

1.3 Project overview

1.3.1 Production of Improved Seeds and Seedlings

Name of the Project	Production of improved seeds and seedlings
Introduction	The farmers in Sudan rely heavily on farm saved seeds and have little access to commercial improved seed. Improved crop varieties seed reach only 10 per cent of farmer producers in Sudan. The rain fed-sector is characterized by low productivity and horizontal expansion of the area in rain fed farming. This has negative consequences for forests and pasture as it creates an agro-ecological imbalance with severe environmental consequences. In addition, the production of improved seed variety on large-scale will strengthen the capacity of research, extension and the private sector in the development, dissemination and adoption of improved seed varieties. This can lead to improved food security and sustainable crop production intensity and livelihoods.
Objectives	This project aims to guarantee satisfactory crop production that leads to food security, improved and diversified nutritional status, and poverty reduction among marginal and small-scale farmers by upgrading agricultural production and improving income
Outcome	<ul style="list-style-type: none"> - Establish the necessary infrastructure for plant multiplication, inspection, sanitation and certification - Increase the production of improved seeds and seedlings in six states
Relationship to the country's sustainable development priorities	The project is in line with the Country Agricultural Strategy and its commitment to the UNFCCC which focuses on the organization of seed and seedlings production as well as on the production of certified plant material for high yielding varieties. Moreover, it aims to increase the productivity vertically and induce reduction in cost of production. In addition, the project intends to reduce the need for more new land, a prospect that bodes well for the country's green covering of trees while decreasing GHG emissions.
Project Deliverables	Provision of improved seeds and seedlings of the different crops to all small farmers in the rain-fed areas, which will improve food security and diversify crops. The project will benefit from 16 local nurseries that will have a positive impact on yield of all crops (15 to 50 per cent increase, depending on crop and climatic conditions).

Project Scope	The project is designed for small-scale farmers in six states (South Gadarif, Sennar White Nile, North Kordofan, North Darfur and Blue Nile states) under rain-fed agriculture. The project will focus on farmers presently relying on saved local varieties with low yield, farmers with lack of know-how and skills in producing improved seeds and seedlings. The main crops to be covered are cereals and fruit trees.
Project activities	<ol style="list-style-type: none"> 1. Identification of needs and gaps in the necessary infrastructure for improved seeds and seedlings propagation 2. Elaboration of coordination mechanism between the Ministries of Agriculture and Animal Resources in the states, federal seed administration, seed companies, Farmers Union and local actors 3. Elaboration of communication tools for extension purpose 4. Acquire the necessary inputs related to propagation and production 5. Capacity building of government institutions that provide technical services 6. Community organizations and farm families, using participatory approaches 7. Introduction of related improved technologies such as water harvesting, small-scale irrigation and general improvement in farm management 8. Enhancing the capacities of farmers through Farmer Training Schools and other group initiatives 9. Facilitation of farmers' associations formation and support to them 10. Provision of credit facilities using existing traditional and financial mechanisms 11. Establishment of healthy plant mother plots within the nurseries of local varieties and rootstocks; and upgrading existing tissue-culture laboratories 12. Training of all stakeholders at different levels 13. Training the staff of the MoA in inspection and certification.
Timeline	3 years and a half in operation, the lifetime is in excess of 30 years.

Budget	<p>Budget for project management team (staff) =1.5 million USD i.e 200,000 USD for each state for the 3 years (66,667 USD) as salaries and consultancies</p> <p>One unit (nursery) = 4.5 million USD (the unit composed of 2 offices, meeting room, laboratory, rest house and toilets, vehicles, motor cycles, offices supply and equipment)</p> <p>Laboratory equipment cost= 1.5 million USD (200000 USD for each state)</p> <p>Three units are needed in the targeted areas (13.5 million USD).</p> <p>Cost of capacity building and training for the six states = 500,000 USD</p> <p>Running cost for the six states = 750,000 USD</p> <p>Unforeseen cost for the six states= 540,000</p> <p>Total cost=18,290,000 USD</p>
Potential source of finance	<ul style="list-style-type: none"> • Farmers Union • State Government • Federal Government
Measurement/evaluation	<p>Increase the production of improved seeds and seedlings through the establishment of 16 nurseries which in turn will be reflected in increasing the subsistence and cash crops besides vegetables and fruits. Moreover, the farmers (50 per locality or 300 in the six states) can be used as a measure for the success of the project)</p>
Possible complication/challenge	<ul style="list-style-type: none"> • Social reluctance from producing improved seeds and seedlings • Financial constraints • Problem of coordination between actors • Ecological barriers • Pest and diseases outbreak
Assumption	<ul style="list-style-type: none"> • Farmers are willing to produce improved seeds and seedlings • Good coordination between actors.
Responsibilities	<p>Ministry of Agriculture, Department of Technology Transfer and Agriculture Extension.</p>

1.3.2 Zero Tillage Technology

Zero tillage technology for reduction of Vulnerability of food security and enhancement of farmers' resilience in Gadarif State

Name of Project	Zero tillage technology for reduction of vulnerability to food insecurity and enhancement of farmers resilience in Gadarif State
Introduction	Under the vulnerability of rain-fed mechanized agriculture in Sudan in general and in Gedarif State in particular, attempts have been made to reduce this vulnerability through adoption of Zero Tillage technology. The project is targeting farmers in the state for sake of increasing crop yield and sustainability of agricultural production
Objectives	<ul style="list-style-type: none"> • To select cover crops based on goals, • To select proper cropping rotation • To increase crop yields while decreasing input costs.
Outcome	<ul style="list-style-type: none"> • Increase crop production • Organize farmers into working groups • Increase income generation • Enhance farmers' awareness • Reduce farmers' expenditures
Relationship to the country's sustainable development priorities	The project is well linked to government policies and plans, being in line with the 25-year National Strategy and the Poverty Reduction Strategy Program (PRSP). It has also strong links with the Millennium Development Goals (MDGs).
Project Deliverables	The project will provide the rain-fed farmers in Gadarif State with the technical know-how by demonstration plots and mobilization and sensitization of farmers to adopt the intervention. The project will benefit from the active extension unit of the Ministry of Agriculture and Animal Resources at the state level besides the Higher Council for Environment and Natural Resources at Gadarif State.
Project Scope	In Gadarif State vast rain-fed areas exist that are suitable for the application of zero tillage. The total area under mechanized farming reached 71 400 km ² . Most of these areas became degraded owing to various climatic and non-climatic factors. Land degradation has been found to cause decrease of agricultural production. Accordingly, many communities are extremely vulnerable as they do not guarantee food security.