Moroccan City Defies Desertification by Harnessing Solar Power and Treated Wastewater

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Dubbed
"the door of the desert", the Moroccan city of Ouarzazate is combatting land degradation, loss of biodiversity and desertification by building a greenbelt of trees, irrigated by treated wastewater. At the same time, it harnesses the energy of the Sun by constructing North Africa's largest solar energy plant. Once completed in 2019, the Noor-Ouarzazate solar power plant will contribute 18 per cent to Morocco's annual electricity generation. It will save the country 1 million tonnes of oil equivalent and prevent the emission of 3.7 million tonnes of CO2. The plant is part of Morocco's ambitious Solar Energy Programme, which will see 5 solar power projects, spread over 10,000 hectares, built by 2020.

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by 60,000 people, Ouarzazate is one of Southern Morocco's major tourism hubs. However, its location on a bare plateau in the High Atlas Mountains makes it vulnerable to desertification and desert storms. These affect the local communities by deteriorating their living conditions and accelerating land degradation and loss of biodiversity. To mitigate these environmental challenges, Morocco, with support from the United Nations Environment Programme (UNEP) and Korea Forest Service (KFS), is building a greenbelt of trees around Ouarzazate and greening the surrounding drylands using treated wastewater and clean energy for irrigation. The success of this pilot project has encouraged national and local authorities to scale it up to a second phase. During the launch of the second phase, Mr. Youssef Hammouzaki, the Project Manager from the High Commission for Water, Forestry and Desertification Control of Morocco highlighted the achievements of the first phase: "So far, we managed to plant 400 hectares. This will help us to stop desertification, decrease land degradation and protect the city from strong winds and dust clouds," he said.

The project used an
innovative approach to involve local population by creating new job opportunities and using their traditional knowledge and experience. The residents' ownership of the initiative resulted in a high level of support and community engagement in looking after the trees. "This project has created jobs for us and opportunities to use our knowledge and experience. There was a time when trees were dying. Nobody could figure out the cause but with my colleagues, we discovered that the problem was coming from the soil we use to plant trees. We advised the project manager and the problem was solved," said Lhoussine Chetma, an inhabitant of Ouarzazate and employee of the project. "With this project, we have now stable and sustained income to support our families and improve our livelihoods,"

he added. The greenbelt also created recreational spaces for the urban population, providing an innovative way to raise community awareness and encourage public participation in the prevention of land degradation and biodiversity loss. "We use this innovative project to raise awareness of our community to plant trees to protect our city from dust storms and desertification. The project helps us with creating jobs for youth and improving their livelihoods," said Mohamed ben Aissa, president of Maroc Jeune, a local nongovernmental organization (NGO). "We are working with local authorities to sustain this project by educating and sensitizing the local community. We hope to get more people to embrace the greenbelt and protect it," he added. Phase two of the project will focus on awareness raising, partnerships, and sharing the experience with other regions in Morocco and abroad.

"This project includes the main pillars required for sustainable development. In addition to its environmental dimension, the project gives local population the opportunity to participate in the development of the region. The project has not only succeeded technically, but also managed to engage all key partners. It makes them feel responsible for its success and sustainability," said Dr. Abdeladim Lhafi, High commissioner for Water, Forestry and Desertification Control.

Since its inception in 2012, the project has relied mainly on local expertise and knowledge for implementation and sustainability. Targa Aide, a local NGO with a wide network of technical experts and access to research institutes, has been designated to help with its implementation, in close collaboration with the High Commission for Water, Forestry and Desertification Control.

UNEPÂ - photo Martine Le Bec

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