

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

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: 30th June 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

- 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.

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.