**ALBANIA**

**Climate Resilience and Agricultural Development Project**

**Terms of Reference** (*Draft*)

**Consulting Services**

*for*

**Design and supervision consultancies (Modernization of Drainage Systems)**

**Reference: AL-MARD-389935-CS-QCBS**

1. **BACKGROUND AND SUMMARY OF THE PROJECT**

The World Bank is assisting the Government of Albania (GoA) with the financing of the Climate Resilience and Agriculture Development project (CRAD). The Ministry of Agriculture and Rural Development is the lead implementation agency for this Project (MARD).

This project aims to increase competitiveness and climate resilience of priority agri-food value chains. The expected outcomes from the project are: (i) increased supply/sales to local agri-food businesses, (ii) increased agricultural productivity and production, lower costs and extended production season (iii) improved traceability, farmer’s market integration and the compliance with food safety and quality requirements, (iv) evidence-based decision making for resilience and sustainable agri-food systems.

The Climate Resilience and Agriculture Development Project (CRAD) is set to deliver a range of strategic outputs include:

1. **Irrigation and Drainage Schemes**:
   * Modernization and pressurization of the Divjaka and Mursi irrigation schemes, including the installation of smart meters and SPV systems.
   * Upgrading and modernizing drainage systems in coastal areas with efficient pumps and SCADA systems.
2. **Border Inspection Posts (BIPs) and Laboratories**:
   * Establishment and upgrading of BIPs to perform official controls and meet international standards.
   * Improvement of diagnostic laboratories for food safety, veterinary, and plant health analyses.
3. **Climate Smart Agriculture (CSA) Platform**:
   * Development of an IT platform to collect and analyze data on soil types, hydrometeorological conditions, and agricultural practices.
   * Implementation of CSA practices to guide farmers towards resilient agricultural practices.
4. **Micro Food Hubs and Product Clusters**:
   * Construction and operationalization of MFHs in peri-urban areas to facilitate market access for local producers.
   * Development of typical food product clusters to promote value addition and market integration.
5. **Capacity Building and Technical Assistance**:
   * Training of laboratory staff and other relevant personnel to enhance their capabilities in performing assigned tasks.
   * Provision of technical assistance for the development of business plans and operational guidance for MFHs and clusters.

The Project consists of the following components, which will support the project objective:

1. Promoting Climate Smart Agriculture and Access to Markets

2. Enhancing Compliance with Food Safety and Quality Standards

3. Strengthening Evidence-based Analysis Capacity of MARD and Municipalities

Although Albania is favoured by water resources and has an annual average rainfall of 1,485 mm, the fact that about 20 percent of the total of rainfalls during the summer period makes irrigation indispensable. An estimated 360,000 hectares have been equipped for irrigation, 280,000 hectares for drainage and 130,000 hectares for marine flood protection, but in 2009 only 80,000 ha was irrigated (22 percent of the equipped area). About 626 agricultural reservoirs provide 0.56 billion m3 of water for irrigation purposes mainly during the hot and dry summer season. Irrigation is the country’s largest consumptive water user– and by far the least efficient.

The sector, which is regulated by the MARD, also consumes a considerable share of public resources which is required to operate, maintain, and upgrade the irrigation and drainage (I&D) infrastructure and secure the safety of the irrigation dams and flood protection systems.

The World Bank has been the main partner of the GOA in supporting the I&D sector and institutions since 1994. The CRAD Project will finance the modernization of Selected Irrigation and Drainage Schemes for High-value Agriculture Production under Components 1 - Promoting Climate Smart Agriculture and Access to Markets.

These Terms of Reference (TORs) relate to the consultancy services for Detailed Design and Supervision for the reconstruction and modernization of two drainage pumping stations, namely no. 2 (in Seman), and no. 3 (in Darëzezë) under Component 1.

**Description of the existing situation**

Both drainage pump stations, Hydrovor no. 2 (in Seman) and Hydrovor no. 3 (in Darëzezë), are located in the western coastal part of the district of Fier, between the rivers Seman and Vjose and drain a total agricultural area of 9600 ha. Some key technical data for Hydropower stations of drainage located on the coastline between the rivers Seman and Vjose in Fier are given below.

Drainage pumping stations together, Hydrovor no. 2 Seman and Hydrovor no. 3 New Darezezë drain about 9,600 ha of the Hoxhara plain, where about 10,000 farmers practice agricultural activity with an average of about 0.8-1 ha per farmer. The proposal for the reconstruction and modernization of these sewage pumping stations is justified on the basis of technical, agricultural and flood protection considerations.

***Agricultural aspects.***The structure of crops in the Hoxhara plain is dominated by cereals about 25%, vegetables about 10%, other crops (beans, potatoes, sunflowers, etc.) about 7%, fodder about 48% and fruit trees about 10%. Being a surface with depressed areas, ensuring drainage is a primary necessity to pave the way for irrigation and all agricultural and livestock activities that take place in this area.

***Flood protection.***The two drainage pumping stations (Hydrovor no. 2 Seman and Hydrovor no. 3 Darzezë e Re) as well as the drainage pumping station Hidrovor no. 1 (in Darëzezë, rehabilitated in 2005 with the World Bank project) function first to guarantee the drainage of the Hoxhara field (in total about 17,100 ha), which is characterized. as a low depressed area and drainage is necessary not only for agricultural purposes but also in the service of residential areas and economic activities that take place in this area. Second, the drainage pumping stations are part of the flood protection scheme from the Vjosa river in the Hoxhara plain. This is due to the fact that frequent exits from the bed of the Vjosa river, on the right side of the stream, flood the Hoxhara field and the only possibility to remove water from this field is the joint operation of these drainage pumping stations.

***Technical aspects*.** In the two sewage pumping stations (Hydrovor no. 2 Seman and pumping station no. 3 new Darzezë) 9 (nine) electric pumps have been installed, of which 7 (seven) electric pumps are manufactured Hungarian type kkw-1400 with maneuverable blade angle control mechanism and 2 (two) electric pumps are Chinese production, type 28 ZLB-70. Despite frequent repairs, there has been a significant drop in pump capacity and energy efficiency, where for the same amount of water removed, electricity consumption has been higher than normal. The long use and very corrosive working environment due to the presence of salt water and sewage from some residential areas caused the wear of the joints in the suction tubs, the wear of the propellers, the wear of the large steel & bronx bushing of the axle large size of the group of blades, of the connecting rod system of the control mechanism of the pump blades, the enlargement of the diameter of the propeller chamber, the total damping of the suction diffuser pipeline as a result of corrosion from rust due to the presence of salt water, the total damping of the delivery pipeline along with the check valve. The cumulative effect has been a significant increase in O&M costs.

Improving the performance of these axial pumps with a maneuverable mechanism at the angle of the vanes by replacing the worn parts is almost impossible due to obsolescence and the lack of replacement parts in the market. Two electric pumps of Chinese production, type 28 ZLB -70, in the hydraulic vessel no. 2 weeks. Until now, kkw-1400 type pumps have been kept in operation using some spare parts stored in warehouses. Also, due to severe corrosion, removing a pump from its base, repairing and reassembling it, is becoming practically impossible. All parts of the pump in contact with water have lost their stability. Under these conditions, it was estimated that the nominal capacity of these pumps has decreased to about 30-40%, which translates into a decrease in the indicators of the designed drainage hydromodule, which should be about 6 liters/second/ha.

Replacement of axial electric pumps with a maneuverable blade angle mechanism with submersible pumps of KPL models (pumps with axial flow of water designed for high flows with small head) or KWM (pump with mixed flow of water designed for high flows with medium head) where the role of the mechanism for changing the angle of the propellers during work will be I create inverter electrical equipment VFD (Variable frequency driver) or VSD (Variable Speed Driver). The inverter is an intelligent device that reduces the number of revolutions from zero to the nominal value of the number of revolutions that the pump itself has by changing the frequency.

This replacement will have its own impact in saving electricity because we have inverter equipment, savings in investment costs, savings in lubricants, oil and grease, quick time in service and repairs of the electric pump and permission to work conditions because the levels are reduced acoustic.

The reconstruction of these hydropower stations is intended to be in a contemporary dimension, simultaneously including the modernization/automation of the work processes of the submersible electric pumps. Specific technical interventions include the replacement of nine electric pumps, the reconstruction of the building and all the building's electromechanical systems, the installation of modern cleaning and waste removal equipment in the suction rooms of the electric pumps and the installation of the control system and electric pump monitoring (SCADA). The replacement of the axial electric pumps would allow not only to achieve the designed capacity, but also to improve the capacity over the designed one by about 20%, which would increase the drainage hydromodule to about 7.3 liters/second/ha, which would increase the safety from floods.

*Innovations.* In addition to the modernization of drainage pumping in two stations, solar panels will be installed in all 27 pumping stations, which will contribute about 20-25% to the annual balance of energy consumption by hydropower plants compared to the total annual consumption. The total area of the territory of the two drainage pumping stations (no. 3 and no. 2) is about 5680 m 2, while the area occupied by the buildings is about 670 m 2. The use of surfaces for the installation of solar panels will be specified during the preparation phase in order to comply with:

* Normal operation of the Hydrovor
* the rules of technical insurance at work;
* auxiliary infrastructure for performing relevant maintenance services inside and outside sewage pumping stations.

Regarding the implementation of the SCADA system, initially this system will be operationalized in the two drainage pumping stations, which will then be expanded to other drainage stations.

1. **OBJECTIVES OF THE ASSIGNMENT**

Ministry of Agriculture and Rural Development seeks the Consultancy Services of a qualified company/firm to assist Ministry of Agriculture and Rural Development in the Preparation of Detailed Projects and Tender Documents for the Reconstruction and Modernization of the two Drainage Pumping Stations, no. 2 (in Seman), and no. 3 (in Darëzezë), technical specifications for solar panels, as well as the relevant supervision of construction works.

The consultant will also coordinate with stakeholders and facilitate communication between all parties involved in the process.

These Terms of Reference (ToRs) are tailored to the needs of the Ministry of Education and Culture to ensure the satisfactory completion of the Civil Works construction.

The Consultant shall be responsible for providing qualified professional and support staff and all necessary services required for the efficient cost-effective and timely execution of the Consulting Services.

1. **SCOPE OF SERVICES AND TASKS (COMPONENTS)**

To achieve the objectives of this assignment, the Consulting Company responsible for the Design and Supervision of Civil Works will generally perform the following tasks/activities to the satisfaction of the client and standard engineering practices as described below. The Consultant shall provide full Design and Supervision services during the execution of the Civil Works, also extended from time to time during the Defects Liability Period (DLP), as required and technical specifications for the solar panels.

**The scope of work will include:**

Preparation of Technical Reports and Detailed Designs for the rehabilitation and modernization of the two drainage pumping stations, namely Hydrovor no. 2 (in Seman), and Hydrovor no. 3 (in Darëzezë). The rehabilitation and modernization of the pumping station will include, but not limited to, structural interventions, replace the pumps, install a SCADA monitoring and operation system, install new motorized cleaning screens, etc.;

* Preparation of Bill of Quantities and Cost Estimates, Technical Specifications;
* The necessary assistance for the Project Management Team (PMT) at the Ministry of Education, Culture and Sports, and the Fier Irrigation and Drainage Directorate, in the process of approving projects and obtaining the necessary permits from the relevant institutions;
* Preparation of technical specifications of solar panels for two drainage pumping stations, namely no. 2 (in Seman), and no. 3 (in Darëzezë).
* The necessary assistance for the Environmental Management Plan in the Ministry of Agriculture and Rural Development, in the procurement process and
* Supervision of civil works and supply/installation of equipment at drainage pumping stations, Hidrovor no. 2 (in Seman), and water reservoir no. 3 (in Darëzezë), as well as their certification after completion according to the requirements of the Contract(s).

The preparation of the above-mentioned technical documents will be carried out in accordance with the Albanian National Standards for Design/Construction, and international best practices, based on the existing documentation provided by the beneficiary MARD and the Directorate of Irrigation and Drainage, Fier.

The consultant will be responsible for managing the process of preparing all technical documentation. He will carry out the necessary surveys, both topographical and geological, of new/existing facilities and adjacent areas, especially those involving additional works and/or equipment installations. He will establish contacts with the Regional Directorate of Irrigation and Drainage, Fier (under MARD), who are direct beneficiaries of the interventions covered by this project. The consultant will report and request final approvals from the Client - PMT to the Ministry of Agriculture and Rural Development.

* 1. **DUTIES AND RESPONSIBILITIES OF SUPERVISION CONSULTANT**

To assist the Client for the satisfactory completion of the construction of the Civil Works, the activity of the Consultant is divided into 2 (two) phases: (i) Design and assistance in the preparation of the Tender Documents for the Civil Works and the Technical Specifications of the Solar Panels, and (ii) Supervision of Civil Works. The consultant will perform, but not be limited to, the following duties.

**3.1.2. DUTIES AND RESPONSIBILITIES OF THE CONSULTANT IN THE DESIGN PHASE**

The consultant will perform the following tasks, in consultation with the Client (Implementation Unit at Ministry of Agriculture and Rural Development):

1. Preparation of detailed projects (including architectural and structural ones) for drainage pumping stations; This task requires the consultant, under the supervision of the Client, to prepare the appropriate technical designs and specifications for civil works, as well as technical specifications for the supply and installation of equipment for drainage pumping stations; this task also includes hydrological/hydraulic and drainage structures and systems.
2. Performs the necessary topographical and geological surveys; where deemed appropriate, especially for civil works.
3. Preparation of drawing details for access to other services (water, sewerage, electricity, etc.), where necessary, and internal systems (communication, security, electrical panels, etc.) of new/existing facilities;
4. Preparation of quantity calculations and cost estimates for sewage pumping stations;
5. Preparation of technical specifications of solar panels for two sewage pumping stations;
6. Assisting EMP in the preparation of tender documents for designated sewage pumping stations. The consultant, under the supervision of the client, is required to prepare tender documentation for civil works and equipment supply/installation, in accordance with the Bank's standard tender documents and instructions;
7. Provide initial information for the preparation of the protective documentation, as defined in the project framework document, and of the environmental and social assessments, including the relevant management plans.
8. Assist and provide the necessary documentation for the Client to obtain permission from relevant institutions (including, but not limited to, construction permit and environmental license);
9. Prepare and submit the Index of Drawings and technical documents;
10. Reflect and incorporate into the final detailed design and tender document customer and bank feedback.
11. Assist Client Committee(s) in evaluating bids and awarding contract(s).
12. Also, progress meetings will be held regularly with the Client to present the situation on the ground and the progress in the preparation of the projects of the proposed interventions;

The duration of the drafting and preparation of the civil work contract tender documents will be **3** (**three) months**.

**3.1.3 DUTIES AND RESPONSIBILITIES OF THE CONSULTANT IN THE SUPERVISION PHASE**

The consultant is expected to review and improve, when necessary, his plans, administer work contracts and ensure that contractual clauses, whether related to the quality or quantity of work, are respected. The consultant will make the necessary measurements and control the quality of the works and coordinate ‑all engineering decisions, including the improvement of the designs, if necessary or necessary, for the good execution of the contract(s). However, the Consultant will seek the prior approval of the Client for:

1. Any design modifications
2. Issue changes in work quantities, changes in equipment specifications;
3. Sanction additional items, amounts or costs;
4. Approves the leasing of any part of the works;
5. Approve any extension of time for completion.

The Oversight Consultant will perform the following tasks, in consultation with relevant parties as appropriate:

1. In agreement with the Client issues orders for the start of works; to keep the record of the beginning of the works and the determination of grades.
2. administers civil works contracts, approves the declaration method for materials and the quality of works in accordance with the contract and monitors laboratory testing of contractors;
3. administers contracts for goods, supply and installation of equipment, ensuring their compliance with technical specifications;
4. approve the work programs of the Contractor(s) and sources of materials/equipment;
5. approve the Contractors' working drawings including their variations, approve the placement of the works and give instructions to the contractor(s) in this regard;
6. systematically check the progress of the work, examine and follow the measurement of each work and the installation of each equipment and order, if required, the redoing of unsatisfactory work/installation; ascertain and measure the value of the works in accordance with the contract(s);
7. check the production certificates for the goods and verify compliance with the technical specifications, their transport and/or storage;
8. check invoices, claims and other statements of contractors regarding arithmetical errors and compliance with the contract(s), issue interim certificates for payments and certify the completion of parts or the whole of works, supply/installation of equipment;
9. inspect the performance of works and equipment in accordance with specifications, order, supervise or carry out tests on materials/equipment and approve or disapprove the contractor's plant and machinery; order the removal of improper or substandard works/equipment and expose works that have been covered without permission.
10. supervise the Contractors in all matters relating to the safety and care of the works, and direct operations in the event of an emergency affecting the safety of life, works or neighbouring property, and ensure that operational safety is met before starting the works, and issuing any work plan or drawing in this direction;
11. inspect the works at least three times a week during construction periods and issue field reports; Providing site supervision and liaising with contractors, including overseeing the construction and daily installation of works and equipment to ensure that the standard of materials and workmanship conforms to design specifications and contract documents.
12. advise the Client on all matters related to the execution of the contract(s) including the processing of Contractors' claims;
13. carry out at least quarterly inspection visits during the defect liability periods (which will have a duration of one year) and issue the final acceptance certificate at the end of the DLP for the contract;
14. verify and, if necessary, correct the "as built" drawings provided by the Contractor(s) and submit them to the Client,
15. Prepare all necessary documents and assist the Client to deliver the completed Works Contracts to the beneficiaries.
16. In relevant cases, whenever the Works Contract refers to the role of 'Engineer' (for example in the World Bank's Standard Tender Documents for 'Major Works') or 'Project Manager' (the World Bank's Standard Tender Documents for Small Jobs) the consultant will perform the part of this role assigned to him by the Client.
17. Ensuring the implementation of the environmental management plan.
18. In addition, progress meetings will be held regularly with the Contractor(s). During these meetings, formal minutes will be taken by the consultant and distributed to the Client and the Contractor
19. issues Interim Payment Certificates (IPC) for monthly payments, as well as Final IPC and certifies the completion of parts or the whole of the works. To avoid delays, KPIs should first be submitted as a draft (electronically) for review before being signed off by all responsible persons. Once adjustments have been made (if any), then KPIs will be signed by all responsible persons and submitted for payment execution;
20. During the defect liability period, the Consultant will perform 4 (four) inspections and prepare brief inspection reports for any problems or defects identified/repaired by the contractor.

The monitoring services will be extended periodically during the defect liability period (12 months), as necessary. The supervising company shall inspect the works completed within the period covered by its contract, prepare lists of deficiencies (if any), and supervise the remedial works and issue Defects Liability Certificates/Final Acceptance Certificates after correction of notices. defects from the contractor.

The duration of the civil work contract will be **15 (fifteen) months**.

**4. LIST OF REPORTS AND SCHEDULE OF DELIVERIES**

Below are the reports to be produced, frequency, delivery time and a summary of their content. These will be dynamic documents that are subject to change to make improvements or to adapt to the needs of the Client and the Bank. The Consultants will provide the Client with the following reports and documents in English and Albanian:

In the design phase:

1. *Initial report* detailing how the consultant will carry out the tasks.

(English 2 copies and Albanian 2 copies)

Delivery: 2 (two) weeks after signing the contract.

1. *Progress report(s)*, it should include the findings and recommendations of the consultants, progress in finalizing projects and tender documents, investigation reports, safeguards and preliminary assessments.

(English 2 copies and Albanian 2 copies)

Delivery: mid-design phase

1. *final report(s)*, including all technical documentation (mentioned above) and tender documents according to the bidding packages agreed with the Client. This report will include the assistance provided to the client during the tendering process.

(English 2 copies and Albanian 2 copies)

Delivery: 4 (four) weeks before the end of the design phase period

1. *Final report(s).*

(English 2 copies and Albanian 2 copies)

Delivery: 2 (two) weeks after the end of the contract period or after comments on the Draft Completion Report have been provided by the Client, whichever comes later.

The final report will also include the following drawings and documentation:

1. General drawings:

* Plans of new/existing facilities, pumping stations, etc.
* Two or three sections crossing the most important areas, especially where the equipment will be installed, in the case of pumping stations,
* Elevation for each object, and civil works with quotas and axes
* Two or three perspectives presented for each intervention.
* Plans and floor plans of the territory in drawing scale 1/200 or 1/500.
* All details related to foundations, installation of equipment, windows, doors, stairs, ceilings, etc. in drawing scale 1/50 and 1/20
* Other plans and submissions as needed on a case-by-case basis

1. Structural drawings:

* Structural plans for facilities
* Submissions (if any)
* Reinforcements (if any)
* Structural reinforcement details
* Infrastructure / services / public network connections and access drawings
* Details of equipment to be supplied and installed and other accessories.
* Axonometric view of facilities of sewage pumping stations and defences under intervention

(c) Technical specifications for solar panels for two drainage pumping stations according to law no. 7/2017 "Renewable Energy Sources".

Arrangements will be made for some routine reports to be provided electronically by email. Formal submissions will be submitted in both soft and paper copies (in the latter case 2 copies in Albanian and 2 copies in English).

It will be important that all records are kept in an orderly manner. This includes those stored on the computer's hard drive. Therefore, the Consultant must submit a plan for a safe and secure backup routine to ensure that important data is not lost, and then implement the approved plan.

In the supervision phase:

1. *Initial report* detailing how the consultant will implement the project.

(English 2 copies and Albanian 2 copies)

Delivery: 2 (two) weeks after signing the conditional instalment of the contract.

1. *Progress Reports,* starting at the end of the first quarter following the date of the signed agreement between the Contractor and the Client for the construction of the works, or supply/installation contract(s), and ending at the end of the period in which the certificate of completion is issued temporary termination is done.

(English 2 copies and Albanian 2 copies)

Delivery: 1 (one) week after the last day of each quarter.

Quarterly reports should be based on physical and financial progress, as well as deal with contractual and technical issues. They will use graphics and include statements covering (but not limited to) the following:

* Physical progress related to program and time;
* Explanations for the inconsistencies of the above;
* Expenses related to cash flow forecasting and budgeting;
* Explanations for the inconsistencies of the above;
* Claims or disputes;
* Human resources, machinery/equipment and materials;
* Testing and quality control;
* Table of Project Monitoring Indicators for Project Activities issued by the Contract Manager(s);
* local issues;
* Updated maintenance and equipment warranty programs; AND
* A revised cash flow forecast.

1. *Draft Completion Report*

(English 3 copies and Albanian 3 copies)

Delivery: 1 (one) week before the end of the contract period.

The report shall include (but not be limited to) the following data:

* Physical progress relative to the original program;
* Explanations for the inconsistencies of the above;
* Expenditures related to the original budgets;
* Explanations for the inconsistencies of the above;
* Number of human resources employed throughout the project; AND
* Overall review of sub-project objectives and whether they have been successfully achieved.

Other information to be included in the Completion Report may be requested by the Client.

1. *Final report*

(English 2 copies and Albanian 2 copies)

Delivery: 2 (two) weeks after the end of the contract period or after comments on the Draft Completion Report have been provided by the Client, whichever comes later.

The Final Report will be based on the Draft Final Report, but will include any comments/suggestions made by the reviewing parties (Bank and Client).

Arrangements will be made for some routine reports to be provided electronically by email. Formal submissions will be submitted in both soft and paper copies (in the latter case 2 copies in Albanian and 2 copies in English).

It will be important that all records are kept in an orderly manner. This includes those stored on the computer's hard drive. Therefore, the Consultant must submit a plan for a safe and secure backup routine to ensure that important data is not lost, and then implement the approved plan.

**5. TEAM COMPOSITION AND EXPERT QUALIFICATION REQUIREMENTS**

Design and supervision services will be provided by a consulting company or a joint venture. Interested consultants should have extensive experience in Construction Supervision and quality assurance, and be thoroughly familiar with the World Bank's safeguard policies, as well as other related guidelines and procedures. The consultant must provide evidence of experience, including in the region, in the design and supervision of drainage systems. Previous experience with World Bank projects is desirable.

The interested Consultants should comply with the following requirements:

* + - 1. Have Extensive experience in Design & Construction Supervision and quality assurance the Consultant should have at least 10 years of experience, in the Design and Supervision of the drainage systems projects.
      2. Be familiar with the World Bank Safeguard policies, as well as other related guidelines and procedures.
      3. Previous experience with the World Bank projects will be an advantage.

The applicants will be assessed in order to determine a shortlist comprising the most qualified firms. The criteria to be used for shortlisting will be the following:

* Core business and years in business – 30 points
* Past experience in similar assignments – 60 points
* Availability of qualified staff among the firm to perform the assignment – 10 points

The CVs of Key experts will not be evaluated during the shortlisting process. The CVs of key experts will be evaluated after the issuance of the Request for Proposals to the shortlisted consultants. The evaluation shall be carried out in accordance with the evaluation criteria specified and detailed in the Request for Proposals.

It is anticipated that the Consultant would establish a strong Core Team (about 54.5 person/months for both phases) comprising of 6 (six) key-experts and 2 (two) non-key experts professionally qualified and appropriately experienced Engineers/Architect, with an expert as the Project Manager/Team Leader (TL). Three experienced Civil Engineer/Hydraulic, a Mechanical Engineer, two Electrical Engineer, an Environmental, Social, Health and Safety (ESHS) Expert and a SCADA technician.

In the design phase

1. A Project Manager with at least ten (10) years of design experience, in civil works and supply/installation contracts, who would have a general leadership/supervisory role, but also be responsible for performing design preparation tasks and construction supervision;
2. At least a civil engineer with seven (7) or more years of specific experience in the design of drainage structures/buildings,
3. At least one civil engineer with seven (7) or more years of specific experience in the design of drainage systems, pumping stations (for drainage);
4. A Mechanical Engineer and an Electrical Engineer for the drafting of technical specifications for the supply/installation of equipment (for drainage pumps); both of these engineers must have at least seven (7) years of specific experience;
5. An Electrical Engineer for the design of technical specifications for the supply of solar panels with five (5) years of specific experience;
6. A SCADA technician with strong experience in developing and installing SCADA systems in water flow infrastructure assets such as pumping stations, hydro plants, dams, river control structures etc. He/she must have at least seven years of specific experience;
7. Environmental, Social, Health and Safety Expert (ESHS);
8. Other support expertise, as needed, provided by the consultant's head office,

In the supervision phase

1. Resident Engineer with at least ten (10) years of specific experience in the supervision of civil works and supply/installation contracts, who would have a general leadership/ supervisory role, but also be responsible for the performance of supervisory duties;
2. Site engineer/supervisor, with at least seven (7) years of specific experience in the supervision of drainage structures and facilities, drainage projects;
3. Quantity surveyor with at least five (5) years of specific experience;
4. Materials engineer with at least ten (10) years of specific experience;
5. Mechanical/electrical engineer(s), with at least seven (7) years of specific experience in equipment supply and installation (for sewage pumping stations);
6. A SCADA technician with strong experience in developing and installing SCADA systems in water flow infrastructure assets such as pumping stations, hydro pumping stations, dams, river control structures etc. He/she must have at least seven (7) years of specific experience;
7. Environmental, Social, Health and Safety Expert (ESHS);
8. Other support expertise, as needed, provided by the consultant's head office,

**6. CLIENT’S INPUT AND COUNTERPART PERSONNEL**

1. The data that will be provided by MARD will include:
   * Complete civil works contract documentation, which will be supervised (Designs, Reports, BoQs), annexes included. To facilitate design, review of design documents will also be provided when the RFP (Request for Proposal) is issued;
   * Environmental and Social Management Plans (ESMP) for this specific area;
2. Local services will not be provided;
3. The Environmental Management Expert, part of the EMP will liaise with the ESHS regarding the environment, social and health and safety;
4. Additional personnel will not be provided;
5. Facilities to be offered: None;

**7. INSTITUTIONAL ARRANGEMENTS**

1. Manager /Team Leader of the Oversight Team will report to the MARD, PMT, but has broad functional responsibilities to the MBHR.
2. He/she will liaise with the relevant directorates of the MARD, Local Government and other relevant institutions and parties, as needed.

**8. PERIOD AND TIME SCHEDULE OF THE DESIGN & SUPERVISION CONTRACT**

It is anticipated that the implementation period for the required Design and Supervision services will be **19 (nineteen) months**, namely **3 (three**) months for design, **15 (fifteen)** months for supervision and 1 (one) month for the defect liability project (one year after the completion of civil works). The Consulting Company shall propose a clear schedule with critical milestones for all components as part of the Inception Report and make all possible efforts for timely completion of the works.

1. **SELECTION**

The consulting firm will be selected according to the provisions of the World Bank Procurement Regulations for IPF Borrowers "Procurement of Investment Project Financing of Goods, Works, Non-Consulting and Consulting Services (July 2016, Revised November 2017, August 2018, November 2020), based on the selection method based on quality and cost, Lump sum Contract for the design phase and Time-based Contract for the supervision phase. The Bank requires that firms or individuals involved in the procurement of the Bank's IPF do not have a conflict of interest.