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## **HYDRO ECONOMIC MODELLING IN SOUTHEAST MOROCCO**

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**ABSTRACT:** Changing climatic, economic and socioeconomic conditions have major impacts on resource availability and rural poverty in developing countries like Morocco. In this context the poster presents preliminary results of the analysis of the interdependencies between available natural resources, above all water, and the economic, socioeconomic and demographic development. The aim is to develop different scenarios and to work out development strategies until the year 2020. The scenarios focus mainly on the Draa basin in south-east Morocco.

For the development of the scenarios different tools are used:

- the Crop Water Requirements calculator (CWR calculator)
- the Water Poverty Index (WPI)
- the Integrated Model of the Draa valley (MIVaD)
- a basic data system, linked to an Internet based interactive mapping tool (MarocInfo) to depict the results.

The CWR calculator is a tool to calculate water balances per crop and region, defining constraints in the programming models as a result of temporal and spatial rainfall variation and evaluates impacts on yield. The Water Poverty Index is a holistic water management tool which takes into consideration both socio-economic and physical factors. It can be used for the prioritisation of water needs and to monitor progress in the water sector. Originally it was developed by the Centre for Ecology & Hydrology of the United Kingdom and can be used on national, regional and community level. The integrated model of the Draa valley is based on the river basin model developed at IFPRI. Based on statistical data about the region scenarios concerning the optimization of water use among agriculture, household, and electricity generation from hydropower are developed. The basic data and the results of the simulations are visualized in an interactive form in MarocInfo which permits an easy access via Internet.

**KEYWORDS:** Modelling, Morocco, water