Demonstrative agronomic activities in Oued Oum Zessar, Medenine, Tunisia

The situation of lack of water in the catchment area of Oued Oum Zessar due to rainfall deficit is countered by the use of irrigation with poor quality water to optimize performance but which causes at medium to long term a slow progress to the sustainability of production systems. Moreover, irrigation with salt water from shallow wells for high value crops has developed in recent years in the area, however, such irrigation management in private areas remains empirical and ignores the real needs of plants and long-term risks.

The project, which objective is to disseminate the results of research through the implementation of a pilot demonstration on the subject of irrigation water management, is a real contribution to the development of operational recommendations for sustainable water resource management. The proposed action concerns the application and dissemination of integrated and sustainable water and agriculture management in two pilot areas in arid Maghreb based both on a participatory approach and the development of appropriate technologies in a framework for adapting to climate change and risks attenuation. Demonstration sites were selected to highlight the best agricultural practices in the site of Oued Oum Zessar (Tunisia), where farmers are facing water scarcity linked to an arid climate. This will highlight the effects of using different irrigation management techniques, especially deficit irrigation on crop yields.

The pilot sites were chosen in regions characterised by arid climate (Rainfall: 150 mm and ETo> 1400 mm) and either saline irrigation water (TDS= 4.7 g/l) for vegetable crops cultivated on sandy soil or almost fresh water (TDS= 1g/l) for orchards. Field experiments are currently conducted on drip-irrigated vegetable crops and orchards with the objective to enhance water productivity (WP). The activity deals with the irrigation management strategies in small-scale irrigation scheme and its impact on irrigation water saving, crop and water productivity and financial benefit. Irrigation treatments to estimate irrigation amounts and timing were compared to traditional farmer (FM) practice. Many parameters for orchards are monitored. FM for all crops decreased WP, while DI increased sensitively WP suggesting a loss of water by farmers in such arid areas, where every drop counts.

Field workshop on agronomic activities (Site of Oued Oum Zessar, Tunisia) and South-South Experience Exchange: 10 to 12 December 2014

A field workshop, as part of the activity "South-South Experience Exchange" implementation, was held on the site of Oued Oum Zessar from 10 to 12 December 2014 in Medenine (Tunisia) and concerned the application and dissemination of integrated and sustainable water and agriculture management in two pilot areas used for demonstrative agronomic activities. The project, which is carried out in two watersheds: Oued Biskra in Algeria Oued Oum Zessar in Tunisia, involves local farmers to improve groundwater management capabilities as well as their sustainable traditional farming practices. The proceedings of the workshop were organized in specific days at each site and farmers group. The approach consisted on field visits, PowerPoint presentations and discussions on actions taken at each site with the following objectives:

• To highlight the effects of using different irrigation management techniques with salt water, especially deficit irrigation on crop yields;
• Compare different irrigation management techniques using salt water in the demonstration sites and provide other farmers, all scientific and technical information to allow replication techniques in other sites;

• Exchange of experience between farmers from selected sites in the Oum Zessar basin (Medenine, Tunisia) and farmers from Oued Biskra in Algeria;

• Disseminate the results obtained in the demonstration sites and discuss the replication to other ones.