Annex 1

Technical Specification

General Information

1.Title

Design, delivery and Installation of the Aquaponic system at UNDP-GEF KURA II project Responsible Party, IDEA Animal Care Center in Baku, Azerbaijan, and conducting a 2-day training program for 6-8 technicians and farmers on operation and maintenance of all the components of the aquaponic system (UNDP-GEF Kura II Project and IDEA NGO will provide the venue and all facilities needed to conduct this training within RPA).

2.Project Title

UNDP GEF Kura Project "Advancing Integrated Water Resource Management (IWRM) across the Kura river basin through implementation of the transboundary agreed actions and national plans"

3. Project Description

Project will be implementing the **Strategic Action Program** (SAP) for the Kura River Basin in partnership with the Governments of Georgia and Azerbaijan. The SAP is framed around four agreed Ecosystem Quality Objectives (EQO) which are:

- To achieve sustainable utilization of water resources to ensure access to water and preserve ecosystem services;
- To achieve water quality such that it would ensure access to clean water for present and future generations and sustain ecosystem functions in the Kura river basin;
- To achieve and maintain ecosystem status whereby they provide essential environmental and socio-economic services in a sustainable manner in the Kura River Basin; and,
- To achieve mitigation of adverse impacts of flooding and climate change on infrastructures, riparian ecosystems and communities.

The GEF will support priority activities towards these objectives. The GEF funded SAP implementation Project has the objective "to integrate water resources management in the Kura river basin to address water-energy-food-ecosystem security nexus through the implementation of agreed actions in the SAP". There will be five components to support the countries to achieve this objective. One of the main components of the Project is component 3 "Stress reduction in critical areas and pre-feasibility studies to identify investment opportunities for improving river system health". This component has 3 main outputs where output 3.1 is "Showcase technologies to reduce factual water losses in different sectors", where the project hired a water supply and demand management international consultant to assess the water supply and demand systems for both the municipal and agriculture sectors in Azerbaijan and Georgia. The expert identified the main challenges facing each country in water use efficiency in each

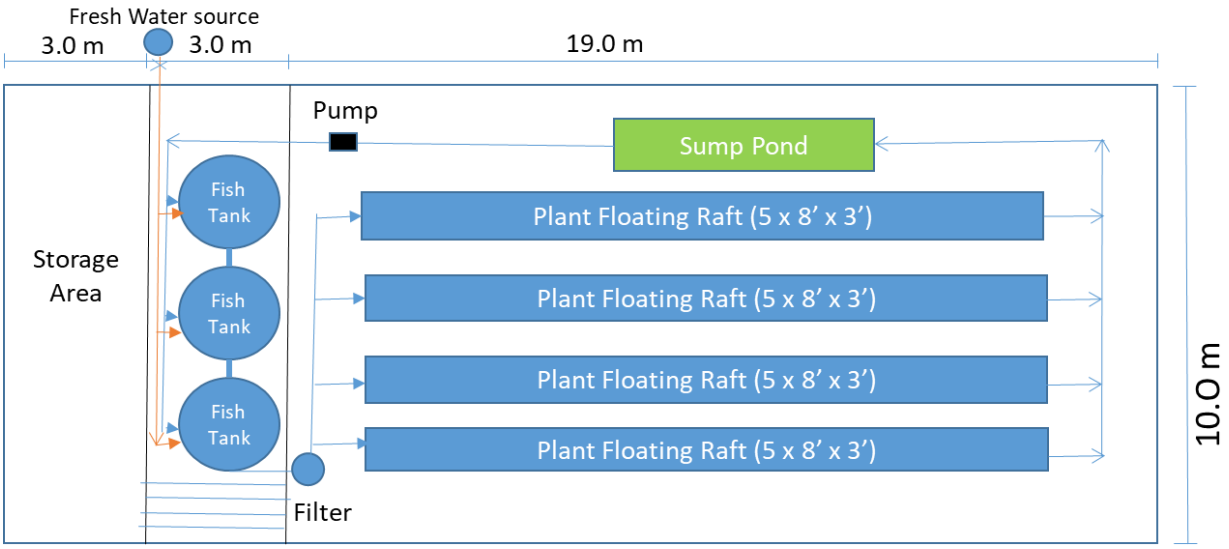
sector and developed national level plans for the appropriate measures to reduce factual losses in these two sectors in each country. One of these measures is the introduction of modern technologies in water use to increase the economic return per unit of water used. Therefore, the UNDP-GEF Kura II project coordinated with International Dialogue for Environmental Actions (IDEA), one of the active Non-governmental Organization in Azerbaijan in the field of environment and natural resources protection, to develop a training center on the use of Aquaponic system as one of the most advanced techniques for agriculture and aquaculture in Azerbaijan. Introduction of such technology in an arid country like Azerbaijan will generate more jobs, and more agricultural and fish production with less water resources needed.

4. Scope of Work

Supplier will design, deliver and install the Aquaponic system in a greenhouse with an area 10 X 25 m in IDEA Animal Care Center, belonging to International Dialogue for Environmental Action (IDEA), in Baku, Azerbaijan. The supplier will also conduct a 2-day training on operation and maintenance of the constructed Aquaponic system for 6-8 technicians and farmers. All training materials must be submitted in Word format at least 2 weeks prior to the training.

Supplies should submit the design drawing for the distribution of system components on the Greenhouse area according to requirements and technical specification mentioned below, the detailed work plan for the installation and operation of the new proposed aquaponic system and the syllabus of the 2-day training for the operation and maintenance of the proposed Aquaponic System.

The below schematic represents the minimum configuration for the required system.



The minimum components of the required system must include:

- At least 3 Poly fish tanks with capacity of 260-Gallon per tank
- At least 3 Polycarbonate Fish Tank Window 12' x 18 (one per each fish tank)
- Water filtration system with Automatic Backwash and Air Pump to filter water released from the fish tank before it goes to the plant trays
- At least one mineralization tank with capacity of 80 Gallon

- At least one blending tank with capacity 80 Gallon
- At least 20 Poly Plant Trays, with dimensions 8'x3' each (with Raft Tanks and tank liners)
- One Air-Lift Circulation Kit and Plumbing Fitting
- One Air Blower
- Plant Tray Plumbing and Aeriation Kit for the 20 trays
- One Quarantine Tank with capacity of 120 Gallons
- One Filter for the Quarantine tank
- One water pump for the Quarantine tank
- One kit for Accelerated Plant Nurseries (table frames, channels, plumbing)
- One Kit for Automated Germination System (table, trays, plumbing)

The supplier will provide the UNDP-GEF Kura II project with detailed design drawings for the proposed Aquaponic system, taking into account the specifications stated in this TOR.

The Bill of Quantities for the components of the proposed Aquaponic system should be prepared as shown in Annex (2).

5. Technical Specification of Aquaponic System Main parts

5.1. Technical Specification of the water purification filter must include the following:

- Country of Origin
- Method of cleaning the filter and periodicity of that cleaning
- Water loss in the system: % of water losses per Year
- Method of collecting and disposal of sludge
- Energy consumption: KWH
- Filter estimated lifetime: Years
- Cost of consumables, if any
- Warranty period of the proposed filter: years

5.2. Technical Specification of the water pumps must include the following:

- Country of Origin
- Pump test results, performance curves
- Warranty period of the proposed pump: years.
- Energy consumption: KWH
- Estimated lifetime: Years

6. Institutional Arrangements

The contractor will work under direct supervision of and will be directly reporting to the Project Coordinator. The contractor shall work in close cooperation with UNDP GEF Kura Project experts and IDEA technicians. The contractor shall submit reports on completion of the tasks to the UNDP-GEF Kura II project. The contractor is expected to interact and collaborate with the IDEA technicians during the entire period of contract.

7. Duration of the Work

90 calendar days after signing of the contract.

8. Workplace

- IDEA Animal Care Center, Baku-Salyan highway, 19th km, Garadagh district, Baku, Azerbaijan.

Additional information for RFP

Timing

The demonstration project for constructing the Aquaponic System training center in Azerbaijan should be executed in the period 1 Sep. – 30 Nov. 2020.

Deliverable

Fully installed and functioning Aquaponic system at the greenhouse of an area 10 X 25 m in IDEA Animal Care Center, Baku-Salyan highway, 19th km, Garadagh district, Baku, Azerbaijan

Payment schedule

The payment schedule will be as follows:

- Approval of the detailed work plan for the construction of the Aquaponic system in the Greenhouse 10 X 25 m -15% of the total contract budget
- Shipping all the system components to Baku Azerbaijan and transporting them to IDEA Animal Care Center in Baku, Azerbaijan -40% of the total contract budget
- Full installation of the Aquaponic system in the greenhouse in the Animal Care Center- 25% of the total contract budget
- Test and handover the system to the UNDP/GEF Kura II project and conduct a training for 2 days in Baku for 6-8 technicians and farmers on the operation and maintenance of the installed system -20% of the total contract budget

Qualification of companies and technical specifications of the system

Assessment of tender bids will be based on the following obligatory key criteria:

- Technical specification of the proposed system:
  - The average annual rate of Fish production Kg/year
  - The average production rate of plants Kg/year
  - The annual electricity consumption
  - The annual water consumption
  - Comments due to materials: The materials used in the system, the fittings, the screws, the pipes should be ISO certified products and have minimum 1-year warranty.
  - The country of origin for the pumps, and filters used in the system.
- Company previous experience:
  - Minimum 3-year experience in installing and maintenance Aquaponic systems in

national and international projects;

- At least 3 contracts in the past 3 years with similar complexity with the one in this TOR;
- The CVs of technicians working in the installation and maintenance of the Aquaponic systems.
- The availability of the after-sales maintenance services for the installed system
- The availability of stock of spare parts for the different components of the installed system