



TERMS OF REFERENCE
IRRIGATION SYSTEM FOR THREE ISLANDS

14 February 2023

Issued by:

Agro National Corporation

A. Background

Agro National Corporation (AgroNat) was formed 21st April 2020 as a State-Owned Enterprise (SOE) with the overall mandate to assist in developing the agricultural sector in the Maldives. AgroNat is working towards enforcing objectives such as enabling an efficient supply-chain for agriculture, providing technical expertise and training to farmers, expanding the role of women in farming, and facilitating access to quality fertilizers across islands. AgroNat will also aim to achieve economic targets relating to food security, import substitution, creation of jobs and improving the trade balance.

The Government of Maldives, in its Strategic Action Plan devised for 2019 – 2023, had proposed to establish a dedicated SOE for agricultural development, with an objective of revitalizing the agriculture sector as per the Blue Economy vision. Despite being an integral part of Maldivian society for ages, the agriculture sector has remained under-developed and unexposed to modern developments in farming techniques and technology. The government under its agenda for economic diversification aims to promote agriculture as a meaningful sector in the Maldivian economy.

To work with more farmers and give opportunity to more farmers and people interested in collaborating with AgroNat, the company is planning to lease land from selective islands and develop these lands for farming. Under this project, AgroNat will develop minimum 100,000.00 square feet of land from the islands.

AgroNat will work with farmers of the island to implement medium scale farming models using environmentally sound methods. These farms will act as a model which can be replicated by local farmers in designing and engaging best practices for farming on their own farmlands.

The *Project for Developing Sustainable Agricultural Economy (PDSAE)* builds on the success of the *Sustainable Economic Empowerment and Development for SMEs (SEEDS)* project and aims to further strengthen local productivity of agricultural produce in the Maldives. By doing so, the project aims to enhance food security in the archipelagic nation, which has very limited arable land, and enable more entrepreneurs interested in the agricultural businesses to enter the sector and facilitate secondary and tertiary production of related commodities including foodstuff and textiles. This will be achieved through three outputs focusing on: 1) strengthening assistance to increase local farmer expertise in agriculture, 2) enhancing agricultural capacities and opportunities to ensure food security and 3) enhancing support industries and value-added services to augment agro businesses.

The project will be implemented through partnership with the United Nations Development Programme (UNDP) in Maldives, the Ministry of Economic Development (MED), Agro National Corporation (AgroNat) and Maldives Fund Management Corporation (MFMC).

B. Objectives

AgroNat intends to hire a firm for supply irrigation systems at 3 (three) sites.

C. Scope of Services and Expected Deliverables

- a. Supply of irrigation system as per the requirement specified in Annex 1.
- b. Supplier to put forward their irrigation design and material BOQ for each site separately.
- c. Items to be delivered to AgroNat warehouse in Male’.

D. Quotation

The firm is to submit quotation for;

1. Supply of irrigation systems.

E. Marking Criteria for Supply of Irrigation Systems

| # | Details | Marks |
|---|----------------------|-------|
| 1 | Price | 45 |
| 2 | Delivery period | 10 |
| 3 | Warranty | 10 |
| 4 | Technical evaluation | 35 |

F. Technical Evaluation Criteria

| # | Details | Marks |
|---|---------------------|-------|
| 1 | Design | 50 |
| 2 | Materials | 30 |
| 3 | Aftersales services | 20 |

G. Payment Terms

| # | Description | Percentage |
|---|--|------------|
| 1 | Advance payment for supply of irrigation system | 15 |
| 2 | After the supply of all materials of irrigation system | 85 |

Annex 1

INFORMATION SHEET

1. DRIP IRRIGATION SYSTEM:

Project Highlight

- We will be working on a 100,000.00SQFT area
- Estimated cultivation area will be close to 90,000.00sqft
- 10,000.00 SQFT will be allocated as working and storage area
- Total 6 plots will be allocated, each of 15,000 sqft
- Crops grown include:
 - Melon (Cantaloupe) – 90,000.00 SQFT (0.86 Ha)
 - Melon will be farmed on both sites.

Crop spacing – (Melon – double row in single bed)

| # | Crop | Spacing between plants | Spacing between row | Space between bed |
|---|-------|------------------------|---------------------|-------------------|
| | Melon | 1 ft | 2 ft | 4 ft |

FIELD DATA

i. Climatic data

Temperature: 28o – 30o C.

Relative humidity: 73 – 85 %.

Rainfall: 2100 mm pa.

Wind Speed: 7-12 knot

Evapotranspiration rate – 5 mm/day.

ii. Water Test report (collected from different area)

EC: 565 – 1147 ppm

pH: 7.35 – 7.84

iii. Soil:

Test report is not available. It is assumed that the soil is sandy foam with less water holding capacity (15-20%) and infiltration rate (4-6 mm per hour).

Melon: grouped under short-duration and shallow-rooted crops.

iv. Water source – Ground water (located inside the project area). Due to relatively high-water table, a shallow depth based well is dug.

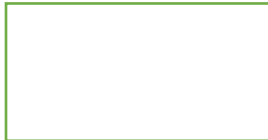
Irrigation System - Suggestions

- It is advised to design three independent irrigation system for the total area (each system will be covering two plots of 15,000 SQFT area).
- 3 solar powered pumping system
- Single irrigation system – 30,000 SQFT area (Covering 2 plots of 15,000 SQFT)

Site 1:

400 x 250

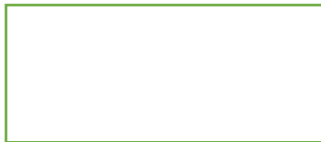
Total: 100,000.00 square feet



Site 2:

375 x 268

Total: 100,500.00 square feet



Site 3:

500 x 200

Total: 100,500.00 square feet

