

The Modernization of a Large Irrigation Perimeter to Support Rural Sustainable Development - study Case of Matala (South of Angola)

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Abstract

Matala Irrigation Perimeter (MIP), located in the Cunene river basin, Huila Province, South of Angola, is under a modernization process, managed by the Angola government. It aims a sustainable rural development, focusing on the socioeconomically aspects and the reduction of poverty of the local populations. This paper describes the MIP and presents the main results of a research study carried out to evaluate this process to establish actions for its improvement. It includes procedures for better water use at conveyance network and on-farm levels, and for higher land productivity through the improvement of crop systems. MIP has an area of 10,732 ha, being the water diverted from the Matala dam, in Cunene River. The irrigated perimeter was built in the 1960s, with a gravity canal distribution system, designed for traditional surface irrigation methods. Since 2002, the MIP was deeply rehabilitated, through the recovery of the main canal and water control structures, the enlargement of the irrigated area and the implementation of agro industrial and animal production units. MIP has several constraints, related with the maintenance of hydraulic structures, the effectiveness of water distribution, and shortage water supply. The main crops grown are potato, tomato, maize, pasture, horticultural and fruit trees, being their irrigation scheduling analysed. The development of on-farm irrigation has been set as an important priority, because the majority of the area applies low effective traditional methods. The modernization of the surface irrigation is a key crucial option, particularly in the flat soils with topographic conditions for gravity supply. The micro irrigation, particularly the drip irrigation, is applied in tomato crop and fruit tree, and the fixed or centre pivot systems used for maize and pastures. The research presented in this paper evaluated those systems, the performance indicators and the main difficulties found, including the requirements of farmer's technical support.

Keywords: Matala Irrigated Perimeter, Angola, irrigation modernization, farmer's technical support, canal distribution system, on-farm irrigation