

Potential role of integrated saline agriculture systems in agricultural development of Egypt

Hassan M. El Shaer

Egyptian Center of Excellence for Saline Agriculture (ECESA), Desert Research Center (DRC), Cairo, Egypt, Email: hshaer49@hotmail.com

ABSTRACT

Egypt is one among those countries suffering from high population density. Moreover, It is facing many challenges such increasing drought, limited fresh water resources, particularly in marginal regions. These trends present enormous challenges to achieving food security and eradication of poverty of which are the top priorities on the national political agenda. Farming community is adversely affected by severe climate changes. It is facing many difficulties such as sand dune movement, increasing salinity in water and soil, a long hot summer with low and erratic winter rainfall. Experiences and skills of local farmers in improving agriculture and animal productivity practices under these marginal conditions are humble.

The Egyptian Center of Excellence for Saline Agriculture / Desert Research Center (ECESA/ DRC) identified earlier (through previous achieved projects) that the barriers to diversification of the farming system and scaling out in the Egyptian marginal regions are mainly due to: 1) Lack of supportive policies; 2) Unavailability of or inaccessibility to the proper seed source of better adapted genotypes to salt stress; 3) Irrigation with marginal quality water without proper management, and 4) Limited extension and capacity building opportunities. Such crucial challenges resulted from the impact of salinity and other effects of climate changes should find proper solutions otherwise the prevailed natural resources and the farmers income will be affected drastically.

This article presents some interventions aimed at improving the resiliency to climate changes and income of poor farmers relying on marginal saline water and land resources through enhancing the production of several plant species for food, feed and oil , transferring, dissemination and scale-up of an integrated models for introducing high yielding forages and livestock production packages better adapted to the saline conditions of these arid regions and enhancing skills and knowledge of extension staff, farmers and rural women in aspects of resilient crops production, animal production and field management, seed production and marketing to increase household income.

In conclusions: Enhancing plant production through transferring new integrated management of agriculture – livestock approaches for using marginal resources would ultimately contribute to the improvement of the livelihood of farmers in such regions.

However, more needs to be done: to improve on-farm training in skills relating to the production and utilization of forages under salinity/marginal conditions; to expand the activities into more farms in the targeted region; to extend capacity building and improve animal productivity and its value added.

Keywords: salinity, drought, small farmers, rural women, poverty, climate change, fodder crops, animal production