

**Caribbean Agricultural Research and Development
Institute (CARDI) and Inter-American Institute for
Cooperation on Agriculture (IICA) 2020 under the IICA-
CARDI General Technical Cooperation Agreement**

REPORT



Document Prepared by CARDI

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TABLE OF CONTENTS

LIST OF PLATES	3
1.0 Introduction	5
1.1 CARDI in the Caribbean Region and the Regional Response to COVID-19	7
2.0 IICA- CARDI General Technical Cooperation Agreement (GTCA), 2019-2021	8
3.0 Projects Implemented under the IICA-CARDI GTCA: 2019-2021	9
3.1 IICA – CARDI Joint Initiatives In-Country	10
4.0 Strategic Alliances	15
5.0 Future IICA-CARDI Collaboration	16
5.1 Coordination, Complementarities and Added Value of Projects	16

LIST OF PLATES

- Plate 1:** Destruction after Hurricane Dorian
- Plate 2:** Planning Meeting Post Hurricane Dorian Relief with Stakeholders
- Plate 3:** Preparing Planting Material for Distribution to Farmers
- Plate 4:** Representatives of Project Team: MoA, IICA and CARDI at Project Site, Ministry's Field Station
- Plate 5:** CARDI Technician installing drip irrigation in a Protected Agriculture System
- Plate 6:** MoA, IICA and other Stakeholders visit to CARDI's Field Station (multiplication of planting material)
- Plate 7:** Transplanting Elephant Grass at Paynter Station
- Plate 8:** CARDI Representative presents at Launch of Australian Direct Aid Project
- Plate 9:** Beans Observation Trials in Belize
- Plate 10:** Webpages of AgriExt App for St Vincent and the Grenadines

ACRONYMS AND ABBREVIATIONS

AFNC	Agriculture Food and Nutrition Cluster
CARDI	Caribbean Agricultural Research and Development Institute
CCS	Caribbean Community Secretariat
CHOG	CARICOM Heads of Government
CIAT	International Centre for Tropical Agriculture
CIRCE	Research Centre for Energy Resources and Consumption
CN	Concept Note
CNCDs	Chronic Non-Communicable Diseases
COTED	Council for Trade and Economic Development
COVID-19	Coronavirus Disease 2019
DENDRON	Development of Ecosystem services and implementation of biodiversity Restoring actions in different continental areas
EDF	European Development Fund
EU	European Union
FAO	Food and Agriculture Organization
GARDC	Gilbert Agricultural and Rural Development Centre
IICA	Inter-American Institute for Cooperation on Agriculture
IMF	International Monetary Fund
ITC	International Trade Centre
GTCA	General Technical Cooperation Agreement
MoA	Ministry of Agriculture
MAFSE	Ministry of Agriculture, Food Security and Enterprise
NCD	Non-communicable Disease
OIRSA	Organismo Internacional Regional de Sanidad Agropecuaria
OYT	Observation Yield Trail
PAHO	Pan American Health Organisation
RCCIP	Regional Coconut Commodity Innovation Platform
SPS	Sanitary and Phytosanitary
WHO	World Health Organization

1.0 Introduction

Agriculture continues to play a vital role in the sustained economic recovery of the region during the un-predictive period of the Coronavirus Disease 19 (COVID-19) pandemic and beyond. Economic growth in the agriculture sector promises to contribute to poverty reduction and food and nutrition security. Further investment in agriculture can assist in the revitalization of food systems and create jobs for rural and vulnerable populations. The Caribbean region with its small, open, fragile economies reliant on international trade is vulnerable to exogenous shocks. A net food importer, the region battles a high and rising food import bill, estimated at US\$ 4 billion annually, an increase of 50 percent since 2000 (FAO, 2015). The region also battles a chronic non-communicable diseases epidemic with common root causes of unhealthy diets, physical inactivity, tobacco use and harmful use of alcohol.¹ The region is also susceptible to the vagaries of climate change and variability with the average disaster causing damages of US\$352 million (in constant 2010 US\$), and more intense storms causing greater damages (Acevedo, 2016)².

In March 2020, the Caribbean recorded its first case of the Coronavirus Disease 2019 (COVID-19). The emergence of the disease in the region warranted the implementation of several control measures which in turn resulted in unprecedented disruptions to economic systems with major negative impacts. The COVID-19 pandemic disrupted agriculture value chains, threatened food security and upended livelihoods of millions of people around the globe. To contain the virus and safeguard the livelihoods of the population, regional governments instituted a series of macro-economic policy measures. The fallout from these measures impacted the region's agriculture sector leading to surpluses of produce on farmers' hands, limited intra-regional trade and unemployment.

Around the same time last year (March 2020), the World Health Organization (WHO) declared the novel coronavirus outbreak as a global pandemic. Subsequently, CARDI in collaboration

¹ CCS, PAHO and WHO, 2011. Strategic Plan of Action for the prevention and control of Chronic Non-Communicable Diseases (NCDs) for countries of the Caribbean Community (CARICOM) 2011 - 2015

² Sebastian Acevedo, 2016. Gone with the Wind: Estimating Hurricane Climate Change Costs in the Caribbean. IMF Working Paper.

with other regional and international organisations met and defined strategies and measures which were to serve as adequate responses to an undoubtedly burgeoning crisis. These meetings were the catalyst for further coordination at the level of the CARICOM Secretariat (CCS), and included selected Regional Institutions, Hemispheric and International Development partners, including the Inter-American Institute for Cooperation on Agriculture (IICA) which led to the development of a “COVID-19 Agri-Food Response and Mitigation Framework” document.

A comprehensive plan which outlined strategies to minimise any future disruptions to agri-food supply chains was developed. Short term measures focused on providing the critical support needed to maintain the integrity of the food supply chains while medium to long term measures address long term food security from the perspectives of increased production, reduced reliance on imports and resilience.

The CARICOM COVID 19 Agri-Food Action Plan outlined specific tasks for the individual agencies, CARDI, in the main was tasked with several actions including:

- Promotion of planting material, livestock & agricultural inputs
- Increase production
- Strengthening Research & Development in key agri-food products along value chains.

Given the circumstances, CARDI, like most other regional, hemispheric and international organisations had to pivot its operations around the pandemic. Prior to COVID-19, annual country and unit’s work programmes were prepared. These work programmes focused on the priority commodities including small ruminants, roots and tubers, coconuts and herb and spices. In March 2020, with the onset of COVID-19 and its associated measures of lockdowns, curfews, social distancing, these programmes were disrupted, in particular activities related to field work. In April 2020, CARDI adjusted its work operations and prepared a revised operational budget and work programme specific to a COVID-19 response, which focused on action in the short-term, that is, during the period May – December 2020. In the main CARDI adopted online platforms to ensure continuity of its work. In terms of its essential crops and livestock

maintenance activities, this continued throughout this period. The revised work programmes also addressed the areas of climate change, increased productivity and value addition.

In 2020, IICA and CARDI continued to share its long-standing institutional relationship which dates back to some 20 years ago even as they worked out their individual operations in an uncertain environment. In previous years, IICA, through formal modalities under the General Technical Cooperation Agreement (GTCA), provided CARDI with financial resources to conduct research and implement projects in agreed areas. Although much of the work of the organizations is facilitated through the GTCA, the institutions collaborate outside of this formal agreement as both institutions are committed to the promotion and development of agriculture research and development in the region and envisioned through collective efforts a greater and more effective contribution can be made to agricultural research for development.

This Report highlights the IICA- CARDI joint initiatives for 2019/2020.

1.1 CARDI in the Caribbean Region and the Regional Response to COVID-19

The last year has underscored the importance of agriculture in the region as threats of severe disruptions became more imminent. In this regard, CARDI with its technical expertise, wealth of knowledge, experience, track record and presence in 14 CARICOM Member States played a coordinating role in the region's agri-food research and development response and in so doing jointly delivered on the diverse challenges of the Member States.

At a national level, CARDI re-directed resources towards increased production and distribution of planting material. In Antigua and Barbuda, Bahamas, Barbados, Grenada and St. Kitts and Nevis, the production of planting material was ramped up and thus facilitated access to farmers. Further, CARDI provided technical assistance to stakeholders including Ministries of Agriculture. CARDI commits to providing joint leadership in coordinating the region's agricultural response to the COVID-19 global pandemic through leveraging the synergies and harmonization of effort towards securing regional food and nutrition security and agri-food systems.

2.0 IICA- CARDI General Technical Cooperation Agreement (GTCA), 2019-2021

The GTCA, 2019 – 2021, is a broad and overarching agreement which identifies three areas of cooperation, those being; Direct Technical Cooperation, Internal Institutional Capacity and Mobilization of Resources, each with specific strategic topics and/or focal points for intervention. In particular, these areas of cooperation are fulfilled through project and actions which meet the criteria of the GTCA and for which resources would be provided as a direct grant from IICA. The GTCA recognizes the changed funding environment which requires both CARDI and IICA to be financially prudent, efficient and innovative as it pertains to the mobilization of external resources and the use of such in the implementation of projects and actions. To this end, a reduced budget along with a reduced number of projects was envisioned for the period of the GTCA.

Three identified proposals were tabled before the Project Coordination Mechanism for review and were approved. Both institutions were called upon to pivot in terms of the mobilization of funds, its availability and their planned actions, due to exogenous shocks to the Region. The first occurring at the close of 2019 as it pertained to the devastating impact of Hurricane Dorian on the Bahamas and the need to redirect funds to assist with recovery efforts for the agriculture sector. The second, occurring in March of 2020, where the World Health Organization (WHO) declared the Coronavirus Disease (COVID-19) a global pandemic. The latter has had a pervasive impact on all countries in terms of intra-regional and in-country movements, the ability of persons to gather and interact and the ability for 'normal' productive economic activities, upstream and downstream of the various value chains, to occur. This resulted in the inability to implement projects in meaningful ways especially where project funds were yet to be disbursed and where more emergency and priority responses were needed in the context of planned interventions and threats to trade and food security. As such, there has been only one funded action under the GTCA which is the Bahamas agricultural response and sectoral recovery due to the impact of Hurricane Dorian 2019. These activities began in the last quarter of 2019 and were completed in the first quarter of 2020. All other planned interventions were stymied with the impact of the COVID-19 pandemic on countries and institutions alike, where there was a need for re-prioritisation of resources.

3.0 Projects Implemented under the IICA-CARDI GTCA: 2019-2021

The GTCA came into effect January 1st 2019 with an effective closing date of March 2021. Mindful that both organizations were operating with limited resources, there was a consensus for a closer working relationship and a more robust governance mechanism towards heightened visibility and greater impact. Although the GTCA remained in existence till March 2021, there were adjustments to work programmes and plans resulting in limited project activities undertaken in 2020.

Some of the major activities completed during the period of enforcement included the formation of two committees: the IICA-CARDI Steering Committee with oversight for the implementation of the GTCA³ and a Project Coordination Mechanism for each project selected for implementation. Both Committees met on several occasions in 2019 to discuss administrative and management issues. These discussions resulted in the development of joint project management templates and finalization of Concept Notes with corresponding work plans and budgets.

Although Concept Notes on the regional sweet potato and small ruminant sectors were approved by the Steering Committee, the devastation of The Bahamas by Hurricane Dorian in 2019 resulted in a redirection of efforts and the organisations mounted a joint response to the recovery of the agriculture sector, post Hurricane Dorian.

The activities undertaken in The Bahamas focused on restoring productive capacity, nursery infrastructure and other support to Grand Bahama and Abaco. The main activities conducted were:

- Joint assessment of the damages to the islands of Northern Bahamas, Grand Bahama and Abaco,
- Mobilization and distribution of sweet potato slips and hot pepper, sweet pepper, and tomato seeds to the affected farmers.

³ The Steering Committee comprises: B. Clarke, G. Robins, and T. Alvarez from CARDI and Mr. M. Messina, Ms. Diana Francis, Ms. Viviana Palmieri.

- Procurement and distribution of seeds and building materials (for example lumber for suspended slatted floor, climate smart livestock pens) to farmers (January to April 2020)



Plate 1: Destruction after Hurricane Dorian



Plate 2: Planning Meeting Post Hurricane Dorian Relief with major stakeholders



Plate 3: Preparing planting material for distribution to farmers

3.1 IICA – CARDI Joint Initiatives In-Country

The IICA and CARDI relationship, established over the years, were maintained and in some instances strengthened during this pandemic. This has led to the jointed participation and implementation of several initiatives inclusive of the development of proposals to be implemented regionally.

In **Antigua and Barbuda**, IICA and CARDI continued to work together to implement projects which supported the development of the livestock industry through the production of high-quality forages and planting material. Project development and implementation including site visits are conducted jointly. In many instances, IICA mobilises the funds for joint project



Plate 4: Representatives of Project Team: MoA, IICA and CARDI at Project Site, Ministry’s Field Station

development and implementation with each stakeholder leveraging their strengths to ensure successful execution. This model is utilized for the projects in Antigua and Barbuda.

Among the projects undertaken in 2020 was the establishment of four 1-acre forage banks to support the livestock sector in four different agro-ecological zones. IICA secured funds for this project through the Australian Direct Aid Program.

CARDI provided technical support in the form of parent material which was rapidly multiplied and plantlets supplied to the Ministry of Agriculture for the 1-acre plots.

CARDI additionally supported the set-up of the irrigation system for the selected plots. A combination of grasses, legumes and shrubs were used in each bank. There were also joint efforts in the implementation of a protected agriculture project at the Old Road Primary School. This project was also implemented utilising the IICA- CARDI model where funds were secured by IICA and CARDI provided the technical expertise and support to set up the protected shade house system at the Old Road Primary School. Further an irrigation system was also established to support the agriculture programme for the school and its members.



Plate 5: CARDI Technician installing drip irrigation in a Protected Agriculture system



Plate 6: MoA, IICA and other Stakeholders visit to CARDI's Field Station (multiplication of planting material)

A third collaborative project was undertaken in Antigua and Barbuda in 2020. A Vetiver (*Chrysopogon zizanioides*) grass project was carried out which aimed at strengthening the coastal and marine climate resilience through upland and coastal ecosystem-based adaptation. In 2020, the project was in its planning phase. Two proposed sites were identified in Bendals and Gilbert Agricultural and Rural Development Centre (GARDC), Antigua where nurseries for Vetiver grass would be established with an estimated 3,000 plantlets at each site. CARDI provided technical support in the planning phase including joint identification of sites for the establishment of the nurseries. CARDI also provided technical expertise in establishing the drip irrigation system for the nursery. All activities will be executed in 2021.



Plate 7: Transplanting Elephant Grass at Paynter Station



Plate 8: CARDI Representatives presents at Launch of Australian Direct Aid Project

In **Belize**, CARDI continued to collaborate with IICA, the Ministry of Agriculture and other Development Partners on the implementation of the project – Bio-fortification of Beans for CARICOM. The project was the result of a decision of the 81st Special Meeting of Ministers under Agenda Item at COTED (SPEC)/2019/81/8.5 (IICA Regional Project to address Dietary and Non-Communicable Diseases in CARICOM Member States). The project will evaluate commercial varieties of beans to determine the baseline iron and zinc content and thereafter select promising lines for fast tracking variety release.



Plate 9: Beans Observation Yield Trials in Belize

In response to the mandate from COTED, the Ministry of Agriculture, Food Security and Enterprise (MAFSE) in Belize approved funding and provided requisite materials and supplies to establish two Beans Observation Yield Trials (OYT), one in 2020 and the other in 2021. These interventions minimised delays in implementation. In addition to the MAFSE, the following agencies were involved in the implementation of the bean trials: The International Centre for Tropical Agriculture (CIAT) and Harvest Plus - provided the planting the material, Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA) - provided biological controls to assist with pest management, CARDI - provided field research interventions, technical assistance and human resources and IICA - technical support and financing commitments.

Further the project seeks to:

- Support the adoption, diffusion and impact assessment of bio-fortified crops in CARICOM Member States as a component of the regional strategy to address dietary deficiencies and non-communicable diseases in CARICOM in fulfilment of its commitment to achieving SDG number 2;
- Support the mobilisation of funds for implementation of the bio-fortification innovation.

In **St. Vincent and the Grenadines**, CARDI is part of a team, led by IICA and includes the Ministry of Agriculture (MOA), involved in the development an Agriculture Extension App to enhance the exchange of information and communication among farmers, extensions officers and other stakeholders. The project aimed to streamline and improve the interaction and exchange of information between extension workers and farmers and facilitate access to priority information to respond to producers' problems. CARDI provided the relevant subject matter information through tech packs along with other technical publications for the specific commodities. In 2020, CARDI provided data on root crops (dasheen, yam, tannia, eddoes, and sweet potatoes). Prior to the eruption of the volcano in April 2021, CARDI provided information on vegetables (tomato, sweet pepper, cabbage, cauliflower, eggplant, cucumber, lettuce, and watermelon). The project however, has been put on hold since the volcanic eruption in April 2021.

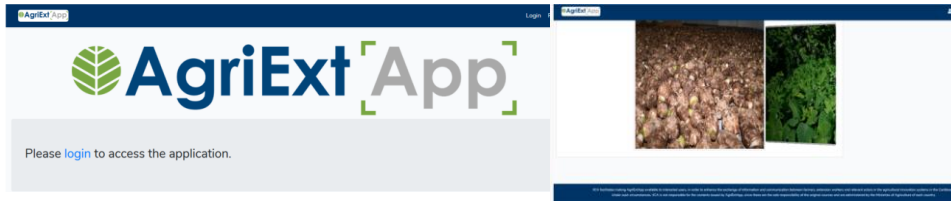


Plate 10: Webpages of AgriExt App for St. Vincent and the Grenadines

4.0 Strategic Alliances

CARDI and IICA collaborate closely within the context of several CARICOM and Council for Trade and Economic Development (COTED) – Agriculture institutional arrangements including the Agriculture, Food and Nutrition Cluster (AFNC) and its satellites, the Thematic Groups and Commodity Working Groups. CARDI serves as chair of the AFNC, which has the mandate to harmonize the various work programmes of the Regional Institutions and the Region’s International Development Partners (IDPs) and to capitalize on synergies, especially in the context of dwindling resources available to the Region. IICA serves as a valued member of the AFNC and in addition, also participates in the Thematic and Commodity Groups, such as, the recently formed Coconut Commodity group, Research and Human Resource Development Thematic Group and most notably, the Business Development Thematic Group, which it chairs. All of these various regional groups report to the parent cluster which is the AFNC, where their contributions and reports are represented at the level of COTED (Agriculture) and at times, the CARICOM Heads of Government (CHOG). An example of this is the COVID-19 Food and Nutrition Action Plan, developed through collaborative efforts under the guidance of the AFNC by way of emergency meetings, reviewed and approved by COTED (Agriculture) and then CHOG.

The organizations also work closely together under the rubric of the Caribbean Week of Agriculture. Given the present COVID-19 circumstances it is anticipated that both institutions will have to collaborate even closer in the attempt to assist the region’s efforts at recovery of the agriculture sector. IICA is also an observer on the Board of Directors of CARDI and, in this position, has provided valuable insights into improving the governance mechanisms of the organization. The IICA-CARDI linkages are inextricably woven together as both organizations

share a rich history of collaboration, shared concerns and comparative advantages that allow for the delivery of a wide range of technology products and services to the agri-food sector.

5.0 Future IICA-CARDI Collaboration

Although the GTCA expired as of April 2021, CARDI and IICA continue to work closely and collaborate on projects toward the recovery and sustained development of regional agriculture. In terms of navigating the ongoing pandemic there will be opportunities for both institutions to participate in the joint initiatives as the region continues to implement the Recovery Road Map post COVID-19 where immediate, short, medium- and long-term priority actions have been identified for action.

At the country level there are also collaborative initiatives and expressed intent of working jointly. Early 2021 (January) in Guyana, CARDI and IICA signed a letter of intent to work together in the implementation of the Horizon 2020 project: Development of Ecosystem services and implementation of biodiversity Restoring actions in different continental areas (DENDRON), led by the Research Centre for Energy Resources and Consumption (CIRCE).

5.1 Coordination, Complementarities and Added Value of Projects

Both CARDI and IICA are recipients, directly or indirectly, of European Union (EU) donor resources through the 11th European Development Fund (EDF). One of the defining elements regarding the management of such resources, which highlights efficient use and the capitalization of synergies is that of coordination, complementarity and EU added value with respect to EU funds. In this regard, CARDI and IICA have combined efforts towards the implementation of their respective EU donor funded projects, to its mutual benefit and gain, and that of the Region's beneficiaries.

CARDI, in its joint implementation with the International Trade Centre (ITC), of the "Alliances for Coconut Industry Development Expansion and Enhanced Support for the Caribbean" project, aims to enhance the competitiveness of small-scale farmers in coconut value chains through better local, regional, and global market integration and production performance. The overall development objective of the Action is to enhance competitiveness of small-scale farmers in

coconut value chains through better local, regional, and global market integration and production performance. This will involve an integrated and coordinated two-prong approach by enhancing the competitiveness of the coconut farmers and facilitating an integrated coconut value-chain. A key objective of the Coconut Project is the creation and reinforcement of food safety standards and strengthening of C and quality compliance systems.

IICA as the executing agency and in the implementation of the “Sanitary and Phytosanitary (SPS) Measures” Project, seeks to support the beneficial integration of the CARIFORUM states into the world economy. The objective of the SPS Project is to facilitate CARIFORUM States to gain and improve market access by complying with Europe’s Sanitary and Phytosanitary (SPS) measures and to help CARIFORUM states to better develop their own regionally harmonized SPS measures.

As compliance with international SPS measures is a common intervention of the two projects, CARDI and ITC will collaborate with IICA to aid in the facilitation of positive outcomes and outputs that benefit both the Coconut and SPS Measures Projects. Specifically, cooperation will be along the following areas:

- Knowledge management and information dissemination relating to the development of the agri-food system; in particular the coconut industry;
- Establish responsible and inclusive public-private production and commercialization connections with Alliances for Action partners,
- Capacity building activities in the areas of production and processing; and
- Strengthening systems for improved SPS compliance in the Caribbean.

These elements have been formalized and structured within a draft Letter of Agreement (LoA) which is to be signed by all parties with the appropriate visibility and ceremonial regard which it demands. This signing event is tentatively scheduled for July 2021, with a specific date to be finalized.