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**Ministry of Agriculture and Animal Welfare**

Male', Republic of Maldives



# **Ministry of Agriculture and Animal Welfare**

## **Terms of Reference for Consulting Services**

for

## **Hydroponic Fertigation Refresher Training Consultant**

Ref No: MAP/CS/2024/15

Submission Date: 22<sup>nd</sup> July 2024

## **Terms of Reference (TOR)**

### **Hydroponic Fertigation Refresher Training Consultant**

#### **1. Client**

- 1.1. The client for this assignment is Project Implementation Unit (PIU) under Ministry of Agriculture and Animal Welfare (MoAAW).

#### **2. Background on project**

- 2.1. The Government of Maldives (GoM) through the Ministry of Agriculture and Animal Welfare (MoAAW) is implementing the Maldives Agribusiness Programme (MAP), which is jointly financed by GOM and International Fund for Agriculture Development (IFAD). The Project Implementation Unit (PIU) set-up within the MoAAW will manage the Program in accordance with the guidelines provided by the design report, implementation manual and under the guidance of the project steering committee and IFAD supervision missions.
- 2.2. The main aim of MAP is to enable small farmers in the Program area to sustainably enhance their production levels, increase income, secure food and nutrition for their household demands and deliver produce to connected markets.
- 2.3. The Programme will be of nation-wide scale, covering all regional and sub-regional hubs, clusters and islands where agriculture is undertaken by small farmers. The main Programme hubs for Programme activities are in region 1-3 are Haa Alif Hoarafushi for region 1. Haa Dhaalu Vaikaradhoo for region 2, and Shaviyani Milandhoo for region 3. Each of these hubs will serve 8, 9 and 9 inhabited agriculture islands respectively. Specifically, under different technical components:
- 2.4. Component 1 of Enabling policy, institutions and services will be nationwide in scope covering all 19 atolls, 21 regions covering 188 inhabited islands of these 98 are inhabited where agriculture is practiced on around 800 registered hectares. Also belonging to the Programme area are 50 uninhabited islands leased for commercial agricultural purposes, with a total of 956 hectares of land of which 24 islands are actively doing agriculture on 582 hectares of land.
- 2.5. Component 2 of Climate smart production will initially focus on region 1-3, covering 3 atolls and 40 inhabited islands. Of these, 26 are inhabited agriculture islands with 280 hectares of registered land cultivated by 2,150 registered farmers, and 85 hectares

cultivated by 645 non-registered farmers. Within this production area there are 6 active commercial islands cultivating a total of 250 hectares.

2.6. Component 3 of Market connection will initially focus on regions 1-3 during the first two years and then expand to regions 4-7 and eventually cover the whole country.

### 3. Overall objectives

3.1. The programmer's goal is to sustainably increase the incomes, food security and nutrition status of small farmer households.

3.2. The development objective is to strengthen and enable the environment for sustainable and climate-resilient agriculture. This objective will be achieved through policy refinement, strengthened institutions and services, enhanced agricultural technologies and better access to financing and markets for small farmer households.

### 4. Objectives of the assignment

4.1. The project Implementation Unit wishes to contract a technical expert to strengthen staff capacity on hydroponic farming. In this regard training and provision of technical expertise and skills to the staffs of the PIU and the ministry on running of hydroponic farms including installation, establishment, hydroponic theory and practical skills including operation and management of hydroponic farms is the main task of this assignment.

4.2. Hence, the main objective of this is to improve knowledge and skills of the staff so that they can apply this knowledge to the best of their ability to enhance produce through hydroponic farming systems.

### 5. Scope of work

The main task of this consultancy is to provide technical guidance and support for the effective establishment and implementation of climate smart farming component of the Maldives Agribusiness Program (MAP).

5.1. Deliver information on different types of hydroponic systems, suitability of different systems to different types of plants with a focus on plants that are suitable to Maldivian climate and advantages and disadvantages of different systems.

5.2. Deliver information on nutrition solution, hydroponic media/substrates, important requirements for growth of crops when growing in different media systems, its advantages and disadvantages.

- 5.3. Deliver information on factors affecting crop produce, factors that can improve or optimize growth, impact on growth due to its disturbances and ways of enhancing produce when growing in hydroponic systems in greenhouse.
- 5.4. Provide information on the importance of pH and EC/TDS (Electrical conductivity/Total dissolved Salt) when growing in media systems, measuring pH, pH and EC ranges for different crops at different stages, ways of adjusting pH and EC to gain the best yield during production.
- 5.5. Carry out training on measuring light intensity and rain fall using lux meter and rain gauge respectively when growing plants in greenhouse and how these data can be useful in the growth of plants.
- 5.6. Observe the current process of growing plants in the MAP greenhouses along with the data which has been collected from the trials and suggest any changes/improvements to maximize yield.
- 5.7. Provide technical guidance and supervise the growth of one crop cycle for a selected crop in one of the greenhouses according to the suggested changes/improvements.
- 5.8. Prepare the contents, presentations, handouts for the mentioned trainings and share them with the Project Director ahead of the trainings.
- 5.9. Report to the Project Director as agreed upon reporting schedules.

## **6. Schedule of deliverable**

The expected end product of this assignment will be

- 6.1 Submit an inception report 2 weeks after the inception meeting detailing the proposed implementation for this assignment with input from PIU and MoAAW
- 6.2 Submit the methodology that will be used to meet the scope of this assignment along with the training schedules 2 weeks after the inception report is finalized.
- 6.3 Submit presentations, manuals, and handouts which will be used for the trainings 4 weeks after the submitting the methodology. All the documents thus submitted will be a property of PIU/MoAAW which can be used for future training.
- 6.4 Conduct the training for the staff of MAP and MoAAW within 3 weeks of submitting the training materials.
- 6.5 Observe the current process of growing plants in the MAP greenhouse and submit a report on the proposed changes that can be adopted to maximize yield.
- 6.6 Submit the report after supervising the growth of one crop cycle as per proposed changes (this can be done remotely with regular visits as proposed by the consultant during inception report) and submit a final report on the data collected.

6.7 Final report on the activities carried, findings and recommendations on the completed tasks.

## **7. Consultant's qualifications and experience**

### **7.1. Qualifications and skills**

- 7.1.1. Bachelor's degree in Agriculture or any related field, with a minimum of five years of work experience on climate smart agriculture.
- 7.1.2. Expertise in facilitating technical hydroponic farming practices.
- 7.1.3. Evidence of previous similar assignment documentation is required – please include this in the application.
- 7.1.4. Work experience in government or donor-funded projects and other relevant institutions will be an added advantage;
- 7.1.5. Demonstrates good oral and written communication skills in substantive and technical areas. A thorough knowledge or demonstrated ability to rapidly acquire knowledge about environmental assessments, research processes, and procedures for performance monitoring and evaluation;
- 7.1.6. Excellent writing, editing, and analytical skills and capability of working independently. Fluent in written and spoken English and Dhivehi;
- 7.1.7. A high level of computer literacy is required. Familiarity with programs like Word, Excel and PowerPoint are required.
- 7.1.8. The successful individual must be willing to work for extended periods without direct supervision and travel to islands within the project area.
- 7.1.9. Demonstrates openness to change and ability to manage complexities
- 7.1.10. Willingness to travel to islands of Maldives where the project is being implemented (for short or longer durations, as per demand of the Project) is a must.
- 7.1.11. The successful candidate must understand the objectives and delivery mechanisms of the project. S/he must be willing to work in a team, be flexible to emerging or changing conditions, and undertake initiative to overcome challenges.

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**8. Reporting Requirement**

- 8.1. Report directly to the Project Director on all aspects of procurement throughout the duration of the contract, unless otherwise advised by the Client.
- 8.2. The Consultant is expected to work on weekdays other than public holidays and provide services to the Client for 3 months
- 8.3. This position is based at the Ministry of Agriculture and Animal Welfare in Male' with travel to islands or field visits as may be required.
- 8.4. The Consultant shall provide all the necessary reports and updates to the Project Director or its designated and donor agencies whenever needed

**9. Location and period of execution**

- 9.1. Duration of the assignment is 60 days during 3 months from the commencement of the works. The successful candidate is expected to commence the services in September 2024.
- 9.2. This position is based at the PIU Office of the Ministry of Agriculture and Animal Welfare in Male' with extensive travel to Islands or field visits as may be required.

**10. Selection Criteria**

10.1. The consultant will be selected based on the following criteria:

Selection Criteria	Weightage (%)
Relevant academic qualification(s)	40
Professional Experience in similar works/ assignments	15
General experience in similar works/assignments	15
Interview	30

Candidate must attain minimum of **50 Marks** in the evaluation (Relevant academic qualifications and Experience in similar works) to be qualified for the Interview, and a minimum of **70 Marks** all combined together to qualify for Request for Proposal.

**11. Project coordination**

- 11.1. Report directly to the Project Director on all aspects of Project Management throughout the duration of the contract unless otherwise advised by the Implementing Agency.

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**12. Services and facilities to be provided by the client**

- 12.1. Local transport for official travel between Malé and field visits to islands; food, accommodation and allowances will be provided from the project.
- 12.2. The Consultant shall ensure that they always carry themselves in good behavior and maintain a cordial friendly atmosphere with other personnel including employees of MoAAW, MAP, Island Councils and other organizations.
- 12.3. The Consultant shall provide professional, objective, and impartial advice, at all times holding the client's interest's paramount, strictly avoiding conflicts with other assignments or its own corporate interests, and acting without any consideration for future work. The Consultant has an obligation to disclose to the client any situation of actual or potential conflict that impacts its capacity to serve the best interest of the client.

