

Rehabilitation & management of salt-affected soils to improve agricultural productivity (RAMSAP) in Ethiopia and South Sudan

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Background

Increasing salinity remains a challenge to sustainability of irrigated agriculture in Ethiopia and South Sudan as it reduces natural biodiversity as well as farm and livestock productivity. To date, an estimated 11 million ha (Mha) land in Ethiopia is exposed to salinity and sodicity. The salt-affected areas in Ethiopia are in the Tigray region, and Awash River basin and the situation is expected to exacerbate further in the future due to climate change induced factors. The salt-affected lands in South Sudan are in the White Nile irrigation schemes and yet the area has hardly been utilized for agricultural production despite having great potential due to availability of water from Nile. In other parts of South Sudan, low soil fertility and non-availability of good quality seeds for crops and forages are the major bottlenecks in the development of agriculture. With a 3% average population growth in these countries, future food security and livelihood source for the population remains a challenge to the governments.

The soil salinity problems in both countries stem from poor on-farm irrigation practices and lack of adequate drainage facilities. Restoration of degraded lands into productive lands and protection of newly developed areas from the spread of salinity through improved irrigation and crop management is therefore of paramount importance. In areas where increased salinity levels have restricted the growth of normal field crops, use of bioremediation methods developed by ICBA including planting halophytic forages could bring these soils back into production. This is particularly important for Ethiopia and South Sudan considering their large livestock sector. Through improved crop yields and reduction of loss of land to degradation, the project will empower farmers by improving their resilience thereby reducing both migration to cities and health problems due to stress on families suffering from the impact of salinity on their livelihood.

International Research and Development Organizations

- ILRI: forage production system and integration into livestock components
- ICRISAT: evaluation and production of sorghum and pulses for salt-affected soils
- IFPRI: economic analysis of farming systems and scaling up and preparation of position paper

Expected project outcomes:

- Introduction of improved irrigation and water management strategies for salinity management.
- Selection and adoption of crops and forages with suited for salt-affected soils.
- Development of crop varieties and forage systems to enhance production under the local socio-economic and environmental conditions.
- Development of a robust information and data management and capacity building system to support research and development for sustainable salinity management in both countries.

Key activities planned for the first year of the project (2016)

- Baseline data collection to establish qualitative and quantitative trends in surface and groundwater salinities in project sites and describe current farming systems (crops, cropping pattern, resources, status of food security, incomes, marketing, gender, etc.)
- Identify and test new crops/varieties based on the baseline survey, needs and marketability.
- Identify and introduce salt-affected farms in different regions for the demonstration of salt tolerant forages through national, regional and international R&D partners.
- Socio-economic evaluation of salt-affected soils and their impact on society especially women.

Progress and achievements

The project has officially been started in Ethiopia and South Sudan with the financial support of US\$ 2.0 million from IFAD. The project launching workshop was organized in Addis Ababa, Ethiopia from March 23-24, 2016. The workshop was inaugurated by the Advisor of the H.E. State Minister of Agriculture and Natural Resources (MoANR), Government of Ethiopia. The workshop was attended by 40 participants which included representatives of MoANR-Ethiopia, Ministry of Agriculture of South Sudan, researchers from local and international research organizations and ICBA scientists. During this two-day workshop, different aspects of project proposal were discussed in detail and agreements for the implementation of the tasks of the first year of project work plan were finalized. It was decided that first plantation under this project will be started during the upcoming growing season June 2016. The roles and responsibilities of different partners and collaborating organizations were defined. The participants also discussed in detail the issues pertaining to organization, management and implementation of the project considering socio-cultural and political environment of both countries. ICBA is now finalizing work plan and project agreements with all partners based on the agreement reached during the March meeting. All this documentation is will be finalized within May so that project activities can be started as planned.



Participants of the launching workshop of the RAMSAP Project in Ethiopia on March 23-24, 2016



Objectives

The overall goal of the project is to attain higher agricultural productivity, food security and income for smallholder farmers, agro-pastoral/pastoral communities through rehabilitation and sustainable management of irrigated salt-affected farming areas. The specific objectives are:

- Introduce and test small-scale water management strategies for salinity management.
- Introduction and optimum production of salt tolerant forages in Ethiopia and South Sudan.
- Integrate products from rehabilitated lands into the crop-livestock value-chain system to enhance economic value for farmers, pastoral/agro-pastoral communities and the country at large. Scaling up of successful production systems to make them economically valuable.
- Evaluate farmer constraints for the adoption of strategies for the rehabilitation of salt-affected soils and develop policy recommendations to address these constraints.

Project Partners

National Research and Development Organizations

- Ethiopian Institute for Agricultural Research (EIAR)
- Agricultural Transformation Authority (ATA)
- Directorate of Research and Training, Ministry of Agri., Forestry, Rural Development and Cooperatives