





المكتب الوطني للكهرباء و الماء الصالح للشرب

Office National de l'Electricité et de l'Eau Potable

و الصرق الصية institut international eque & assainissement

Participatory approach for ecologically sustainable sanitation

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General context	Study area & objectives	Roadmap	Results & perspectives	Impact of the project
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Sanitation is a serious problem in rural area of Morocco. The wastewater treatment by an onsite system could be beneficial.

Developing innovative and appropriate sanitation systems for small scale communities in MENA Region through experimentation & dissemination.

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Proposes a scheme covering the different aspects: technical, management and institutional innovation, to meet the various constraints that characterize the rural areas.

Streatment plant



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Step 1:

A methodology was followed taking into account the involvement of the population and gender approach (participants who benefited of all events with 50% are women), to analyze and identify the main actors and their roles in the field of planning and management of sanitation the site subject to our project





ness of the people of the llenges and opportunities to act on

nanagement and programming of actions, by the capacity of non-governmental organizations g in the field of the environment in general and anitation.

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## **Technical aspect**



Multi-Soil-Layering (MSL)

Figure 1 : Laboratory-scale MSL system Figure 2: Laboratory-scale MSL system installed at the center CNEREE installed at the douar Talat Marghen

## Managerial and institutional aspect:

Small private company = SPC Local NGO: NGO Public utility : PU

Classification is based on multicretria analaysis (SPSS 17.01 software)





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Analysis of the behavior of the hydraulic system and comparing these performances at the pilot scale and large-scale, showed that:

The MSL system is successfully used in the pilot scale and large scale.

 the hydraulic load which allows both good removal efficiency of organic pollution and stability of the system and therefore its durability is 250 l / m<sup>2</sup> / d.

> Based on these results, we decided to take a load hydraulics 250 l / m<sup>2</sup> / day for the MSL system design for the whole village with 532 inhabitants.



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*Impact of the project* 

Generalization of the system of purif whole village:

The cost of implementing the system of the 182 950 DH HT. The area needed per inhab at 0.11 m<sup>2</sup> /Hab. and a cost of 28



Improveme

economic development of the village:

Setting up a Local Association of villagers for the operations and management of the sanitation service.

Participation of villagers in construction of sewage treatment system.

Anticipate that women will benefit from the implementation of this project through the development of handicraft associations using treated wastewater by the MSL system and reeds.

he village.

## Thank you for your attention

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