TERMS OF REFERENCE
(Individual Contract Agreement)

Title:	**Lead Agricultural Engineer (Mechanization Expert)**
Project:	**KOICA Rice Value Chain Project**
Duty Station:	Accra
Section/Unit:	Ghana Multi-Country Office (GMCO)
Contract/Level:	LICA 10 (ICS10)

1.0 General Background

Ghana's yearly demand for rice is estimated to be 1,000,000 MT in 2017 with a per capita consumption also estimated at 38 kg per annum and is expected to rise to 63 kg per annum by 2018 (Dogbe et al 2016)1). However, much of the rice consumed in Ghana is imported from Thailand and Vietnam. Currently Ghana imports around 675, 000 MTs directly and another 150,000 MTs is said to be smuggled through the Cote D'Ivoire border.

Small-holder farmers dominate the Ghanaian rice production system. In fact, it is estimated that small scale rice production account for nearly 72% of the total volume produced in the country. Given this situation, the strategy of the Government of Ghana is to reduce rice importation by 30% within the next three years and boost domestic rice production. In line with its objectives of reducing the importation of rice, Ghana needs to increase domestic production of milled rice from 442,000 MT to 600,000 MT between 2018 and 2020 to meet its target of 30% import substitution.

Despite its efforts and objectives, the Government is far from achieving its national rice self-sufficiency agenda due to several key constraints, including:

a. Farming systems are heavily reliant on rain-fed agriculture. Only 16% of the area planted with rice is irrigated.
b. Low use of productivity-enhancing inputs. The adoption of improved seeds is estimated to be 16%, fertilizer use at 18 kg/ha versus the target of 50 kg/ha. This problem is exacerbated by limited supply of suitable and locally adapted fertilizer blends and weak extension services caused by inefficiencies and inadequate number of extension workers. This low adoption of improved inputs and good agronomic practices have resulted in high yield gaps: maize: 2 MT/ha (36%); rainfed rice: 2.2 MT/ha (30%); Cassava: 14 MT /ha (22%); and soybean: 1.2-1.7 MT/ha (21%)
c. Low use of mechanization and poor water management leading to low performance particularly in the rice sub-sector;
d. Lack of adequate storage capacities that contribute to additional high post-harvest losses
e. Limited access to finance in the agricultural sector (8% of total lending) due to high cost of borrowing and few agriculture focused financial products, as well as unfavourable risk assessments;
f. The access to markets of the locally produced rice, remains uncertain and is challenged by the importation of Asian rice, highly subsidized both at production and export.

Moreover, poor linkages between farmers, seed producers, fertilizer dealers, millers and providers of financial and mechanization services negatively affect the adoption of improved technologies and practices among rice value chain actors. This project will strengthen upstream and downstream linkage.

On the basis of the justification above, KOICA and the Ministry of Food and Agriculture have embarked on a joint project to implement a rice value chain development systems in the central region.

The Project to Improve Rice Value Chain in the Central Region of Ghana (PIRVC) was signed in August 2019 and will focus on four (4) intervention pillars:

1. Increased productivity and quality of paddy rice based on the development of sustainable and competitive rice production systems;
2. Increased efficiency of local rice sourcing, processing and marketing through structured value chain linkages, improved technology and process management
3. Improved access to finance (incl. financial services) along the value chain
4. Enabling environment at national and district level including policy framework and strengthening of rice sector initiatives.

As part of the overall project, UNOPS has been engaged by KOICA to provide implementation support for:

a. The development of agricultural infrastructure
b. Procurement of non-agricultural equipment and
c. Procurement of agricultural equipment

2.0 Scope of the Assignment

Within the context of the procurement of the agricultural equipment component of the project, and subsequent projects in the agricultural sector, UNOPS seeks to engage an Agricultural Expert to join the team. The contribution of the Agricultural Expert is essential to the quality management strategy of the project.

This assignment is scheduled for 3 months on a full time basis. Any subsequent extension will be a retainer contract (the consultant will only work when and as required)

S/he will undertake the following activities:

- Carry out market research through strategic consultations and market research to identify machinery suppliers, including collecting field data on agricultural machinery inputs along the rice value chain by way of spot and routine checks to determine the field capacities of supplies and after sale services such as spare parts to be provided to sustain project to destinations of end-users;
- Carry out market research on the availability of machinery maintenance suppliers to support the project's sustainability management strategy;
- Support the implementation of the sustainable procurement and gender mainstreaming strategies;
- Collect and analyze the data on agricultural production levels at targeted farmer groups regarding farm sizes in the country and determine need, adequacy, adoptability, profitability and efficiency;
- Actively contribute to the development of the project's Quality Management Plan and facilitate its implementation throughout the project cycle;
- Consider all protocols from the Agricultural Mechanization Policy and others that can be useful to this agricultural mechanization intervention to look at linkages and how these complement or strengthen each other;

- Actively take part in the Technical Working Groups of the project on behalf of UNOPS;
- Advise the project manager and other project partners on the technical considerations of agricultural machinery;
- Develop detailed specifications for the value chain machinery listed for rice production and processing with regards to productivity and environmentally soundness;
- Provide technical advice to the partners (and TWG) on machinery characteristics and specifications as required;
- Provide technical advise on the training needs for equipment operations and maintenance;
- Present briefs on the developed draft specification to limited stakeholders;
- Participate in all evaluation bidding processes and provide technical evaluation reports;
- Contribute to monthly highlights reporting and quarterly end stage reports as required;
- Take part in receiving, inspection and handover of equipment to partners;
- Perform other related duties as may be required to complete the consultancy project.

3.0 Deliverables

- Detailed Technical Specifications of Agricultural Machineries to be procured on the project;
- Technical Evaluation Reports during evaluations
- Receiving and Inspection Reports (RIR) signed and
- Handover vouchers accepted by clients

4.0 Qualifications and Experience

A. Education

- Master's Degree in Agricultural Machinery Engineering, Mechanical Engineering, Agricultural Engineering, Agriculture Development or a related field is required.
- Bachelor's degree with 7 years of relevant professional experience will be accepted.
- A Professional Diploma in relevant discipline with relevant combination of academic credentials and/or industry certifications and qualifying experience of 9 years may be accepted in lieu of the university education.

B. Work Experience

- At least 5 years of relevant post qualification working experience in agriculture development environment is required;
- Demonstrated experience developing technical specifications for agricultural machinery is required;
- Experience in providing technical assistance to institutions in the area of Agricultural Mechanization is highly desirable;
- Experience working with and training farmers and artisans machinery operation for agricultural productivity or a related field is an advantage;
- Experience with UN Agencies is desirable.

C. Key Competencies

Develops and implements sustainable business strategies, thinks long term and externally in order to positively shape the organization. Anticipates and perceives the impact and implications of future decisions and activities on other parts of the organization. (**Applicable only for levels ICS-10 and above**)

Treats all individuals with respect; responds sensitively to differences and encourages others to do the same. Upholds organizational and ethical norms. Maintains high standards of trustworthiness. Role model for diversity and inclusion.

Acts as a positive role model contributing to the team spirit. Collaborates and supports the development of others. **For people managers only:** Acts as positive leadership role model, motivates, directs and inspires others to succeed, utilising appropriate leadership styles

Demonstrates understanding of the impact of own role on all partners and always puts the end beneficiary first. Builds and maintains strong external relationships and is a competent partner for others (if relevant to the role).

Efficiently establishes an appropriate course of action for self and/or others to accomplish a goal. Actions lead to total task accomplishment through concern for quality in all areas. Sees opportunities and takes the initiative to act on them. Understands that responsible use of resources maximizes our impact on our beneficiaries.

Open to change and flexible in a fast paced environment. Effectively adapts own approach to suit changing circumstances or requirements. Reflects on experiences and modifies own behaviour. Performance is consistent, even under pressure. Always pursues continuous improvements.

Evaluates data and courses of action to reach logical, pragmatic decisions. Takes an unbiased, rational approach with calculated risks. Applies innovation and creativity to problem-solving.

Expresses ideas or facts in a clear, concise and open manner. Communication indicates a consideration for the feelings and needs of others. Actively listens and proactively shares knowledge. Handles conflict effectively, by overcoming differences of opinion and finding common ground.

Below general Certifications, Contextual Skills and Project Management Skills are required:

Certifications

- Prince 2 Foundation Certification is an asset
- Relevant professional certification is an asset

Contextual Skills

Interpersonal skills
Effective communication to non-technical audiences
Market research
Analytical skills
Technical Specifications
Follows guidelines and adjusts approach to requirements
Applies evidence based methods
Problem solving and dispute resolution
Capacity building and training
Transparency and objectivity
Mechanically inclined
Agricultural Technology

Project Management Skills

Budget Management
Effective planning
Time management
Team-player

Project Authority (Name/Title):		Contract holder (Name/Title):	
Signature	Date	Signature	Date