

# Optimising Use of Water for Urban Agriculture: Responding to the challenge of growing water scarcity in Tunisia

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**The growing scarcity of water in many regions around the world is a major challenge for the future. Irrigated agriculture is the main user of water in many countries, including in Tunisia, where the productive use of recycled urban wastewater and the use of rainwater, along with more efficient water use in agriculture, contribute to more sustainable production of food for its growing cities.**

Water availability in Tunisia is as low as 350 m<sup>3</sup> / inhabitant / per year. Since the early 1970s, the use of treated wastewater for irrigation has helped to sustain agricultural activities in periurban areas. However, the Tunisian government's severe restrictions on wastewater use significantly constrain agricultural diversification, and force farmers to abandon what is now a barely profitable sector.

Located six kilometres from the capital of Tunisia, La Soukra city was a veritable green belt for Tunis until the 1980s. Since then, socio-ecological stability has decreased, and now 32 per cent of the area's agricultural land lies fallow, threatened by urbanisation. To maintain agricultural activities in the area

*Visiting the pilot in La Soukra, Tunis*  
Photo: Marielle Dubbeling



and enhance the city's resilience to possible future effects of climate change and increasing urban food insecurity, research is being undertaken by the Club Unesco Alecso pour le Savoir et le Développement Durable (a local NGO). The research focuses on improvement of the socio-economic conditions of small farmers of La Soukra city by making use of rainwater and treated greywater in urban agriculture, and is part of the UPE Focus Cities Research Initiative, financed by IDRC-Canada. The research project seeks to develop participatory models for the sustainable management of water resources in urban agriculture, foster the creation of small agricultural family enterprises, establish a greenhouse agricultural system, and integrate hearing-impaired youth in practical activities to enhance their community integration.

Over the past six months, two pilot projects were initiated to further study the scientific, technical and socio-economic aspects of setting up units for the collection, storage, and use of rainwater and greywater for various greenhouse crops (strawberries, tomatoes, lettuce, paprika and ornamental plants). Data gathered so far show that there is a potential to collect 380 cubic metres of rainwater from a total area of 700 m<sup>2</sup> roof and 250 m<sup>2</sup> greenhouse, which (after temporary storage) would allow irrigation of 500 m<sup>2</sup> of crops in the greenhouse. With this system, yields, of tomato for example, could go up to 6000 kg per greenhouse. This offers farmers a new source of income.

Similar models will be installed for another 20-40 producer families in La Soukra in the coming year. The results will be disseminated nationally and internationally to assist in improving living conditions for poor populations and in reducing pressure on the environment.

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