

Developing capacities on climate change impact assessment in agriculture in a perspective of decision-making support at national level: case study



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The national production of essential crops such as cereals is highly exposed to climatic risks since they are mainly produced in arid and semi-arid lands, characterized by limited soil and water resources to satisfy crop growth requirements. Given the high economic weight of agriculture on the Moroccan economy (15 to 20% of NGP and 40% employment), any eventual temporal or seasonal variation of the climate will immediately effect national economy and food security. Quantitative analyses are key to understand the processes at stake and formulate adapted measures.

Image captions:

(left) MOSAICC Morocco version home page
(right, top to bottom) (1) Statistical downscaling training in Casablanca, (2) the IT support team and (3) participants to the STREAM training in Rabat.



Country information needs

The green Moroccan Plan, a large scale agricultural development strategy in Morocco, is expected to boost the agricultural sector and promote rural development. This strategy will be challenged by climate change, as crop yields and water resources are expected to decline. In fact, since the early 1980s the country is already facing increasing temperature and decreasing precipitations. In this perspective, and despite the good overall awareness of policy-makers on climate change and related impacts at global and regional levels, fine-tuned tools and information for appropriate adaptation measures that should be implemented to cope with climate change at national and community levels. In particular, in Morocco there is still a need for developing national economic modelling of climate change impacts on agriculture, under different climatic scenarios.

Deployment of MOSAICC

A memorandum of understanding was signed in January 2013 by 11 specialized national and regional institutions as well as FAO to manage the transfer of MOSAICC in Morocco. A working group gathering focal points from the four national institutions has been constituted to manage and coordinate the system utilization and maintenance.

The deployment of MOSAICC was achieved in three steps: (1) installation of the server and the software, (2) training of the system administrators and (3) training of the national experts on the system, the models and the data. Following the deployment an integrated climate change impact study is carried out, covering the whole country and using all the components of the system. A workshop on the models and the information produced will be organized for end users and policy makers in the first semester of 2014.

More info: MOSAICC@fao.org
www.fao.org/climatechange/mosaic

11 Key institutions

National Institute for Agronomic Research (INRA)

Direction of National Meteorology (DMN)

Ministry of Agriculture and Sea Fisheries –

Direction of Strategy and Statistics (DSS)

Ministry of Energy, Mines, Water and Environment - The Direction of Water Research and Planning (DRPE)

The Hydraulic Basins Agencies (ABH)



Status and perspectives

At the time of writing the poster, first results from the climate components are being produced. So far the deployment of MOSAICC has been successful. As demonstrated in an experts survey, the trainings and the system were very well received although few knowledge gaps have been identified regarding hydrology and economic modelling. Options are being explored to fill these gaps. The implication of the various institutions in the deployment of MOSAICC shows that the system is a catalyst for inter-institutional cooperation. Also, The system could be a key tool for strengthening cooperation with many ongoing national and international projects in Morocco.

FAO Modelling System for Agricultural Impacts of Climate Change

