



Closing Remarks



ON

LAAYOUNE FIRST INTERNATIONAL FORUM BIOSALINE AGRICULTURE

BOUCRAA, LAAYOUNE MOROCCO
MAY 3-4 2019

Sessions & Panel Discussions

The program of the forum included the following four scientific sessions and a panel discussion:

1. Innovative strategies for Food Security and Sustainable Agriculture in Desert and Saline Areas and available tools and information systems to assess and monitor the evolution of salinization.
2. Preventing and managing salinization under climate change threats: learning from past experiences, introducing new technologies and facilitating the exchange of knowledge.
3. How tools like modelling, water sensors and salinity dynamics used by farmers can assist their decisions?
4. Analysis of the effects of increased salinization on food security at national, regional and global levels.

Conclusions & Recommendations

- Global warming is responsible for climate changes in many regions around the world. Some areas will be affected in a complex way by rainfall variation, temperature increase, extreme events such as flooding and drought with parallel evapotranspiration increase and sea level rise.
- To avoid yield reduction or loss of crops due to the development of soil salinity, close collaboration between water, soil and plant scientists and climatologists is needed to draw possible scenarios of climate change and develop management strategies and coping mechanisms.

Conclusions & Recommendations

- Integrating efforts of international organizations, NGOs, research institutions, policy makers, governments and other agencies is needed to prevent or mitigate the adverse effects of decreasing water availability and water quality as well as increasing salinity in coastal and inland areas, as consequence of climate change.
- Halophytes; a global resource should be used as an alternative crop in salinized areas, providing food for livestock, fiber, oil and energy.
- Medium and long-term effects should be seriously considered in projects dealing with biosaline agriculture.

Conclusions & Recommendations

- There is a need for the development of new mechanistic models capable of accurately representing the atmosphere/ soil/ water/ plant/ aquifer systems, for exploring the consequences of different management practices.
- Further research on soil physics/chemistry/hydrology, on the plant response to combined salinity/drought stress, biochemistry and plant physiology, will provide refinements to the existing models.
- The concepts of “virtual water” and “water footprint” should be incorporated in food production planning, for better evaluation of the environmental costs and impacts of irrigation in saline regions.

Conclusions & Recommendations

- Field visits to pilot sites and dissemination of the information to farmers in a simple language is a key for the farmers' capacity building.
- Involvement of all stakeholders in new initiatives is a key to ensure good success in introducing new concepts and technologies in biosaline agriculture.
- Water Food Energy Nexus has always been associated with fresh water use. Therefore, there is a need to consider the nexus while taking into account the presence of saline water and the multi-disciplinarity of its elements.
- Innovative technologies for improved water use efficiency and productivity, salinity management and environment protection are needed.

Next Steps

Four work packages have been proposed by the experts who participated in the forum to:

1. Provide more information on the development of salinization under climate change threats.
2. Determine vulnerable areas.
3. Identify successful upscaling cases that could contribute to control salinization, or increase productivity of already salinized areas.
4. Identify the main reasons why some technologies are not taken up by farmers.

Next Steps

Four Work Packages:

1. Determination of the most vulnerable zones to salinization under potential climate change scenarios and the establishment of regional monitoring groups.
2. Identification and documentation of success stories of scaling up technologies and providing help in implementing them in other countries.
3. Organization of training sessions on existing simulation models and their application for capacity building.
4. Building up on this first international forum to make it an annual event.