



NATURE-BASED CLIMATE ADAPTATION IN THE GUINEAN FORESTS OF WEST AFRICA

Consultancy for Drilling of Two Solar Powered Mechanized Boreholes for irrigation in the Lake Bosomtwe Landscape

Terms of Reference (ToR)

Financing



May 2025

1. Introduction

The “*Nature-based Climate Adaptation in the Guinean Forests of West Africa Project*” (abbreviated as the NbS Project) is a 3-year project (2023 to 2026) funded by Global Affairs Canada through the consortium: World University Service of Canada (WUSC) and Centre for International Studies and Cooperation’s (CECI) for the implementation of the project. The implementing partners of the project are International Union for Conservation of Nature (IUCN), CIFOR-ICRAF, International Barcode of Life (IBOL) and Abantu for Development. The project is implemented in three (3) countries, Ghana, Guinea and Cote d Ivoire.

The overall objective of the project is to strengthen local and regional capacities for nature-based climate change adaptation solutions and to foster women's transformational leadership in this area.

The project is structured around three key results presented below:

1. **Result 1:** Improved women's leadership and evidence-based, nature-based climate change adaptation planning processes, gender transformers in Guinean forests in the target area.
2. **Result 2:** Increased and more gender-sensitive restoration of degraded forests and key habitats with benefits for biodiversity by rural communities in Guinean forests in the target area.
3. **Result 3:** Increased gender-sensitive investment in nature-based solutions for CCA with income potential for women and biodiversity benefits in Guinean forests in the target area.

The project has achieved significant milestones in 2024, by successfully restoring over 600 hectares of degraded lands and key habitats through agroforestry, buffer restoration, and Modified Taungya system in the Lake Bosomtwe landscape in collaboration with A Rocha Ghana and Forest Services Division of the Forestry Commission. To scale up the restoration interventions in the landscape by raising quality planting materials whilst building the capacities of rural operators and women’s group in in the domestication and nursing of multipurpose trees (food, NTFPs, medicines and other uses etc.), two nurseries are under construction in Duase and Pipie in the Lake Bosomtwe landscape.

It is against this backdrop that IUCN is seeking a suitable consulting company into irrigation system to drill two (2) solar powered mechanised boreholes with irrigation systems in the 2 community nursery sites.

2. Objective of the Assignment

The main objective of this consultancy is to drill two (2) solar powered mechanized boreholes with irrigation system in the Lake Bosomtwe landscape, with one in each of the project districts where the nurseries have been established. This is to provide access to quality and reliable water supply for irrigation of community nurseries, demonstration farms, vegetable gardens, and for household consumption through an environmentally friendly and sustainable approach.

Specifically, it aims to :

- Undertake drilling site specific assessment and investigation with key consideration to environmental and social standards. This work will be conducted in collaboration with key partners including IUCN, A Rocha Ghana, Water Resources Commission, District Assemblies and communities in the siting process.
- Facilitate the drilling, construction, installation and mechanisation of two (2) solar powered boreholes with irrigation systems in Duase and Pipie in the Lake Bosomtwe landscapes

3. Deliverables/Expected results

The consulting firm will be expected to:

- Provide an inception report, submitted within 10 days of the conclusion of the contract. This inception report will specify, in more concrete terms, the borehole design and construction plan, the list of key stakeholders to be involved and a proposed format for presenting the deliverables expected from the assignment. The inception report will accompany the completion of part B of the Construction Validation Plan of Global Affairs Canada (Annex 1)

An interim report providing detailed information on drilling site specific assessment and investigation with key consideration to environmental and social standards, including coordinates of selected sites for the 2 boreholes.

- A final report presenting key results on the assessments, construction design and layout details, installation and mechanization processes for the two boreholes. This will take into account observations and recommendations from the Water Resources Commission and project partners.
- A list of key stakeholders including youth, men, and especially women representatives consulted for participatory priority setting.
- Hand over 2 solar powered mechanized boreholes with irrigation systems to IUCN and the project partners

4. Tasks/Responsibilities of the consultant:

The consultant will:

- Identify a feasible site for drilling to take place (sighting). Sighting should preferably be done within the selected beneficiary communities in the Lake Bosomtwe landscape.
- Begin with drilling after sighting. The drilling should ideally cover a depth of 100m and above if applicable, and upon the advice of the Water Resources Commission.
- Install irrigation systems including metal pipes (fixtures) to the required depth and placed appropriately for effective and efficient delivery of water.
- Install platforms for at least 2 poly tanks as reservoirs
- Test the functionality and quality of the water to ensure its security for human and animals' consumption and to measure its salt/metallic content.
- Undertake sufficient pumping tests and mechanize the boreholes for irrigation demonstration and domestic purposes
- Install solar panels on constructed mechanized boreholes together with functionality tests
- Provide maintenance trainings to the selected community/committee representatives to ensure proper management of the resource, including cleaning, lubrication, and simple repairs.

5. Methodological Approach

The consultant will be required to submit a detailed schedule of services, which must comply with the proposed methodology. The broad outlines of this methodology must include the following elements, among others:

- Drafting of the inception report 10 days after the scoping meeting. This report must include:
 - A detailed methodology of the assignment and a proposed format for presenting the deliverables expected from the assignment.
 - An inventory of stakeholders and a provisional schedule of field visits with them.
 - A borehole design and construction plan
- Reconnaissance surveys, borehole siting, drilling, installation and mechanization in the Lake Bosomtwe landscape

- Developing an interim report detailing community consultations, drilling site specific assessment and investigation with key consideration to environmental and social standards done in the landscape.
- Developing a final consolidated report detailing key results on the assessments, construction, installation and mechanization processes for the two boreholes. This will take into account observations and recommendations from the Water Resources Commission and project partners.

A scoping meeting with the consultant will be held to understand the ToR, validate the methodology and the assignment plan;

6. Duration of the assignment

The assignment will last (50) calendar days, spread over a maximum period of four months (June-September 2025) from the date of signature of the contract, including the time required to draft and submit the final report.

7. Organization and Consultancy Task Force Requirements

Consultants (Private consultancy firms, Individuals/Groups of experts) are invited to tender. The composition of the team to carry out the study must demonstrate the following areas of expertise and necessary skills:

Minimum Organization Requirements (consultancy firm):

- At least 7 years of experience in hydrogeological investigations and borehole and construction
- At least 7 years of experience in supervising borehole construction
- Knowledge in water resource management and planning
- Relevant experience in community entry process particularly in the Lake Bosomtwe landscape

Qualifications for Lead Consultant:

The lead consultant will work with at least two team members to undertake the assignment.

- A minimum of master's degree in civil engineering, geotechnical engineering or a related discipline.
- A minimum of 7 years of proven experience of working in Southern Ghana on similar assignments
- At least 7 years of relevant experience in hydrogeological investigations, borehole drilling, construction, and mechanization with strong knowledge in natural resource management, and environmental conservation.
- Proven expertise and experience in governance, institutional development for international organizations such as UN agencies.

- Relevant experience in supervising borehole construction
- A result-oriented candidate with proven track record.
- Ability to lead and facilitate engagements and experience of techniques and tools to encourage community participation
- Excellent oral and writing skills in English, good teamwork and interpersonal skills
- Fluency in local dialect of the project landscape is required.

Qualifications for Team Members

The composition of the team to carry out the assignment must demonstrate the following areas of expertise and necessary skills:

- A minimum of first Degree in civil engineering, geotechnical engineering or a related discipline.
- A minimum of 7 years of professional experience and proven expertise in hydrogeological investigations and borehole siting.
- At least 7 years of experience in supervising borehole construction
- Ability to work under pressure, and to deliver in a timely manner without compromising quality standards
- Excellent communication, and writing skills in English
- Have a good command of the languages of the study area
- Have carried out similar assignments in the various fields covered by the mission
- A result-oriented candidate with proven track record.

8. Selection criteria

The selection criteria will include a technical and a financial component. A weighting will be provided for each component as follows: technical weighting factor 70%, financial weighting factor 30%, the total score being a combination of these two percentages.

The technical component includes an evaluation of the three criteria below on the basis of the information provided in the proposal documentation submitted:

N°	Description	Information to Provide	Relative Weight
1	General consultancy experience, particularly in relation to borehole drilling, construction, and mechanization for irrigation purpose	- Company profile with relevant project summaries - List of past projects with locations, dates, and clients - Project completion certificates or client references (2)	20
2	Qualification of the offer: Understanding of the assignment, Relevance of the methodological approach and proposed implementation schedule;	- Technical proposal or methodology document - Describe in detail the methodology to be applied	30
2a.	Academic qualifications of consultancy team; - Expert in civil and geotechnical engineering - Expert in hydrogeological assessments including borehole siting, drilling, and construction with proven track records	- Updated CVs of key experts highlighting experience - Professional licenses or registration with engineering bodies	20
3	Consultants' experience in the field in question and the project landscape with proven track records of similar task with strong collaboration with the Water Resources Commission and District Assemblies	- Project list with detailed scope, dates, budgets, and clients-case studies can be used. - Recommendation letters from past clients and key stakeholders - Contract award letters or MoUs	30
	Total technical score		100

Only proposals that obtain a total score (technical score) greater than or equal to a value of 70% will be considered for the financial evaluation. Proposals scoring less than 70% will be rejected from the tender evaluation process.

Technical proposals with a value greater than or equal to 70% will be standardised by dividing their percentage by the maximum technical percentage of the proposal and converting this value into a percentage to give the standardised technical score.

The financial evaluation will be based on the total value of the work, the fees submitted in the proposal combined with the estimated total expenses (travel and subsistence, etc.) as defined by the bidder in its proposal. Each proposal price will then be normalised by dividing the lowest value of the bid price by the price of that proposal, and this value transformed into a percentage (financial score). Proposals that exceed the available budget will be disqualified.

The standard technical score will be multiplied by the technical weighting factor, the financial score multiplied by the financial weighting factor and the two weighted scores added together to provide a final weighted score for each bid achieving a technical score > 70%.

IUCN will then enter into contract negotiations with the bidder with the highest final weighted score, provided that all other bid criteria, as set out in this documentation, are also met and complied with.

9. Payment band

Deliverables	Deadline	%
Deliverable 0: Signed contract and payment of reimbursable expenses	0 days	0%
Deliverable 1: Inception report including a methodology note, a detailed work plan and supporting documents for reimbursable expenses;	10 days	30
Deliverable 2: Draft version of the construction report including all the assessments recorded	20 days	30
- Deliverable 3: Consolidated version of the final report, taking into account the partners' observations and recommendations. A list of key stakeholders, including representatives of young people and women consulted in the landscape	30 days	40%
TOTAL	60 days	100%

10. Submission file

Candidates interested in this service should prepare the following:

- The letter of submission addressed to the Regional Director of IUCN-PACO;
- A technical proposal including a short note explaining the objectives of the assignment, a description of the proposed methodology, a presentation of the implementation team with a description of the qualifications and skills of each member in relation to the assignment and the timetable for carrying out the assignment, including a summary of the team's previous similar experience;
- A detailed financial proposal including a detailed budget for the assignment. The financial offer will include all costs related to the execution of the service: fees, travel, office supplies and consumables. With the exception of fees, other costs related to the organisation of the feedback workshop should not be included in the consultant's financial bid.

- A proof of experience of similar work (service certificates or contract award letter);
- Detailed CVs of the proposed experts.
- Legal and administrative files

Proposals should be submitted in password-protected PDF format to the following addresses:

andre-marie.tine@iucn.org and procurement-paco@iucn.org

with the subject line: "**Proposal - Consultancy for Drilling of Two Solar Powered Mechanized Boreholes in the Lake Bosomtwe Landscape**" no later than 8th July 2025 at 23:59 (UTC-GMT).

The name of the person holding the passwords, their telephone number, Skype number and email address must be mentioned in the email sent. The Regional Procurement Manager, **TINE Andre-Marie**, will contact this person to obtain the passwords when the evaluation committee opens the files. Tenderers must not accept requests for passwords from other people.

Passwords should only be sent by email to " andre-marie.tine@iucn.org " and procurement-paco@iucn.org