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Republic of Ghana

WEST AFRICA FOOD SYSTEM RESILIENCE PROGRAM (FSRP2)

A Multiple Phase Programmatic Approach

Project Number: p178132

TERMS OF REFERENCE FOR:
CONSULTANCY SERVICES FOR THE CONSTRUCTION SUPERVISION OF SELECTED INLAND VALLEYS

ANUNUSO, WAAMU KUMI, ODAHO AND ODAMU VALLEYS ASHANTI REGION -Lot 1

MAY 2025

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LIST OF ACRONYMS

1D1F	One-District-One-Factory
1V1D	One-Village-One-Dam
BSc	Bachelor of Science degree
CGIAR	Consultative Group on International Agricultural Research
CPS	Centre-Pivot System
ECOWAS	Economic Community of West African States
ESIA	Environmental and Social Impact Assessment
FSRP	West Africa Food System Resilience Program
GCAP	Ghana Commercial Agriculture Project
GDP	Gross Domestic Product
GIDA	Ghana Irrigation Development Authority
ILM	Integrated Landscape Management
MDAs	Ministries, Departments, and Agencies
MOFA	Ministry of Food and Agriculture
MSc	Master of Science degree
NCoS	National Center of Specialization
WB	World Bank
WUA	Water User Association

1. INTRODUCTION

The Government of Ghana (GoG), through the Ministry of Food and Agriculture (MoFA) with support from the World Bank and in collaboration with the Economic Community of West African States (ECOWAS), is implementing the West Africa Food System Resilience Project (FSRP) Phase 2 under the World Bank Multi-phase Programmatic Approach (MPA) for Investment Project Financing Instrument. The FSRP Phase 2 consist of three countries namely: Sierra Leone, Chad, and Ghana. The FSRP Ghana, with a financing envelope of US$150 million is expected to be implemented over a 5-year period, commencing from June 2, 2023, to September 30, 2028.

The project development objective of the Food System Resilience Program is to increase preparedness against food insecurity and improve the resilience of food systems in Ghana. This development objective will be achieved through improving farmers' access to usable weather, climate and advisory services; improving access to local climate information services through digital information platforms; facilitating the co-production of services between private and public sector; increasing farmers' access to agricultural and nutrition sensitive technologies developed by a consortium of National Center of Specialization (NCoS), Consultative Group on International Agricultural Research (CGIAR) and other international research institutes; establishing spatial information system to design and plan climate resilience land management practices; promoting private sector involvement in regional agricultural trade; and supporting women farmers to access services to improve marketing along target commodity value chain.

The expected outcomes at the end of the FSRP include:

i. Program direct beneficiaries reach 300,000, of which 40% are women;
ii. Proportion of food insecure households in the targeted areas reduced by 25%;
iii. Food system actors accessing hydro- and agro-meteorological advisory services reach 211,200; of which 40% are women;
iv. Producers adopting supported climate-smart agricultural technologies and services reach 240,000; of which 40% are women;
v. Surface area under integrated landscape management increased by 4,850 ha; and
vi. Share of intra-regionally traded production in selected value chains (maize, rice) increased from 20% to 30%.

The FSRP is organized around five (5) core distinct but interrelated components to help achieve the objectives of the project. The project components include:

Component 1: **Improving digital advisory services to support timely agriculture and food crisis prevention and management** - This component aims at strengthening national capacity to provide demand-driven digital advisory services. This will include agro-advisory and impact-based hydromet/ climate information and early warning services, and promote their use for food crisis prevention, management, and response.

Component 2: **Sustainability and adaptive capacity of Ghana's food systems productive base** - This component consolidates the regional agricultural innovation systems and strengthens regional food security through integrated landscape management. These include strengthening regional

research and extension systems to deliver improved technological innovations including climate-smart, nutrition-sensitive, gender- and youth friendly technologies in a sustainable manner, as well as a combination of natural resource management with environmental and livelihood activities using the integrated landscape management approach.

Component 3: **Enhancing regional food market integration and agricultural inputs and output trade** - This component aims at expanding food trade in West Africa to enable effective distribution of surplus produce to deficit regions. It will facilitate the production and commercialization of agricultural products, inputs, and technologies within and across national borders. It also seeks to support the development of strategic and regional value chains i.e., (a) rice; (b) maize and (c) livestock (Poultry) with backward integration with the soya bean value chains.

Component 4: **Contingency emergency response –** This component aims at making available resources to strengthen the response capacity of the Government of Ghana in case of an emergency. This involved making available funding to respond to eligible emergencies or crises, including pest and disease infestation such as the Fall Army Worm, locusts, swine fever and bird flu; extreme droughts or floods; widespread and severe bush and wildland fires.

Component 5: **Project management -** This component involves establishing effective coordination, management, and monitoring and evaluation system for the project. These will include: (i) establishing and maintaining financial management and procurement systems; (ii) reporting on program activities; (iii) ensuring the full implementation of environmental and social risks and impacts management; (iv) maintaining and ensuring the performance of the monitoring and evaluation system; and (v) developing and implementing knowledge management and communication strategy and study tours, among others.

The Ministry of Food and Agriculture (MoFA) is the government agency responsible for the implementation of the project, together with technical partners such as Research Institutions; Ministries, Departments and Agencies (MDAs) as well as private sector organisations.

The FSRP Component 2 has two (2) sub-components namely;

- **a.** Sub-component 2.1: Consolidate the Regional Agriculture Innovation Systems Sub-component
- **b.** Sub-component 2.2: Strengthen Regional Food Security through Integrated Landscape Management

As part of activities under Component 2.2, FSRP will rehabilitate existing key irrigation facilities and develop some selected inland valleys. The Project has also completed studies on five (5) prioritized inland valley areas in the Ashanti, Bono and Bono East Regions to be considered for development into rice fields. Consequently, FSRP intends to apply part of the funds for eligible payments for the construction supervision for the development of the five (5) prioritized inland valley areas.

1.2 Inland Valleys/ Flood Plains

Inland valleys are increasingly being considered as Africa's future food baskets because of rapid population growth and climate change and unlocking their vast potential through ecological management could improve agricultural production and productivity. They are common landscapes that have favourable conditions for agricultural production. Compared to the surrounding uplands they are characterized by a relatively high and secure water availability and high soil fertility levels. With an estimated area of 190 million hectares (ha), Africa's inland valleys have a high potential for agricultural production for crops such as rice, maize, yam, vegetables and fruits and they contribute to income generation and food security for the rural population. Yet, their potential has hardly been tapped for agriculture.

However, besides being important for agriculture, inland valleys provide essential ecosystem services such as water retention, flood control, erosion control and biodiversity conservation, amongst others. Agricultural developments within the inland valleys must therefore be planned and implemented in a participatory way to assure sustainable use and exploitation of the resources among the users.

In Africa, only about 2% of the inland valleys are being used for crop production. FRSP believes that unlocking the vast potential of the inland valleys through improved roads and markets, and better water control through drainage infrastructures along with an integrated soil nutrient management, among others, would promote the sustainable agricultural use of inland valleys.

Table 1 below indicates some prioritised inland valley sites which were identified by the Ministry of Food and Agriculture (MOFA) and where Feasibility & Engineering Design Studies have been completed. The Design Reports produced include Design Drawings and Bidding Documents. ESIAs have also been completed for these prioritised valleys.

Table 1: **Locations of Prioritised Inland Valley Sites**

Lot	Name of Valley	Region	District	Location	Area Ha.	Coordinates
1	***Anunuso***	***Ashanti***	***Sekyere East***	***Brofeyedu, Anunuso***	***175 ha***	***6º 46' 18" N, 1º 15' 20" W***
	Waamu/Kumi	***Ashanti***	***Atwima Nwabiagya North***	***Aninkromah/ Kumi***	***114 ha***	***6º 48' 33" N, 1º 45' 26" W***
	Odaho / Odamu	***Ashanti***	***Ejisu Municipal***	***Ejisu***	***115 ha***	***6º 42' 6" N, 1º 27' 43" W***

2. OBJECTIVES OF THE ASSIGNMENT

The objectives of this assignment are:

- To supervise the construction of the water management (conveyance and drainage) system of the inland valley schemes for optimal use of the available water
- To establish effective scheme management on the developed inland valleys
- To obtain a corps of trained farmers to farm on the inland valley schemes.

3. SCOPE OF THE ASSIGNMENT

This assignment is a follow-up to the design phase, which involved the design of water management infrastructure for the development of the selected Inland Valleys. The consultant's responsibilities include Construction Supervision, Quality Assurance, Progress Monitoring, ensuring Environmental, Social, Health and Safety Compliance and Defects Liability Period Oversight.

Lot 1 consists of the Anunuso inland valley in the ***Sekyere East District***, Waamu/ Kumi valley in the ***Atwima Nwabiagya North*** District and Odaho/ Odamu inland valleys in the ***Ejisu & Juaben Municipalities*** of the Ashanti Region.

The assignment commences once the Environmental Permit has been renewed or obtained by FSRP for the schemes. The works shall be let out to private construction companies, and the consultant shall be required to supervise the construction and defects.

The assignment has been packaged into two phases. Phase 1 covers the construction supervision and Phase 2 covers attendance during the defect notification period and operationalisation of the scheme

The selected consultant is expected to undertake the following activities:

(i) Supervision of the construction of all infrastructure.
(ii) Finalise the Draft Operation and Maintenance Manual together with an effective implementation plan.
(iii) Finalise the Draft Organization and Management plan after discussion with stakeholders and set up an effective Water User Association
(iv) Finalise the recommendations for appropriate machinery and equipment for land preparation, cropping, harvesting and for carrying out routine maintenance works

4. DETAILED ACTIVITIES TO BE UNDERTAKEN BY THE CONSULTANT

The consultant shall act on behalf of FSRP on all matters related to the construction of the works and shall consult regularly with FSRP management and its technical partners (GIDA) when major decisions have to be made in all aspects of the Assignment.

4.1 Phase 1-Construction Supervision:

FSRP shall arrange a start-up meeting for the Consultant, Contractors and all stakeholders. Discussion shall focus on the responsibility of all parties. The consultant shall commence the construction supervision of the works from this point and shall report periodically as determined in this Terms of Reference, or as may be determined by FSRP. Activities to be undertaken by the Consultant during the Construction Supervision Phase of the assignment include the following:

1. Carry out a review of the designs for the Inland Valleys
2. Participate in introduction of works contractors to sites

3. Supervise contractors during physical construction of the water management systems to ensure construction is done according to the standards, design and specifications.
4. Carry out quality assurance of all construction materials
5. Ensure contractors' compliance to technical specifications and design drawings
6. Ensure contractors' compliance with environmental, social, health and safety risks and impacts management requirements
7. Carry out any revision of designs when necessary.
8. Timely advise the client on issues of non-compliance on the part of the contractor(s) with regards to technical, environmental, social, health and safety requirements
9. Verify and approve payments and/or claims submitted by the contractor for payment.
10. Organise site meetings or monthly progress meetings.
11. Prepare reports periodically to inform FSRP and GIDA of all matters affecting the works.
12. Facilitate the issuance of the certificate of practical completion (as well as the interim completion certificate) to the contractor.
13. Ensure all identified defects are duly rectified by the Contractor (s)
14. Organise site meetings and other periodic visits during DNP
15. Submit Completion Report, Final Account, and all other relevant documentation
13. Validate the Final Management, Operation and Maintenance (MOM) Manual to be submitted by the Contractor in line with the as-built irrigation system.
14. Validate the As-built drawings of the water management system in both hard and soft copy submitted by the Contractor.
15. An end of Construction Supervision Report detailing information on the system, major activities carried out and the total cost of the completed water management system.
16. Lead the process of closing out the projects

4.2 Phase 2-Defects Notification Period

During this period, the Consultant shall carry out the following activities

a) operationalisation of the scheme involving setting up the WUA and training them in the operation and maintenance of the scheme
b) ensure the contractor makes good on all defects which will be noticed during the DNP.

The Consultant shall organise other key activities, including the preparation of Final Account, Issuance of Maintenance (Final Completion) Certificate and Release of Retention for closure of the contract.

5. DURATION, EXPECTED DELIVERABLES AND REPORTING REQUIREMENTS OF THE ASSIGNMENT

5.1 Duration of the Assignment

Based on the work schedule from the design studies conducted and experiences from similar projects executed by MOFA, the period for the conduct of the assignment is expected not to exceed the months indicated in Table 2 below. It is expected that the contract will commence in January 2026.

Table 2: Duration of Assignment for the Lot

Lot	Construction Period (months)	Defect Notification Period (months)	Total Duration (months)
Lot 1	18	12	30

5.2 Expected Deliverables and Reporting Requirements

The Consultant shall be required to submit agreed Deliverables and Reports during the Construction Supervision Stage. These Deliverables/ Reports will be submitted to FSRP for review and comments.

The following reports will be submitted to FSRP and GIDA with respect to the supervision of the Works and attendance during the DNP:

- Mobilisation Report
- Design Review Report
- Monthly Reports
- Quarterly Reports
- Annual Reports
- Final Reports
- Special Reports

a. Mobilisation Report

The Mobilisation Report will describe the planning the Consultant has established for the construction supervision aspect of the Assignment, the staffing plan, and remarks as deemed appropriate. This report will update the methodology and programme of work that was included in the proposal and used as a basis for agreed pricing, noting the changes, and detailing any difficulties encountered, together with a proposal on how they may be overcome. FSRP and GIDA will comment on the Mobilisation Report. The Consultant's established programme of work may be revised from time to time, but acceptance by FSRP and GIDA must be sought each time.

The Mobilisation Report will include at least the following:

- Methodology
- Scoping
- A statement defining the proposed supervision services, including:
    - methods and parameters;
    - any changes to the composition of Consultant's team and specialists needed;

- methods of consultation with FSRP, GIDA, MOFA and Stakeholder Organisations;
- Methods of consultation with the contractors, including Quality Assurance and Health and Safety issues;

- Proposed methodology for tracking compliance with World Bank Environmental and Social Standards, applicable GOG environmental laws and regulations, EPA and other statutory permit conditions, site-specific Environmental and Social Impacts Assessments (ESIAs), and Environmental and Social Management Plans (ESMPs).
- Detailed program of work, showing time, duration and personnel deployment as well as the inter-relationship between activities.
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- **b. Design Review Report**

The consultant shall submit a Design Review Report, if necessary. The report must cover the full scope of the works and indicate clearly where there are design changes. The revised designs must provide better results and provide value for money.

c. Monthly Reports

The Consultant shall submit comprehensive monthly reports on the progress of the works. The Monthly Reports will address the following, among others:

- Overall progress of work
- Programme (including forecast) for the coming month
- Activities of Consultant
- Financial forecast and projection of the works
- Revised programme for the completion of Works
- Summary of progress and challenges
- All necessary contract data (both financial and physical)

The monthly report for each third month shall be presented as the cumulative quarterly report for the period under consideration.

d. Quarterly Progress Reports

The Consultant shall submit a comprehensive summary of activities and progress of work in the last three months in lieu of the Monthly Progress Report for that particular month. In addition, quarterly reports shall be submitted during the DNP. The Quarterly Reports shall include, among others, the following topics:

- Progress of work for the last quarter
- Programme for the upcoming period
- Record of Defects
- Remedial Action Plan to be carried out.

e. Minutes of Meetings

The Consultant shall issue comprehensive minutes of regular and special meetings and distribute copies as required. During this Construction Phase, the minutes of the regular meetings may be attached to the works Monthly Progress Reports or, depending on the circumstances, may be submitted as separate documents.

f. Substantial Completion Report

This shall be submitted prior to issuance of the Taking-over certificate when the Contractor has notified of substantial completion of whole, section or part of works. This Report shall include the Defects List as well as the DNP.

g. Final Report

A Final Report, including the approved "As-Built" drawings (to be submitted by the Contractor), will be submitted within 4 weeks after issuance of the Final account and Completion Certificate to the Contractor.

h. Special Reports

The Consultant shall issue if the need arises, ad-hoc reports related to the performance of the Works contract. Dispute/litigation or even arbitration, acquisition of land, evaluation of claims, changes of the design, etc. are among the issues the Consultant is likely to be requested to advise on within the scope of the assignment.

Table 3: **Reports -Construction Stage & Defects Liability Period**

S/N	Description of Report	No of Printed Copies	Timeline	Cumulative Period (M + 0 months)	Remarks
1	Mobilization Report including Work Program	3	0.5 months after commencement	M + 0.50 months	Submit soft copies of ALL reports
2	Design Review Report	3	1.0 months after commencement	M + 1.50 months	
3	Monthly Report	3	Every month		
4	Quarterly Report	3	Every Quarter		
5	Substantial Completion Report	3	Lot 1 - 17.5 months after commencement	M + 18.00 months	
			Lot 2 - 23.5 months after commencement	M + 24.00 months	
			Lot 3 - 11.5 months after commencement	M + 12.00 months	
6	Final Account, Issuance Maintenance (Final Completion) Certificate	3	12 months after the commencement of the Defect Notification Period	M + 30.00 months	For Lot 1 Release of Retention
				M + 36.00 months	For Lot 2 Release of Retention
7	Consultant's Final	3		M + 24.00	For Lot 3

	Report including as-built-drawings			months	Release of Retention

The consultant must submit soft copies – in both Word and PDF formats of all reports.
The work program must make sufficient time for review of the reports by FSRP and other stakeholders so that comments can be incorporated into the final reports.

6. SCHEDULE OF PAYMENTS

The Construction Supervision Assignment shall be a time-based Contract and as follows:

i. 20% of the Contract Sum will be paid on acceptance of the consultant's Mobilisation Report by PIU/ MoFA.
ii. 8.75% of the Contract Sum shall be paid on achievement of quarterly milestones by the consultant by the PIU/ MoFA.
iii. 10% of the Contract Sum will be paid on acceptance of the consultant's Completion Report by PIU/ MoFA.

7. STAFFING REQUIREMENTS

The indicative Key Personnel requirements for the construction and defects notification period is shown in the table below. The consultant is, however, invited to suggest a team and their staff input months that will best achieve the objectives of the assignment.

A summary total input that will be required for the Construction Supervision and DNP for is indicated in Table 4 below.

Table 4: Total Input Months

Lot	Total Input Month
Lot 1	226.6

The details are as shown in Table 5 below. **The Consultant is free to organise the team and allot the time as it deems fit to achieve the objectives of the assignment.**

Table 5: **Key personnel for Construction Supervision &DNP**

S/N	Key Personnel	Lot 1	
		Minimum Number Required	Total Input Month
1	Water Resources Management Specialist – Resident Engineer/ Team Leader	1	36.4
2	Irrigation and Drainage/ Design Engineer - Deputy Resident Engineer/ DTL	1	21.8
3	Construction/ Contracts Manager	3	46.5

S/N	Key Personnel	Lot 1	
		Minimum Number Required	**Total Input Month**
4	Geodetic Engineer	3	44.7
5	Quantity Surveyor	1	8.4
6	Materials Engineer	1	10.0
7	Environmental Expert	1	15.0
8	Sociologist	3	27.3
9	Health & Safety Expert	3	16.5
		Total	**226.6**

Note: For Lot 1, the proposed number of experts and Input months are for all three valleys.

Support Staff Inputs

The Consultant is free to make any variation with equivalent experience and qualifications to the suggested staff as required to effectively carry out the assignment. Provision should also be made for supporting staff. The indicative supporting staff requirements are indicated in Table 6:

Table 6: **Supporting staff for Construction Supervision &DNP**

S/N	Supporting Staff	No. Required
		Lot 1
1	Technician Engineers (Civil & Earth Works Supervisors)	3
2	Technician Engineers (Materials)	3
3	Survey Technicians	3
4	Secretary/ Office Assistant	1
5	CAD Experts	2

Bidders are free to quote their own input-month for the Supporting Staff

8. RESPONSIBILITIES AND QUALIFICATIONS OF KEY PERSONNEL

Water Resources Management Specialist/ Resident Engineer

The Resident Engineer shall be responsible for the review of the designs and will be responsible for all the services associated with the technical control of the construction works. He / She shall perform the duties of the Engineer as defined in the Construction Contract and be responsible for the Construction Supervision Team. The Resident Engineer is expected to be based on-site full time during the construction period.

Among his/her specific duties are:

- Overall supervision of the construction works.
- Ensuring that works are carried out in accordance with Technical Specifications and contract documents
- Approve the Contractor's Work Programme and monitor the implementation
- Advise GIDA on all matters relating to the Project as may be necessary for the satisfactory performance of his duties, including:
  - ✓ Contractor's claims for extension of time, extra compensations, work or expenses, etc;
  - ✓ Changes in contract document;
  - ✓ Change orders;
  - ✓ Problems or potential problems, which may arise in connection with the construction contract;
  - ✓ Disputes, and matters relating to arbitration.
- Organize Site Meetings and prepare minutes of the same;
- Check and clarify Interim Payment Certificates;
- Keep records of all communications with the contractor;
- Prepare Mobilization, Monthly Reports, and Quarterly Reports on the progress of the works;
- Supervise the preparation of "as-built" drawings;
- Ensure the application of sound quality control procedures for all aspects of the work.
- Assist FSRP in the substantial completion, inspection, final inspection and handing over of the completed works;
- Prepare Final and Completion Report, identify any contractual problems which may have arisen during the implementation of the project and make appropriate recommendations for mitigating these in future contracts.

- The Resident Engineer shall have a BSc qualification in Engineering and postgraduate qualification in Integrated Water Resources Management or related field. He/She must have at least twelve (12) years post-qualification relevant experience. He/she should demonstrate experience from at least three (3) projects of similar nature and complexity, of which at least one must be from Sub-Saharan Africa. He/She must belong to a recognized professional institution. Fluency in written and spoken English is essential.

Drainage and Irrigation Engineer/ Deputy Resident Engineer (DRE)

The Deputy Resident Engineer shall assist the Resident Engineer to carry out all his responsibilities and shall act in the absence of the Resident Engineer. He/she shall coordinate the Geodetic Engineer, Quantity Surveyor and Construction/ Contract Engineer's activities. He/she may be given any other assignment as may be necessary by the Resident Engineer.

The person for this position shall have a first degree in Civil, Agricultural, Irrigation, Drainage Engineering or related field with either post-graduate Diploma or higher qualification in Drainage and at least ten (10) years' relevant experience or practice in drainage design and construction in irrigation or agriculture. He/she should demonstrate experience from at least two (2) projects of similar nature and complexity, of which at least one must be from Sub-Saharan Africa. He/She must belong to a recognized professional institution. Fluency in written and spoken English is essential.

Construction/ Contract Management Expert

The Construction/ Contract Management Expert would be responsible for checking and verifying the Contractor's payments and claims, in particular, applications for mobilization and interim payments. He/She will verify issues of variations on behalf of the Employer, having regard for the project budget, or on the Employer's instructions. He/she shall provide Monthly Cost Reports to the Employer to ensure currency of information regarding the financial status of projects and also prepare and certify the Final Account for the Works.

He/She will assist in carrying out the engineering design review of all components of the irrigation and drainage system, detailing all irrigation layouts, ensuring that all the component elements are taken into consideration in arriving at final layouts.

He/She must have a Bachelor's Degree in Civil/ Structural Engineering, Construction Management or related field and an MSc in Project Management. He/She should have at least ten (10) years general experience in the field of construction of which at least five (5) years should be in project management/Contract Administration. Must have experience managing at least two (2) projects similar in nature and scope. Must be registered with a Professional Institution and evidence of current certificate submitted.

Geodetic Engineer

The Geodetic Engineer shall be responsible for validating the setting out and works controls during construction stage. He/She shall assist the Resident Engineer to monitor the construction process. He/She must have a minimum qualification of B.Sc. (Eng.) – Geodetic/Geomatic Engineering with a minimum of five (5) years' experience in civil works (irrigation, road, etc) construction. Must be registered with a Professional Institution and evidence of current certificate submitted.

Quantity Surveyor

The Quantity Surveyor shall be responsible for Site measurements of works executed by the Contractor. He/she shall assist the Resident Engineer in ensuring works are executed within the limits of the Contract. He/she shall be responsible for advising the team on cost.

He/she has to be qualified with a minimum of B.Sc. Degree in Building Technology or Quantity Surveying and a minimum of 7 years working experience in the field of Irrigation Construction and/ or civil works. Must be registered with a Professional Institution and evidence of current certificate submitted.

Material Engineer

The Material Engineer shall be responsible for certifying all ground investigations reports as well as construction materials testing reports. He/She shall ensure material properties meet standards as specified in the construction specifications.

He/She must have a minimum of BSc. Materials engineering with a least seven (7) years working experience in the field of ground investigations and construction materials investigation. Must be registered with a Professional Institution and evidence of current certificate submitted.

Environmental Expert

The Environmental Expert will be responsible for ensuring implementation of Environmental risks and impacts mitigation measures in accordance with the approved Environmental and Social Management Plans and other pertinent requirements as detailed in the Technical Specifications. He/She will also ensure compliance with applicable statutory environmental permits and conditions.

The Environmental Expert will have an advanced degree in environmental planning, environmental engineering or similar discipline and at least seven (7) years of experience in the implementation of environmental risks management including experience in similar projects and geographical areas. He/She should demonstrate experience from at least two (2) project of similar nature and complexity.

Sociologist

The Sociologist shall be responsible for the review of social and gender issues on operations of the inland valley sites under construction. He/She shall sensitise, organise, and mobilise the beneficiary FBO groups on the usage of the irrigation facilities.
He/She shall facilitate issues relating dispute/conflict resolution during construction period. He/She will be responsible for social risks and impacts mitigation measures in accordance with the Project's ESMP and other pertinent requirements as detailed in the Technical Specifications.

He/She shall have a minimum qualification of an MSc (Sociology, Social Sciences or related field) with at least 7 years' relevant experience. He/She should demonstrate experience from at least two (2) projects of similar nature and complexity.

Health and Safety Expert

The Health and Safety Expert will be responsible for ensuring implementation of Health and Safety risks and impacts mitigation measures in accordance with the approved ESMP Management Plans and other pertinent requirements as detailed in the Technical Specifications.

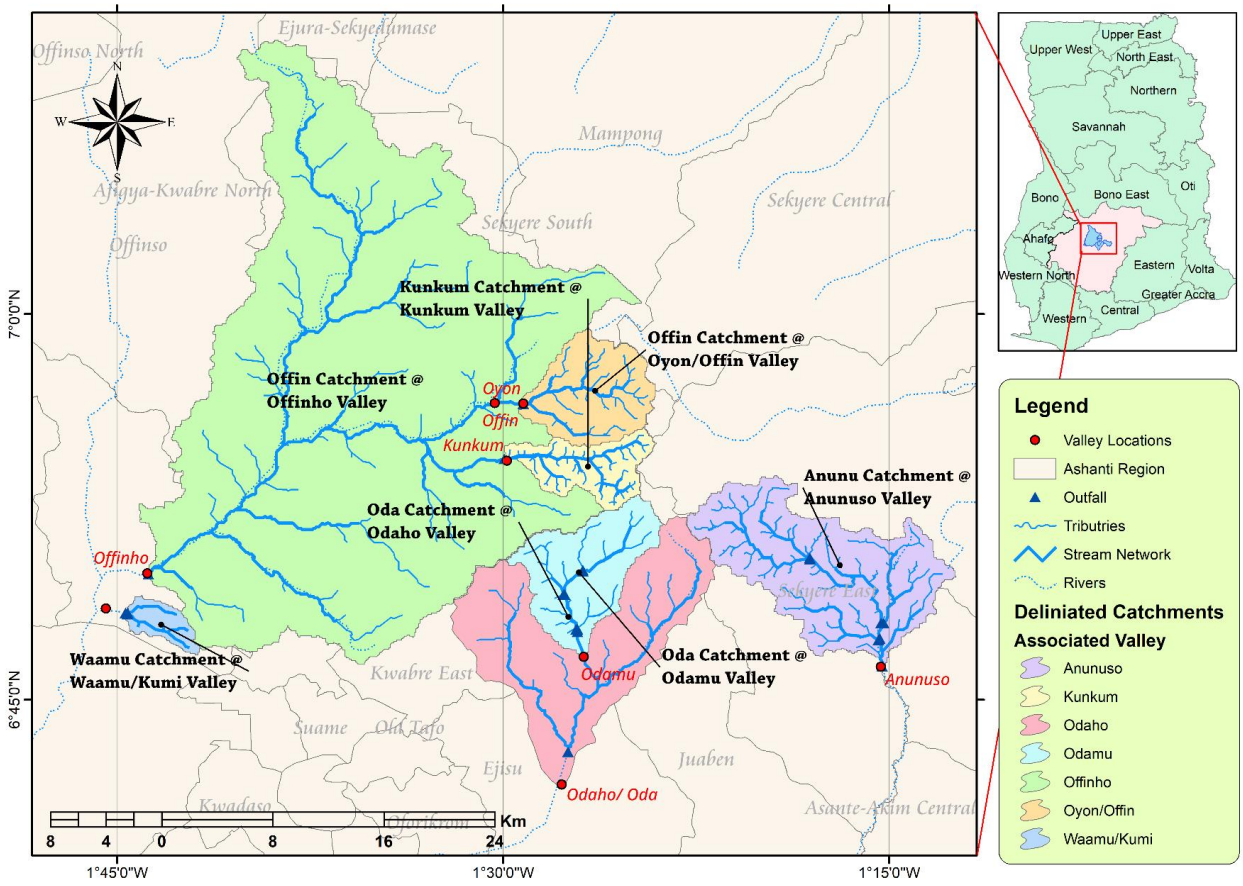
The Health and Safety Expert will have an BSc degree in Public Health, or NEBOSH Health & Safety Certificate in Construction or similar discipline and at least five (5) years of experience in the implementation of health and safety, including experience in similar projects and geographical areas. He/She should demonstrate experience from at least two (2) projects of similar nature and complexity.

9. SERVICES AND FACILITIES TO BE PROVIDED BY CLIENT

The client will provide the following:

a) required coordination for the Assignment.
b) relevant reports and other project documents related to the assignment.
c) advisory services on logistical arrangements for field work as required.
d) assist the consultant in all relevant local matters to ensure the smooth implementation of the assignment.

APPENDIX 1: LOCATION OF INLAND VALLEYS IN ASHANTI REGION



Map showing all the Catchment Areas for all Valleys in Ashanti Region

LOCATION OF Inland Valley in the Bono East Region in Ghana