The problem of rainwater losses and harvesting in Southern Tunisia

Proposed by:
The Association for Sustainable Development (ADD) : Medina – Tunisia.
Presentation: Abdelhamid ZAMMOURI, President of the NGO ADD.

Geographical/administrative level: Delegation from Beni Khedache South-East Tunisia.
Environment: Local rural region (river basins, and so on)

Problem:
Pressure on water resources is increasing day by day in this arid environment where rainfall is irregular and scarce. Only 200mm/year are recorded on average, hardly sufficient to meet either the domestic and/or agricultural needs, especially as most of this rainwater is lost in the nature causing considerable water erosion and damage to the retention works.

Project history and partners, work carried out and results obtained:
The « IRZOD » project was initiated by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) via the Mediterranean Agronomic Institute of Montpellier, in collaboration with the Institute for arid regions in Medina, the ADD and the Herault Local Action Group (Leader programme), after a period of studies and investigations for the local sustainable development of the Beni Khedache delegation.

The ADD (Association for Sustainable Development), that already collaborates with the Medina Institute for Arid Regions in other activities, was called upon by the Medina regional authorities in 2001 to coordinate the setting up and the implementation of a a local development project entitled : Rural innovation in difficult areas (IRZOD) « Jessours and Ksours in Beni Khedache ».

Three areas of local development were identified in the framework of this initiative and they are underway in the framework of this project: tourism, craft and traditional local agricultural products from the region (olive oil, figs, and so on). A fourth area of development « water and resources » clearly emerges when merely observing local ancestral know-how concerning water conservation in this territory. However, this area of development would seem to integrate the other three cited above, yet it has not benefited from the same attention as the others!

Types of tools for WDM and IWRM:
Optimal management of rainwater resources for the sustainable development of rainfed agriculture in arid regions by the capitalisation of research results.

Concrete examples of progress (good practices) made in water demand management in the Mediterranean: examples of water saving and/or valorising of agricultural, urban and industrial water (efficiency plans, projects, policies, and so on)

Over the last few years, a researcher from the Institute of Arid Regions (a member of the ADD) has worked on water erosion, the harvesting of rainwater which is the main source of water in this region, and on conservation and recycling techniques.

This research has resulted in the development of new techniques for the injection of run-off in retention works of small hydraulics (jessours) in the deeper layers of the soil of the embankments planted with fruit trees. This new technique allows for recuperation of most of the run-off, estimated at approximately 90%.

Lessons learnt:
In arid regions, to palliate the problems of water scarcity and irregular rainfall, various techniques are used for the collection of rainwater to be used for agricultural or domestic purposes. Among these

techniques, there is underground brickwork storage referred to as « Fesguya and Majel ». These tanks are widespread in the region and the Tunisian government continues to encourage farmers to increase their number especially in rural areas and to use them for animal watering and make-up water irrigation for tree growing.

Justification of the importance of communication (with regard to water demand management and integrated water resource management):
It is a known fact that Tunisia made an early commitment to a national strategy for water saving both for urban and agricultural needs, but the ADD considers that there are still efforts to be made especially in this arid region where water is scarce, in terms of water savings and management which have always been an ancestral tradition, because water demand has always been a real problem despite the efforts of the State to encourage the farmers to increase the number of storage works for the development of tree growing and to palliate an unfavourable climate (drought). We esteem that the generalising and popularising of these new techniques would no doubt contribute to a significant increase in water potential and even reduce the rural exodus, the degradation of agro-ecological conditions, the decline in agriculture, and so on and rehabilitate the history and heritage that these works represent and local know-how would be strengthened.

Contact :
ZAMMOURI Abdelhamid. 4, rue Errachidya 4100 Médenine Tunisie
Tel : + 216 21 397 262 Fax : + 216 75 649 866