Global Futures and Strategic Foresight (GFSF) policy dialogue on:

"*Comprehensive assessment of pressures on water resources and its effect on the agricultural sector and food security in Tunisia*"

Cite des sciences,
Tunis, 10 – 11 May 2016

Workshop report and follow up activities

1. Participants

National partners from Tunisia:

- National Research Institute for Rural Engineering, Water and Forestry (INRGREF): Dr. Samir yakoubi (Irrigation specialist); Taoufik Hermassi (Hydrology – Water and Soil Conservation).
- National Institute of Agronomic Research of Tunisia (INRAT): Mr. Hatem Cheikh Mhamed (Agronomy and plant physiology specialist); Dr. Fraj chmak (Agricultural Economist).
- Ministry of Agriculture, Hydraulic Resources and Fisheries of Tunisia: Mme Najla Khalfoun (Engineer, DGRE); Dr. Abderraouf Laajimi (Head, ONAGRI)
- Ecole Supérieure d'Agriculture de Mograne (ESAM): Dr. Stambouli Talel (irrigation water management specialist)

International centers:

- IWMI: Dr. Karen Villholth (based in South Africa) and Dr. Aditya Sood (based in Sri Lanka); Dr. Alvar Closas (based in Egypt).
- ICARDA: Dr. Aymen Frija (Agricultural Economist, ICARDA-Amman); Dr. Mohamed El Mourid (regional coordinator; ICARDA-Tunis); Dr. Ali Chebil (Agricultural Economist, ICARDA-Tunis).

2. Workshop objectives, achievements, and follow up actions

The objective of the workshop was to share with policy makers and other national partners in Tunisia, the preliminary scenarios and results of ICARDA's research about "the impact of pressure on water resources and its effect on food security in Tunisia". This research is being conducted as part of the CRP PIM activities of ICARDA and IWMI. It started in 2015 through participative design of scenarios and projections of water availability and demand in Tunisia and Jordan.

Projections of future water shortage and its impact on long-term food security has been conducted using two major tools: the "IMPACT" (International Model for Policy Analysis of Agricultural Commodities and Trade) model and the ASMOT (Agricultural Supply Model for Tunisia) model. The IMPACT model is a global model developed by IFPRI, while the ASMOT model is an agricultural supply model, specifically developed by ICARDA for the Tunisian context.

The workshop started by a presentation of the overall framework of the research activity (by Dr. Karen Villholth). This was followed by the presentation of both IMPACT and ASMOT modelling tools and their scope to analyze long term hydrological scenarios at country level in order to support decision making on water policy (by Dr. Aymen Frija). Some preliminary simulation results have also been shared and discussed with the participants. These illustrative results were generated from the simulation of simple scenarios expecting decreasing water availability for the irrigation sector in Tunisia. Based on these scenarios, our models provide an overview of structural, national, and regional adaptations required to maintain a high value added agricultural sector in Tunisia. Results of the ASMOT model are disaggregated at regional levels of Tunisia, and can also show the impact of different adaptation strategies on employment and regional economic development.

In the second day of the workshop, participants were reviewing and refining the final scenarios which will be simulated by both IMPACT and ASMOT models. Presentations from the first day allowed the participants to better understand the range of drivers which can be considers by our tools, as well as the food security indicators which can be used to assess the effect of different water scenarios. These elements were extremely helpful for the discussion and refinement of the final scenarios which will be simulated by the project team. The final scenarios are comprehensive and include expectations about future water resources availability, demographical changes (which will define the water demand), Economic growth (which contribute to define the overall food demand at country level), and trends of agricultural and irrigation practices (strategic crops, water use efficiencies, etc.).

At the end of the meeting, Dr. Mohamed El Mourid, Regional Coordinator of ICARDA in North Africa, was calling for more cooperation between CG centers (including ICARDA, IWMI, and IFPRI) and partners from North African countries, with a major focus on water (and especially groundwater) management and policies. He stressed the importance of enhancing water security through appropriate policies, institutions and other instruments. He also mentioned that future water availability in North Africa has clear implications on food security in the region, which starts already to be visible during the last years.

Follow up actions. The participants agreed on the following action points:

- to keep sharing necessary data needed to refine IMPACT and ASMOT datasets
- ICARDA and IWMI to share final simulation results of the developed scenarios, with national partners
- To further interact with the "policy drafters" of the national strategy WATER 2050 in Tunisia in order to communicate our final results and reports.