Overview

- Climate change is expected to significantly alter food production patterns, productivity and crop yields, resulting in far reaching impacts on future global food security. There is a global concern, especially among poor developing countries, about how climate change is expected to affect agriculture, resources and people, especially the poor; thus creating an added challenge to meeting food security and poverty alleviation goals. As a result, there is strong and urgent need to gain better understanding of the economic and social impacts of climate change on food and agricultural markets.

- Agricultural production in Morocco is highly vulnerable to climate change mainly because of the lack of investments in technological innovation, the importance of agriculture in terms of income and employment (respectively 15 to 20% and 40% of GDP) and a low use of drought-risk management tools.

- Climatic models developed for the region and studies conducted recently show that climate change will have negative impact on Moroccan agriculture in the upcoming decades, particularly in rain-fed agriculture due to expected increase in aridity.

- Hence, in 2008, Morocco has launched a national strategy for the development of the agricultural sector – Plan Maroc Vert (PMV) – with the objective of modernizing the small and medium farms, and creating a new dynamic in the agricultural sector based on the valorization of the added value. The PMV is divided into two components: Pillar I, which aims at the development of high-value-added products through private investment and aggregation, and pillar II that focuses on marginal agricultural areas where small-scale farming predominates.
Objectives

The main objective of this pilot project initiated by FAO is to provide technical support to the Moroccan authorities to cope with the expected effects of climate change while developing small scale agriculture. The aim is to develop tools and methodologies based on economic and social impact assessment of climate change to integrate climate-smart solutions in the formulation of policies in the agricultural sector.

Specifically, this project will seek to develop a conceptual framework combining technical and socioeconomic approaches inclusive of smallholder farmers, to better operationalize adaptation to climate change in PMV-Pillar II projects targeting marginalized agriculture. It has become evident that technical solutions are not sufficient for issues entangled with economic and social dimensions.

- **Development of a methodological framework** encompassing the socioeconomic dimension and technical solutions for adaptation to CC for major agricultural markets
- **Identification and integration of climate-smart adaptation measures** in development programs such as Plan Maroc Vert.
- **Capacity building** of farmers, local extension services and government staff, dissemination and replication of results to other regions/countries facing CC.

Approach

- **At the watershed level/agro-ecological zones**
- **Economic module** (economic analysis of returns to land, water, and limiting resources; economic simulations; value chain analysis)
- **Socio-institutional module** (assess farmers vulnerability, capacity for adaptation and absorption of new techniques and incentives; developing appropriate dissemination tools)
- **Bio-physical and hydraulic module** (generate decisional tools for scenario analysis; crop suitability maps based on climate and water availability scenarios)

Technically feasible, economically viable and socially acceptable adaptation solutions
PHASE I DIAGNOSTIC/RESEARCH

• Inception workshop to take stock of current scientific knowledge, both in the region and across the country, on the impacts of climate change on farming and food systems and the implications for adaptation;

• In-depth technical, economic and socio-institutional analyses focusing on a sub-regional area and its key commodities with the objective of developing decision tools;

• Stakeholders workshop to share findings, and collectively develop technically feasible, economically viable and socially acceptable and doable adaptation solutions.

PHASE II IMPLEMENTATION

• Integrate climate change adaptation strategies within small-scale agricultural projects;

• Test optimal solutions within specific projects in coordination with a World Bank/GEF project funding adaptation technologies in small-scale agriculture;

• Develop awareness and reinforce capacities of small producers and extension agents in the project area.

Activities under pilot phase will derive directly from the stakeholder workshop at the end of the Diagnostic/Research Phase.

For further information

Please visit us at: http://www.fao.org/economic/est/issues/est-climatechange/en/

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