Terms of Reference For Project Consultant

Advancing Information and Communications Technologies (ICT) Solutions for Climate Smart Agricultural (CSA) Practices

1.0 BACKGROUND

The Caribbean Agricultural Research and Development Institute (CARDI), a regional agricultural research institution conducts research and development that seeks to improve the competitiveness and sustainability of the regional agricultural sector. In operationalising CARDI's work programme, articulated in its Strategic Plan 2018-2022, CARDI proposes to implement a project that addresses the cross-cutting issues of Climate Change and Information and Communications Technologies (ICTs). This will examine the impacts on small farmers in the region using St. Lucia as a case study. CARDI in collaboration with the Caribbean Community Secretariat funded through the CARICOM Japan Fund plans to undertake this project.

Over the last fifty (50) years, the world's climate has been experiencing drastic changes. Global temperatures have been increasing which in turn have resulted in a rise in sea levels. In the Caribbean, there is evidence of climate variability and change, with changes in intra-annual temperature ranges, increasing number of very warm days and nights and decreasing number of very cool days and nights. Climate change effects result in a range of new challenges for the region. These include a higher occurrence of severe droughts, hurricanes and other extreme weather events as well as changes in rainfall patterns and the emergence of new pests and diseases. There is much concern around the negative consequences and impacts of these climatic changes. They threaten farm productivity, costs, competitiveness, lives, livelihoods and sustainable development aspirations of the people of the Caribbean especially as the island states share similar characteristics which collectively make them vulnerable.

Climate change is one of the most serious challenges confronting the Caribbean. Economic loss caused by climate related natural disasters in the Caribbean are on the increase. Available data for the region estimates economic loss of US$700 million to US $3.3 billion. In 2004, hurricanes and tropical storms caused an estimated US$4.3 billion in economic damages in the Cayman Islands, Grenada and Jamaica (CCCCC 2009). In 2010, Hurricane Tomas caused major damage and destruction to the Windward Islands including St. Lucia and Barbados leaving their economies in disarray. In 2015, Tropical Storm Erika and the extreme rainfall ravaged Dominica. The consequences of these events demonstrate the intensity of climate related disasters and the frequency of their occurrence in the Caribbean.

Agriculture remains an integral part of the economic development of the Caribbean even with economic diversification in service industries, notably tourism and financial services. Climate variability and change and the risks it poses to the agricultural sector stands out as the most pressing threat to the Caribbean in general and more so the OECS countries at present and in the near future. The islands' physical location, topography and poor land management frameworks and practices, make the region highly vulnerable to natural hazard related events, exacerbated by climate change.

Given the expected impacts of climate change, the OECS countries continue to improve systems and put in place relevant structures to reduce the vulnerability of States to climate change. Raising awareness and building local capacity to respond to climate change impacts are essential to the long-term viability of the islands. The region can boast of on-going research in relation to climate change. However, there is very little in terms of mitigating and adapting to climate change with respect to agricultural production. Thus, there is critical need for such with regards to agriculture. It is important at this time to develop the knowledge of our farmers and producers to manage climate change effects on their agricultural production.

It is against this background that innovative ICTs can be used as solutions for Climate Smart Agriculture (CSA) practices. They can also help to address the productivity challenges of the small farmers. The project will address some of the identified constraints as a priority in the region. Project activities will be facilitated through the services of a consultant who will coordinate and manage data collection and analysis and provide recommendations of ICT solutions.

2.0 OBJECTIVES

The purpose of this project is to enhance adoption and use of ICTs for CSA practices and in turn improve the capacity of decision making among small farmers.

3.0 SCOPE OF WORK

In carrying out the assignment, the Consultant is required to employ a consultative approach to obtain the relevant data. The consultant will be required to conduct the following tasks:

3.1 Review and collate relevant secondary data on existing farming systems, meteorological, agronomic and socio-economic characteristics including GPS farm locations where possible

3.2 Identify and design an appropriate survey tool for data collection, including piloting of instruments and modification according to pilot results for data collection among stakeholders on farming systems, agronomic and meteorological characteristics

3.3 Design an appropriate survey tool for data collection, including piloting of instruments and modification where deemed necessary to determine constraints and issues affecting small farmers and farming systems including perceptions of stakeholders

3.4 Analyse data collected in 3.1-3.3 and prepare report on findings

3.5 Host participatory stakeholder workshop based on initial data collection outlined in 3.1-3.4 and include a pre-workshop Knowledge Based Assessment and prioritization exercise

3.6 Develop a technical report on existing and potential CSA practices and challenges

3.7 Develop innovative ICT solutions or modify existing solutions as necessary to address the needs of St. Lucia obtained through 3.1-3.6

3.8 Conduct training session and workshop on the developed ICT solutions with regional and local stakeholders

3.9 Prepare progress reports quarterly as deemed necessary by the project manager

4.0 DURATION

The consultancy shall be for a period of 7 months.

5.0 DELIVERABLES AND REPORTING REQUIREMENTS

The Project Consultant will be responsible for the following deliverables:

- Baseline Report on the farming systems, meteorological, agronomic and socio-economic conditions of farmers including ICT use, and a database on these characteristics as well as GPS Farm locations where possible
- Data collection instruments (before and after pilot) for data collection among stakeholders on farming systems, agronomic and meteorological characteristics.
- Data collection instruments (before and after pilot) to determine constraints and issues affecting small farmers and farming systems including perceptions of stakeholders.
- Report on the findings outlined under 'Scope of Work 3.1-3.3'
- Workshop plan and activities schedule for 'Scope of Work 3.5'
- Technical Report on existing and potential CSA Practices, Obstacles and Challenges
- Report on the ICT Solutions for 'Scope of work 3.7'
- Workshop plan and activities schedule for 'Scope of Work 3.8'

The consultant will work closely with the Project Manager at CARDI St. Lucia as well as the project team.

6.0 QUALIFICATIONS AND EXPERIENCE

This consultancy requires expertise in the fields of Research, Data Collection, Data Analysis, Statistics and ICT. The consultant should demonstrate knowledge of challenges posed to the agriculture sector by climate change events in the region and particularly St. Lucia. The Lead Consultant should possess knowledge and understanding of Information and Communications Technologies in the Caribbean evident by certification and at least 3-5 years of experience.

Additional skills in statistics are required evident by certification, preferably a Master of Science in Statistics and at least 2 years' experience. The consultant should demonstrate ability to conduct research and identify best measures to gather data through completion of past projects undertaken. Ability to design survey instruments to capture required data including piloting of instruments and redesigning after initial analysis of the pilot results.

The consultant must be able to work well in a team-oriented environment and possess excellent written and oral communication skills.

The CVs of all key persons on the consultant's team must be submitted.

7.0 APPLICATION

Interested Consultants are invited to submit a short proposal electronically (explaining how the tasks will be implemented) inclusive CVs of key personnel and budget (not exceeding US $14,700) to: planner@cardi.org; and addressed to the Project Manager, CARDI
Subject: Advancing ICTs Solutions for CSA Practices.
The deadline for submission of the proposal is February 13th 2019.