



# PROMOTING ECOLOGICAL APPROACHES FOR RURAL SANITATION IN MOROCCO

## LESSONS LEARNED & POLICY RECOMMENDATIONS

The Sustain Water MED project demonstrated the potential of taking a holistic and reuse-oriented approach to decentralised management of wastewater, as well as human and animal excreta, in rural communities. The project, however, also uncovered significant challenges in implementing ecological sanitation projects in Morocco. This policy brief provides lessons learned and policy recommendations on how to further facilitate realisation of sustainable concepts for rural sanitation in Morocco.

### 💡 LESSONS LEARNED

- 💡 Decentralised reuse-oriented management of wastewater and human excreta is a reliable alternative to centralised sanitation systems in rural areas, considerably improving local sanitary conditions.
- 💡 Putting into practice an 'ECOSAN' approach not only reduces public health risks and environmental pollution caused by the inappropriate management of wastewater, but further creates additional benefits from reuse of sanitation products.
- 💡 The project activities contributed to increasing acceptance of decentralised sanitation systems at all levels, demonstrating measures that could be successfully replicated when implementing the PNAR.

### 🚩 POLICY RECOMMENDATIONS

- 🚩 Further promote acceptance of decentralised ecological sanitation in rural areas and introduce simplified authorisation procedures.
- 🚩 Increase capacities of local technology providers.



View of the village Ait Idir showing the local market.

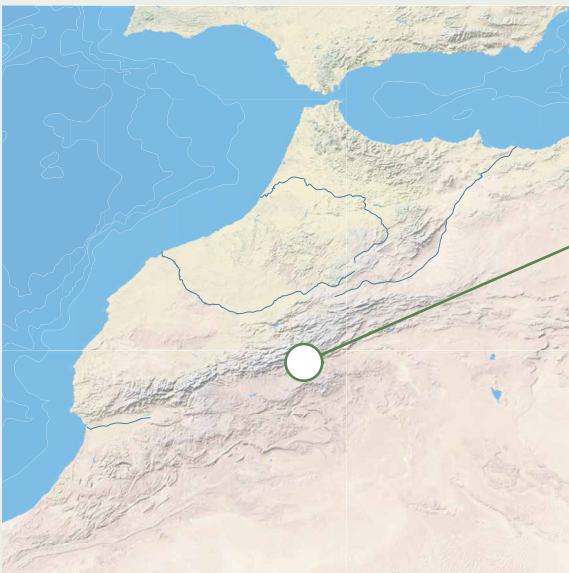
Source: GIZ-AGIRE

## BACKGROUND

In Morocco, most of the rural population is not connected to sewerage systems and many households and public buildings in rural areas lack any kind of sanitation facilities. This insufficient management and treatment of wastewater and human excreta are threatening the quality of already scarce water resources, resulting in risks for human health and the environment. With the current revision of the National Water Plan, improving sanitation in rural communities will be strongly promoted under the National Programme for Sanitation and Reuse in Rural Areas (PNAR). Sustain Water MED aimed to demonstrate the benefits of developing a holistic concept for the decentralised management, treatment and reuse of wastewater, as well as human and animal excreta, in seven pilot sites in Ait Idir, a village located in the Dadès oasis valley in the southwest of Morocco.

The Sustain Water MED ‘ecological sanitation’ scheme designed for Ait Idir applies various technologies to meet the needs of rural communities, including generating energy from biogas and making use of the fertilising properties of human excreta in agriculture. Seven pilot sites were chosen in cooperation with the local authorities to be equipped with various sanitation systems in order to demonstrate the different types of decentralised technologies that can ensure sustainable sanitation while optimising the reuse of products.

### LOCATION OF THE SITE IN MOROCCO



Construction of the fixed-dome type agricultural digester in the village Ait Idir.

Source Map: Made with Natural Earth, 2015.  
Source Picture: GIZ-AGIRE

**LOCATION:** *Ait Idir village, rural commune of Ait Sedrate Jbel Soufla, Tinghir Province, Morocco*

**TECHNOLOGY:** *Urine Diverting Dehydrating Toilets (UDDT), agricultural digesters, anaerobic baffled reactors for wastewater treatment*

**USE OF TREATED WASTEWATER & SANITATION PRODUCTS:**  
*For irrigation and fertilisation*

**USE OF BIOGAS:**  
*For domestic purposes (cooking, heating)*

## LESSONS LEARNED

### Decentralised reuse-oriented management of wastewater and human excreta is a reliable alternative to centralised sanitation systems in rural areas, considerably improving local sanitary conditions.

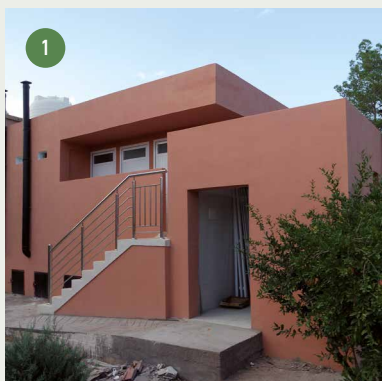
The project demonstrated the potential of treating effluents and excreta at source. It proved the advantages offered by independent management of this type of equipment, instead of centralised management, which can be difficult and costly in rural areas. The provision of simple systems for individual sanitation such as toilets in private and public places significantly improves the quality of life for the population.

### Putting into practice an 'ECOSAN' approach not only reduces public health risks and environmental pollution caused by the inappropriate management of wastewater, but further creates additional benefits from reuse of sanitation products.

The technologies implemented enable proper treatment and reuse of wastewater, contributing to limiting health risks and alleviating the pressure on the environment, mainly on groundwater, caused by the uncontrolled disposal of domestic and livestock wastewater and wastes. Moreover, the ecological sanitation approach adopted offers considerable potential for reuse. The recovery of nutrients directly usable for local agricultural activities and the generation of biogas for domestic usage result in tangible economic benefits for the local population.

### The project activities contributed to increasing acceptance of decentralised sanitation systems at all levels, demonstrating measures that could be successfully replicated when implementing the PNAR.

Awareness-raising measures such as visits to demonstration sites and training activities helped to develop an understanding of the possibilities for reusing wastewater and to reduce initial reluctance among the local population and within local institutions. The infrastructure can now be shown to visitors, even beyond the end of the project, contributing to the promotion of sustainable concepts following an ecological sanitation approach.



1 Building of Urine Diverting Dehydrating Toilets of primary school.

2 Urine Diverting Dehydrating Toilets for the primary school.

Source: GIZ-AGIRE

## POLICY RECOMMENDATIONS

The Sustain Water MED project in Morocco successfully demonstrated tangible benefits of decentralised management, treatment, and reuse of wastewater and human excreta following an ‘ECOSAN’ approach in a rural community. Nevertheless, the project partners faced several challenges in implementing the project. In support of the revision of Morocco’s National Water Plan, and specifically the further development of the PNAR, the following recommendations should be taken into account:

### Further promote acceptance of decentralised ecological sanitation in rural areas and introduce simplified authorisation procedures.

In view of the need to improve rural sanitation, and the target set by the Moroccan government of increasing the rate of treated wastewater reuse by 30 percent by 2018, this type of approach should be spread to other sites around Morocco, developing a comprehensive plan of action for ecological sanitation for other rural areas that may have similar needs. Simplified authorisation procedures for individual and semi-collective sanitation systems should be introduced within the new legislation being drafted.

### Increase capacities of local technology providers.

Scaling-up of pilot efforts to promote reuse-oriented wastewater management and sanitation approaches needs to be complemented by measures to support the national supply side. These could include capacity building measures for local technology providers and construction companies, as well as awareness-raising measures on new market opportunities emerging from these new approaches. This can be realised by ensuring close support of local technology providers throughout demonstration projects, by offering specific training measures as well as continuous on-site technical advice and opportunities for knowledge exchange with companies contracted in similar projects.

## COORDINATION & CONTACT

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## THE PROJECT

*The SWIM Sustain Water MED project involves a network of demonstration activities for sustainable integrated wastewater management and reuse in Jordan, Egypt, Tunisia and Morocco. The project is part of the Sustainable Water Integrated Management (SWIM) Programme, a regional technical assistance programme funded by the European Commission to contribute to the extensive dissemination and effective implementation of sustainable water management policies and practices in the Southern Mediterranean Region. Sustain Water MED is co-funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH together with seven national, regional and European partners. For more information see [www.swim-sustain-water.eu](http://www.swim-sustain-water.eu).*

## IMPRINT & DISCLAIMER

*This policy brief was compiled by adelphi based on project reports and experience gained by the Sustain Water MED partners in Morocco: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Souss-Massa Drâa River Basin Agency (ABH SMD). This publication has been produced with the financial assistance of the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ). The views expressed herein can in no way be taken to reflect the official opinion of the European Union.*