



TERMS OF REFERENCE (TOR) FOR ASSEMBLY OF A PRE-BUILT COLD STORAGE FACILITY FOR STORING VEGETABLES AND FRUITS IN KASSALA, SUDAN

14 July 2020

1. General Background Information

The three-year project “Fostering inclusive economic growth in Sudan Kassala State through agro-value chains development and access to financial services”, funded by the Government of Italy, builds on the results of the Canada-funded “Integrated Food Security Project” (IFSP), carried out jointly by FAO and UNIDO between 2011 and 2014.

The project focuses on development of promising agricultural value-chains by promoting advanced agro-technologies & practices as well as access to finance, in line with the priorities of the Federal Ministry of Agriculture “Second Five-Year Plan 2012-2016” for the agricultural sector with the overall aim to increase the competitiveness of key rain-fed as well as irrigated-based agricultural crops in Eastern Sudan.

The overall objective of the Project is to improve livelihoods, food and nutrition security of the target population in Kassala State, Sudan, especially for women and youth. Based on a participatory assessment conducted in February and March 2018, it was agreed to focus specifically on three promising agricultural value-chains, namely: sesame; horticulture and fodder; groundnuts.

The project is pursuing an integrated approach in order to meet its objectives in improving livelihoods, food and nutrition security. Within the perspective of a value-chain development approach, integrating access to financial and non-financial services, it seeks market-oriented sustainable solutions to create sustainable job opportunities and foster inclusive economic growth. It combines interventions in the sphere of agricultural production and processing with interventions in the agricultural technology and agro-based micro- to small enterprise development sphere, including facilitation to access to finance through existing MFIs operating in the local market.

2. Aim of the Project

Over a period of three years (2018-2020), the Project aims at training at least 3,000 agricultural producers as well as entrepreneurs operating within the selected agro-value chains.

The Project components are:

- I. *Production component*: increasing the quality and yields of agricultural production;
- II. *Processing component*: promoting the establishment of small and medium-scale processing enterprises; and
- III. *Marketing component*: supporting access to market for farmers’ associations.

3. The Scope of the proposed Contracted Services

Within the frame of the Project Marketing Component, the Project strategy focuses on post-harvest storage facilities. Facilities such as cold storage facilities for fresh vegetables and fruits increase the shelf-life of local fruits and vegetables, thereby increasing their market value for the benefit of the small-holder farmers in Kassala allowing them to negotiate better market prices. Further to the request forwarded in 2018 by MOPER and the cooperative Alikhaa' for technical and financial assistance from UNIDO and the Italian Agency for Cooperation Development (AICS) to build a cold storage facility for vegetables and fruits, a UNIDO International Expert in Cooling & Energy Supply Systems prepared the feasibility (i.e. drawings, bill of quantities and all the technical documentation) for the construction the cold storage facility. The plan foresees two main steps for the cold storage facility implementation, and namely:

1. Preliminary training of Sudanese technicians on assembly and maintenance of cold storage facilities.
2. Shipment of the cold storage from Italy to Kassala, Sudan.
3. Assembly of the cold storage facility in Kassala.

Point no. 3 – which is the object of the present TOR – is to be developed in collaboration between UNIDO and AICS through its 'Poverty Alleviation' Program active in Kassala and with the technical assistance of the Ministry of Production and Economic Resources (MoPER). Particularly, in 2020 AICS has managed to fund the construction and the import from Italy to Sudan of a pre-built cold storage as well as the technical tools needed for its assembly in the selected location.

Therefore, the key objective of this assignment is to assembly a pre-built cold storage facility to be used for storage of fresh vegetables and fruits under supervision and direction of the UNIDO International Expert in Cooling & Energy Supply Systems and as per the technical indications provided in ANNEX 1 (Cold storage facility feasibility study) ANNEX 2 (bill of quantities) and ANNEX 3 (Cold storage executive design) prepared by the UNIDO International Expert in Cooling & Energy Supply Systems.

The execution of the project as indicated in ANNEXES 1, 2 and 3 is the subject of this contract and must be therefore planned and undertaken in compliance with the technical and administrative directions contained in this Terms of Reference.

The project site is indicated in ANNEX 1, pagg. 9-12.

It is preferable if local labor is utilized when appropriate for the assembly of the facility. Any proposed changes to the Feasibility Study and/or the Bill of Quantities agreed in the contract must be acknowledged in writing and signed by the UNIDO Chief Technical Advisor prior to works.

An Inception meeting with the key parties will be organized prior to launch field activities.

For the execution of the work, the supplier should make available at least the following tools:

#	Tool	Qt.
1	Kit of operating wrenches (various types): polygonal, fixed star, compass	3
2	Electrode welding kit	1
3	Angle grinders	4
4	Drills	3
5	Screwdrivers	3
6	Sawing machine	1
7	Vacuum pump	1
8	Air compressor	1
9	Riveting tool	1
10	Kit of measuring tools: meters, levels, protractors, current clamp, digital multimeters, thermometers, hygrometers	2
11	Kit for electrical installations: pliers, scissors, crimpers	2
12	Transpallet	1
13	Laptop computer	1
14	Metal ladder	1
15	Consumable (including products for cleaning, disinfection, tools spare parts, first aid kit, etc.)	1
16	Basic accident prevention material (helmet, glasses, gloves etc.)	1
17	Big size crane (to be available for at least 20 days for the carpentry assembly phase).	1

4. General Time Schedule

All activities shall be completed 3 months upon signature of contract, as per the tentative workplan below:

Activities	2020			
	Sep	Oct	Nov	Dec
0. Preparatory activities				
0.1 Contract awarded and work starts				
0.2 Preparation of the assembly site				
1. Carpentry assembly				
1.1 Assembly of the external carpentry of the facility	7-9			
1.2 Assembly of the protection panels around the carpentry	4-6			
1.3 Assembly of the cold storage	6-8			
2. Installation of systems and units				
2.1 Installation of electrical system and cooling units		8-9		
2.2 Installation of the data logger		3-5		
2.3 Installation of the generator set			2-3	
3. Testing Phase				
3.1 Cleaning and pre-test check			2-3	
3.2 General test of the cold storage facility			3-5	

The work execution should be carried out via three work packages, broken down as per the table below:

<u>WP</u>	<u>Description</u>	<u>Duration (days)</u>	<u>Staff involved</u>	<u>Tools and equipment needed</u>
1	Carpentry assembly	Up to 23		
1.1	Assembly of the external carpentry of the facility	7-9 days	1 site manager, 1 blacksmith, 1 blacksmith assistant, 1 mason, 1 mason assistant, 5 workers	1 crane, 3 kits of operating wrenches, 1 electrode welding kit, angle grinders, drills, screwdrivers, 2 kits of measuring tools, current clamps, multimeters, sawing machine, vacuum pump, air compressor
1.2	Assembly of the protection panels around the carpentry	4-6 days		
1.3	Assembly of the cold storage	6-8 days		
2	Installation of systems and units	Up to 17		
2.1	Installation of electrical system and cooling units	8-9 days	1 site manager, 1 chief electrician, 1 electrician assistant, 1 blacksmith, 1 blacksmith assistant, 3 workers	3 kits of operating wrenches, 1 electrode welding kit, angle grinders, drills, screwdrivers, 2 kits of measuring tools, current clamps, multimeters, 2 kits for electrical installations
2.2	Installation and setting of the data logger	3-5 days		
2.3	Installation of the generator set	2-3 days		
3	Testing phase	Up to 8		
3.1	Cleaning and pre-test check	2-3 days	1 site manager, 1 chief electrician, 1 electrician assistant, 1 blacksmith, 1 blacksmith assistant, 3 workers	consumable products for cleaning and disinfection, 2 kits of measuring tools, 1 laptop computer
3.2	General test of the cold storage facility	3-5 days		

5. Personnel in the Field

The **team of national experts** will include the following profiles:

- One National Senior Coordinator
- A team of Specialized Technicians per the table below:

Team	Duration
1 National Site Manager	3 months (full time)
1 Chief Electrician	3 months (full time)
1 Electrician Assistant	3 months (full time)
1 Blacksmith	3 months (full time)
1 Blacksmith Assistant	3 months (full time)
1 Mason	3 months (full time)
1 Mason Assistant	3 months (full time)
5 Workers	2 workers for 1 month (part time), 3 workers for 3 months (full time)

The key experts assigned to this project (National Senior Coordinator, National Site Manager, Chief Electrician) by the selected supplier must possess the following skills and qualifications:

- An established expertise in constructing and/or maintaining cooling and climate control systems; and/or power generation systems (e.g. generators and power engines, solar panels, etc.) and carpentry. All experts are expected to have at least 5 years of working experience in relevant fields.

The National Senior Coordinator will act as the **coordinator of the national experts team's** activities and duties and will serve as the main contact point towards the UNIDO International Expert in Cooling & Energy Supply Systems, the UNIDO project manager and the UNIDO Chief Technical Advisor (CTA).

The chief electrician shall take care of electrical installations, including the power generator and data logger.

The National Experts will work under the supervision of the CTA, the UNIDO International Expert in Cooling & Energy Supply Systems, and the Project Manager in UNIDO HQ.

Regular meetings (at least every week) will be organized with UNIDO CTA and the UNIDO International Expert in Cooling & Energy Supply Systems to discuss progresses and outstanding issues (when required through teleconferencing). A kick-off meeting will be organized at the early stage in the assignment with the Contractor National Experts and UNIDO.

The Contractor shall submit the following to UNIDO for review and approval prior to any installation and assembly:

- Insurances for works and workers. The contractor must be insured against damage and loss of property during assembly due to various factors such as natural disaster and civil unrest. All workers at the site should also be insured against injury and loss of life.

- Throughout the assembly period, the UNIDO staff will also verify compliance with technical drawings and Bills of Quantities as per ANNEX 1. Any proposed changes to the technical drawing and/or the Bill of Quantities agreed in the contract must be acknowledged in writing and signed by the UNIDO Chief Technical Advisor prior to works.

The estimated work duration per each staff involved is 3 man-months. The number of man-months is to be intended as an estimation, as it will be responsibility of the Applicant to state in the proposal the duration that will allow to perform the assignment.

6. Deliverables and language requirements

The Contractor is expected to deliver:

- Inception Report.
- A Final Report consisting of narrative and financial report within thirty (30) days following the completion of services. The final report must include pictures (before and after) and be sufficiently detailed to allow certification of deliverables and of expenditure.

All documents will be provided to UNIDO with 1 electronic copy, consisting of the following electronic files:

- Original work files (WORD, POWER POINT, EXCEL, etc.).
- Photographs.

The electronic copy can be provided via e-mail, if the nature and size of the files make it possible. Otherwise, the electronic copy will be provided in a CD or DVD copy.

All deliverables and related documents will be provided in English.

7. Currency

The contract currency is in Sudanese Pounds.

8. Responsibility of the Contractor

- The Contractor will be responsible for all activities related to the provision of the services and the acts or omissions of all employees, agents or other representatives, and authorized subcontractors providing the services on its behalf.
- UNIDO will not be held responsible for any accident, illness, loss or damage which may occur during the provision of the services or any claims, demands, suits, judgments, arising there from, including for any injury to the Contractor's employees, or to third parties, or any loss of, damage to, or destruction of property of third parties, arising out of or connected to the Contractor's work or performance under the Contract.

- The Contractor shall make and thereafter maintain, in compliance with national legislation, provision for adequate insurance to cover such risks as damage to property and injuries to persons, as well as third party liability claims.
- The personnel assigned by the contractor to provide the services will not be considered in any respect as being employees or agents of UNIDO. Nothing in the Contract or in any document or arrangement relating thereto shall be construed as conferring any privileges or immunities of UNIDO on the contractor, its personnel or any other persons providing the services on its behalf.
- Nothing in the contract or in any document relating thereto, shall be construed as constituting a waiver of privileges or immunities of UNIDO, or as its acceptance of the jurisdiction of the courts of any country over disputes arising out of the Contract.
- In providing the services, the contractor shall conform to all national laws applicable to its activities and its relations to third parties, including employees. The Contractor shall promptly correct any violations thereof and shall keep UNIDO informed of any conflict or problem arising in relation to national authorities.
- The Contractor shall take all reasonable precautions to avoid any conflict of interest in the implementation of the services and shall inform UNIDO without delay of any situation constituting or likely to entail a conflict of interest including any UNIDO personnel having an interest of any kind in the Contractor's activities.
- This Contract is not subject to payment by UNIDO of any levies, taxes, registration duties or any other duties or charges whatsoever. The Contractor shall duly pay taxes, duties and other charges in accordance with prevailing laws and regulations applicable to the Contractor.
- UNIDO may suspend or cancel all or part of the Contract, obtain the Services elsewhere and make corresponding adjustments to any payments that may be due to the Contractor, if the Contractor fails to make delivery, or perform to a standard considered acceptable to UNIDO. Subject to consultation with the Contractor, the determination of UNIDO, relating to this provision, shall be binding.

9. Evaluation criteria

The Service provider is required to meet the following qualifications:

1. Certificate of incorporation is required
2. Evidence of managing a comparable international organization or similar entities, including a description of the services rendered and the management plan implemented.

3. The Service provider shall provide the necessary equipment, facilities, qualified personnel, expertise and other means necessary to perform the services in accordance with the best commercial practice.
4. Legally authorized to undertake such work in Sudan. Provision of valid construction license.
5. Construction experience: a minimum of three (3) construction projects successfully completed or substantially completed in the last three (3) years that demonstrate the bidder's specialized experience in the construction of similar infrastructural projects. Company's profile and references (such as references by UN agencies or other development agencies).
6. Time schedule for execution of the services: UNIDO will evaluate all information available with respect to the bidder's ability to develop a project schedule, execute according to that schedule and complete projects on time. A bar chart time schedule divided into weeks should be submitted with the proposal.
7. Safety and security plan for workers and general public at and near the construction site.

The applicant shall include among the bidding documents:

1. A Technical & Financial Proposal, including a detailed work plan for the assignment.
2. Institutional profile as well as CVs of the key technical experts involved in the assignment.

List of annexes

ANNEX 1: Cold storage feasibility study

ANNEX 2: Bill of quantities

ANNEX 3: Cold storage executive design

ANNEX 4: Cold storage assembly site in Kassala

The GPS location of the assembly site in Kassala can be accessed through the following link:

<https://earth.google.com/web/@15.45254136,36.36995525,505.38977287a,399.07677307d,35y,0h,0t,0r>

