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**INCREASING FOOD PRODUCTION AND LIVELIHOOD IMPROVEMENT IN THE KAMIRANZOVU
MARSHLAND AREA, BURERA DISTRICT
(Kungahara Burera)**

KungaBu Project

**TERMS OF REFERENCE
FOR A FEASIBILITY STUDY TO DEVELOP A SOLAR POWERED IRRIGATION SYSTEM**

1. Background

The European Commission, through its Program “*Boosting food production in Rwanda*” also called KUNGAHARA, is supporting the Government actions aiming at transforming Rwanda’s inclusive and climate-smart agriculture. The global objective of KUNGAHARA is to promote food and nutrition security as well as food systems resilience in Rwanda. The specific objective of this Program is to promote sustainable food production of socially and environmentally inclusive agriculture value chains targeting local markets in Rwanda.

The District of Burera and the Rwandan Association of Ecologists (ARECO-RWANDA NZIZA) have benefited from KUNGAHARA Programme with a funding award to jointly implement the three-year Project titled “*Increasing food production and livelihood improvement in the Kamiranzovu marshland area, Burera District*” also known as *Kungahara Burera* (or *KungaBu* in short).

The Project will boost food production in the Kamiranzovu marshland area by (i) increasing food production and reducing vulnerability to dry seasons and climate change linked drought spells through solar powered irrigation and sustainable land husbandry practices; (ii) reducing losses from inadequate postharvest practices through increased access to produce drying and storing facilities; (iii) reducing malnutrition through promotion of small livestock and kitchen gardens especially in vulnerable households; and (iv) increasing skills, awareness and technical know-how transfer to local farmers also taking into account the Project’s visibility.

The primary focus of Component 1 of the Project will be to develop a solar powered irrigation system for 20 hectares of farmland. This system will ensure a consistent and cost-effective water supply without depleting freshwater resources or disrupting environmental flows. The installation will take place on the hillsides of Biyove Village, near the Kamiranzovu marshland.

To this end, ARECO-RWANDA NZIZA is looking to engage a qualified and experienced firm to conduct a feasibility study for this solar irrigation system under the KungaBu Project.

2. Objectives and Scope

2.1. Objectives

The primary goal of this assignment is to carry out a thorough feasibility study for a solar-powered irrigation system spanning 20 hectares, to be installed on the hillsides of Biyove Village, Mubuga Cell, Butaro Sector. The Consultant will be responsible for preparing all necessary documentation and reports for the feasibility study, as well as the final detailed designs for the irrigation system and the tender documents for the implementation works.

2.2. Scope

The Consultant will gather and assess all relevant data and information to evaluate the feasibility of the irrigation scheme at the specified site. They will also provide guidance on the subsequent implementation phases, covering technical, legal, and regulatory requirements associated with the project. The feasibility study will encompass, but not be limited to, the following elements:

1. Topographic surveys
2. Geotechnical studies
3. Crop potential assessment
4. Rainfall and evapotranspiration analysis (using data from nearby reference stations)
5. Physical watershed parameters (such as catchment area, erosion, sedimentation, land use, and existing erosion control measures)
6. Socio-economic, environmental, and resettlement considerations

Additionally, the assignment will include preparing detailed tender documents for selecting a contractor to carry out the fieldwork and implement the proposed irrigation system as part of the KungaBu Project.

3. Duration of the Assignment

The consultancy assignment shall to be completed within thirty (30) working days from the commencement date.

4. Deliverables from the Assignment

The deliverables expected in this assignment will include but not limited to:

4.1. Inception Report

The consultant will produce an inception report in which they will describe their understanding of the assignment and propose its implementation plan.

4.2. Report of the feasibility study (and related annexes)

The primary deliverable that will be produced by the consultant is the feasibility study report, which will provide detailed designs and structures of all components of the irrigation system, bill of quantity, study related analysis, permits, etc.

4.3. Tender documents

To be used in the recruitment of the contractor who will implement the solar powered irrigation system.

5. Qualification of the firm

The bidding firm should possess the following minimum qualification:

1. At least 5 years of experience with proof in irrigation fields.
2. Having successfully conducted at least three (3) similar feasibility studies (with proof documents).

5.1. Profiles of consultant's key staff

5.1.1. Team Leader

Qualification and experience: the team leader shall be a holder of a master's degree in the field of Rural Engineering (Irrigation), Civil Engineering or Water Resources Engineering/ management. He/she must have 10 years of irrigation experience with 4 references (certificates of good completion).

5.1.2. Hydrologist

Shall have a master's degree in hydrology, water resource engineering/management or other related fields with four (4) years of extensive experience in tropical irrigated agriculture and three (3) references in similar studies.

5.1.3. Soil analyst

The expert shall have a master's degree in Soil Sciences with at least four (4) years' experience in projects involving soils survey for planning and designing agriculture irrigation systems and three (3) references in similar studies.

5.1.4. Agro-socio-economist

The person recruited for this position shall have a Master's degree in agronomy, agribusiness or other related fields with three (3) years of extensive experience in tropical irrigated agriculture and three (3) references in similar studies.

5.1.5. Topographic surveyor

She/He shall have a bachelor's degree in surveying studies with more than five years of relevant experience on field and three (3) references in similar studies. He will be responsible for surveying works and drawings.

5.1.6. Civil/Structural Engineer

The expert shall hold a University degree in Civil Engineering with at least seven (7) years of experience in the structural analysis of hydraulic structures including spillway, diversion conduit, inlet/outlet, irrigation structures, etc.

5.1.7. Electro-mechanical engineer

The expert shall hold a university degree in electro-mechanical engineering with at least seven (7) years of experience in solar systems.

5.1.8. Geotechnical engineer

The expert shall hold University degree in Geotechnical Engineering or related field with at least ten (10) years of experience in investigations and analyses of test for civil works including dam, appurtenant structures, reservoir foundations and other components.

5.1.9. Environmentalist

S/He must hold a bachelor's degree in environmental management, science or any other related domain with at least 8 years' proven working experience in Environmental assessments and/or management matters. A proven experience in similar consultancy assignment related to conducting an ESIA study for an irrigation development project (at least three certificates of good completion should be submitted).

6. Reporting

The consultant shall be required to provide an inception report within five (5) working days from the contract start date.

For the duration of the consultancy, the consultant will report to KungaBu Project Manager.

7. Applications

Interested parties should submit their application documents, containing technical and detailed financial offers, by email: kungabu@arecorwandanziza.org with copy to info@arecorwandanziza.org not later than the 4th September 2024. The cover letters should be addressed to the National Coordinator of ARECO-RWANDA NZIZA.

For any additional inquiries regarding this assignment, please contact us via the email addresses listed above or by telephone at 0786830711.

Done at Kigali, on the 27th August 2024

Dancilla MUKAKAMARI
National Coordinator
ARECO-RWANDA NZIZA

