvement of living conditions of the neighboring (beneficiary?) regions. For instance, the production of fodder crops in the two project areas allowed farmers to engage in livestock husbandry which boosted the dairy and meat production in the areas. The southern oases have also participated in the development of the neighboring oases through their use of the surplus water saved due to the new irrigation infrastructure. As a consequence of the projects, positive economic impacts were seen in the beneficiary areas and in the neighboring areas as well. Younger generations (it is important to mention that young generation farmers were keener on using the treated sewage water than old farmers) were also encouraged to return to agricultural activities, which elevated the employment rate and reduced youth migration to urban areas.