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IICA-CARDI PROGRAM FOR COLLABORATION 2011-2014

San Jose, Costa Rica
July 2011

TABLE OF CONTENTS

TABLES

Page

FIGURES

ANNEXES

IICA-CARDI PROGRAM FOR COLLABORATION 2011-2014

1. Background

The IICA-CARDI institutional collaboration started in 1989 when both institutions signed a five-year cooperative agreement to "promote agricultural research and development in the Caribbean". Both organizations realized that a collaborative effort can provide a more effective contribution to agricultural research and development in their common Member States than could otherwise be achieved by the separate and independent action of each party. Five agreements for collaboration have been signed by IICA and CARDI. The most recent one being in 2010 that seeks to support the Region's agricultural and rural sector, consistent with the Jagdeo Initiative and the Liliendaal Declaration mandated in July 2009 by the Conference of Heads of Government of CARICOM. These mandates recognize agriculture as a major economic driver in the development agenda, particularly with respect to ameliorating food insecurity, poverty and hunger and increasing the sector's competitiveness.

Given the Governments' mandates and the new challenges facing agriculture, both institutions implemented 32 projects over the last five years that were aimed directly at improving agricultural production systems, enhancing food security and production competitiveness, promoting enterprise development and expanding networks. The beneficiaries of these projects included national institutions, such as, the Ministries of Agriculture, Universities, farmers' organizations, producers and agri-business enterprises.

The opportunities for future collaboration between IICA and CARDI have expanded due to several factors. Both organizations share a common political and stakeholder base in the Caribbean and are committed to implementing the Jagdeo Initiative and addressing the issues of food security, poverty, a more competitive agriculture, better natural resource management and climate change management. Furthermore, the strategic plans of both organizations indicate that they have common areas of interest that could form a solid platform for synergies through the complementary strengths of both institutions. CARDI's strengths in technology generation and innovation focus on the development of technological packages for increased agricultural production and productivity. IICA's expertise in agri-business, group dynamics, cluster development and general rural development could be brought to bear on the validation and transfer of the technological packages and on enterprise development.

Both IICA and CARDI recognize the enormous challenges that the Caribbean faces, particularly with regards to increasing the agricultural sector's productivity and competitiveness, enhancing food security, improving the management of natural resources and understanding the implications of climate change and natural disasters. A major threat faced by the Region is its growing dependence on imported food and the limited capacity of small farmers to supply the domestic market needs and compete in external markets.

Given the limited resources of both institutions and recognizing the need to work jointly to address some priorities of the Region's agricultural sector, IICA and CARDI have developed a collaborative program for the period 2011-2014, to provide technical cooperation and assistance to the region. **FIGURE 1** presents a framework of the program which indicates the main areas in which joint projects and actions will be executed.

2. Objectives

The **overall objective** of the program is to address the specific priorities and challenges of the agricultural sector in the Caribbean and to expand the institutional collaboration between IICA and CARDI, consistent with their strategic objectives and the mandates of the Heads of Government.

The **specific objectives** are to:

(i) Improve agricultural production and productivity, competiveness and market access.

(ii) Contribute to the enhancement of food and nutrition security and poverty reduction.

(iii) Contribute to the improvement of the technology and innovation system in the region.

(iv) Enhance both organisational and individual capacity.

(v) Promote the sustainable management of the environment, taking into consideration the effects of climate change.

(vi) Access additional external funding through the development of joint projects lead by IICA in accordance with Resolution 464 of the IABA.

3. Structure of the Program

The Program has six (6) components to address its general and specific objectives. The structure of the program is presented in **FIGURE 1** below and the description of its components including their strategic focus, projects and actions and funding source(s) are summarized in **TABLE 1**.

Each component of the program comprises one or more projects. A few components are already being executed such as two projects funded by the Common Fund for Commodities (CFC) in which IICA collaborates with CARDI for their execution in Haiti (Component 3), preparation of a joint proposal under the Intra-ACP Agricultural Program that was submitted for funding by the EU (Component 3) and projects that are executed under the current IICA-CARDI

agreement (Component 5). IICA and CARDI have also initiated the process to define projects and activities to be executed under the other components.

4. Reporting

An annual report on the advances and achievements of the program will be jointly prepared by IICA and CARDI for submission to IICA's Executive Committee and CARDI's Board of Governors.

FIGURE 1
STRUCTURE OF THE IICA-CARDI COLLABORATION PROGRAM
2011-2014

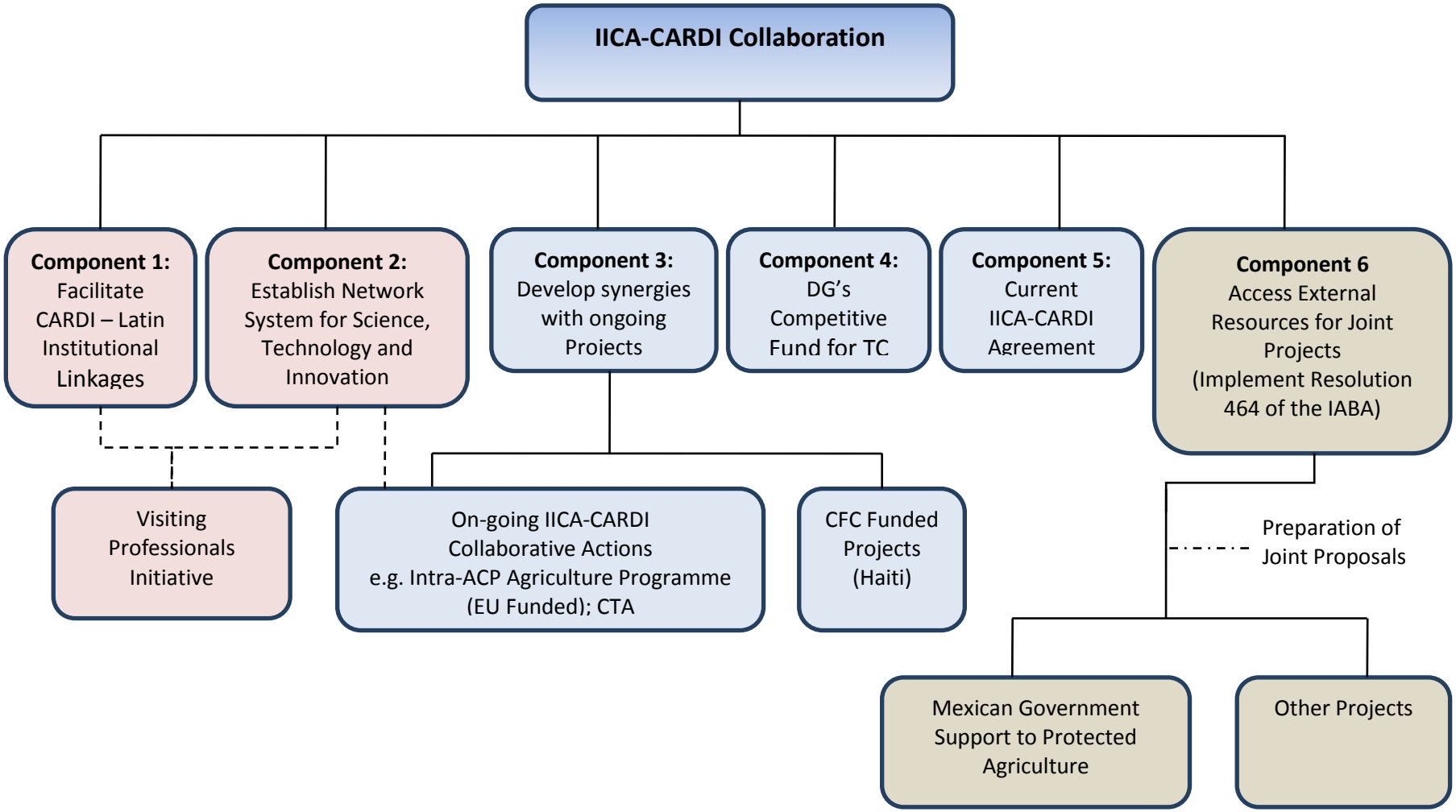

TABLE 1

Summary of Components, Strategic Focus, Projects and Funding Sources of the IICA-CARDI Collaboration Program, 2010 - 2014

Program Component	Strategic Areas of Action	Main Focus Areas	Projects/Actions	Funding Source(s)
1. CARDI-Latin Institutional Linkages	▪ Development of inter-relationships between key science, technology and innovation entities in Latin America (e.g. CATIE, EMBRAPA, FONIAP) and the Caribbean (e.g. EDIAF, CEDAF, CELOS)	• Thematic and Commodity Areas (Roots & Tubers, Cereal & Grain Legumes, Small Ruminants, Forages & Feeds) • Exchange of technologies, planting material, transfer of procedures and staff • Enhancing linkages between PROCICARIBE and other PROCI systems in FORAGRO.	• Exploratory meeting between the named Institutions for the purpose of developing the Plan of Operations (either collective or bilateral arrangements)	• Funding pending development and approval of the proposal
2. Innovation and Technology System in the Caribbean	▪ Strengthen the Innovation system for productivity and competitiveness in the region.	• Improve science, technology and innovation for competitive and sustainable agriculture. • Facilitate biotechnology innovations for the benefit of farmers • Facilitate linkages between Caribbean and Latin American organizations to strengthen agricultural science, technology and innovation systems. • Strengthen technology and innovation systems through IICA's Visiting Professionals Initiative.	• Execution of joint activities by IICA's Program for technology and innovation in the Caribbean and CARDI's Innovation and Technology program.	• In-kind contributions by IICA (Technology & Innovation Specialist) and CARDI (to be determined).

TABLE 1

Summary of Components, Strategic Focus, Projects and Funding Sources of the IICA-CARDI Collaboration Program, 2010 - 2014

Program Component	Strategic Areas of Action	Main Focus Areas	Projects/Actions	Funding Source(s)
3. Develop Synergies with On-going Projects				
Sub-Component 3.1. On- going IICA-CARDI Collaborative Actions				
a. Intra ACP Agricultural Policy Program: Caribbean Component (Awaiting EU approval; expected implementation 2012)	▪ Strengthen regional Agricultural development strategy ▪ Support to poverty reduction, food and nutritional security and sustainable economic growth.	• Strengthen regional organizations' capability to address smallholder agriculture. • Improve adoption of agricultural production and processing technologies. • Improve smallholders' entrepreneurial, organizational and marketing capacities.	▪ EU four-year project for the Caribbean (pending EU approval).	• Grant allocation by the EU (approximately Euro 8.7 million).
Sub-Component 3.2. CFC Funded Projects				
a. Increased Production of Roots and Tubers in the Caribbean (2010 – 2012)	▪ Enhance food security in selected CARICOM-member states. ▪ Improve the efficiency of small-farm production.	• Improve the production of roots and tubers in Haiti. • Strengthen stakeholder participation and key components of the value chain.	• Country programme (Haiti) of a CFC project for 6 CARICOM countries.	• Grant allocation (Cash) CFC – USD 675,442 • In kind Counterpart Contribution IICA – USD 30,087 CARDI – USD 82,175

TABLE 1

Summary of Components, Strategic Focus, Projects and Funding Sources of the IICA-CARDI Collaboration Program, 2010 - 2014

Program Component	Strategic Areas of Action	Main Focus Areas	Projects/Actions	Funding Source(s)
3. Develop Synergies with On-going Projects (cont.)				
b. Increased Production of Vegetables and Herbs through Protected Agriculture (PA) in the Caribbean (2010 – 2012)	▪ Enhance food security in selected CARICOM-member states. ▪ Improve the efficiency of small-farm production.	• Transfer and adapt PA technologies to intensify vegetables and herbs production. • Strengthen value chain clusters and stakeholder participation. • Improve marketing linkages.	• Country component (Haiti) of an EU and CFC project for 3 CARICOM countries.	• Grant allocation (Cash) CFC – USD 802,415 EU – USD 230,937 • In kind Counterpart Contribution IICA – USD 62,058 CARDI – USD 113,600
4. Director General's Competitive Fund for Technical Cooperation (FonDG)	▪ Contribute to food security in the Caribbean. ▪ Contribute to better natural resource use and management.	• Facilitate transfer and adoption of improved technology, particularly biotechnology. • Improve small farmer agricultural production and marketing system.	• Project proposals to be prepared by IICA and CARDI jointly to access resources of the Program.	• Funding by IICA pending approval of proposal(s). • In-kind contribution by CARDI.
5. IICA-CARDI Cooperative Agreement, 2010-2014 (executed by CARDI and IICA).	▪ Enhance food security in CARICOM-member states. ▪ Improve the efficiency of small-farm production.	Improve the production of: • vegetables and herbs • roots and tubers • small ruminants • cereal and grain legumes • knowledge sharing	• Various projects defined by the Coordinating Committee for implementation of the Agreement in CARICOM-member states.	• IICA ($200,000/year - Resolution 464 of the IABA) • In-kind contribution by CARDI and Ministries of Agriculture.

TABLE 1

Summary of Components, Strategic Focus, Projects and Funding Sources of the IICA-CARDI Collaboration Program, 2010 - 2014

Program Component	Strategic Areas of Action	Main Focus Areas	Projects/Actions	Funding Source(s)
6. Access External Resources for Joint Projects	• Provide funding through focused Research and Development initiatives that will contribute to the sustainability of enterprises in the agricultural and rural sectors	• Development of proposals for funding	• To be identified	• Cash External. • In-kind contribution IICA and CARDI.
a. Technical Cooperation Program of the Government of Mexico for the Caribbean (awaiting final approval and implementation in 2011)	▪ Enhance food and nutrition security. ▪ Improve the efficiency of small-farm vegetable production	• Facilitate transfer and adoption of protected agriculture technology. • Build capacity of small farmers and national institutions in PA system. • Strengthen the value chain of PA system.	▪ Support by the Government of Mexico to improve Caribbean agriculture.	• Cash The Government of Mexico USD 100,000. • In-kind contribution IICA and CARDI.

Component 1

Facilitate CARDI-Latin Institutional Linkages

1. Brief Description

The ecologic and edaphic similarities between the countries of the Caribbean and Latin America (LA) offers the opportunity for the exchange of technologies, planting material and procedures which will facilitate our regions to synergise our approaches to the development of the sector and rural milieu.

The main focus of the action/component aims therefore at optimising the benefits of the resources available in both sub-regions of the hemisphere with the overall impact of improving food security and poverty reduction.

2. General and specific objectives

The **overall objective** is to enhance the science and technology exchange between the Caribbean and LA, in the midst of our changing agro-ecological environment, the need for conserving and utilizing germplasm and developing sustainable science and technology systems which enables diffusion to our producers/farmers.

The **specific objectives** are to:

(i) Exchange technologies, planting material, transfer of procedures and staff in the areas of Roots & Tubers, Cereal & Grain Legumes, Small Ruminants, and Forages & Feeds.

(ii) Facilitate the appropriate networks for the diffusion of knowledge between PROCICARIBE (and other PROCI systems) in FORAGRO and the Caribbean.

3. Target Groups and Beneficiaries

This programme will target (in the first instance) the major stakeholders in the agriculture research and development fraternity, based on the key Thematic and Commodity Areas of Roots & Tubers, Cereal & Grain Legumes, Small Ruminants, Forages & Feeds.

4. Execution strategy

The programme of actions for the Component will be developed through an **Exploratory Meeting** (date to be determined) of agreed institutions to develop the Plan of Operations (collective or bilateral), indicative costs, funding and duration of the programme. IICA will facilitate development of the links between CARDI and the R&D institutions of Latin America.

Component 2

Establish Network System for Science, Technology and Innovation

1. Brief Description

Investment in agricultural research in southern countries has not led to corresponding productivity output. When compared to the more developed economies of the North, Caribbean economies are underperforming. Caribbean agriculture has been declining over the last 15 years (1995 – 2009), partly because of reduced earnings from traditional export agriculture and also because of significant socio-economic problems faced by regional governments. Except perhaps for Belize and Guyana, agriculture's contribution to GDP and its gross earnings have continued to decline in most countries. The nine binding constraints that limit the productivity of regional agriculture has been outlined in the Jagdeo Initiative and continue to characterise the current status of the Region's agricultural sector.

Development practitioners have postulated several models to address this disparity, but none was found to be entirely adequate for analysing and more importantly for addressing the complex issues faced by agriculture and the rural sector in the developing world. Within this context, the innovation systems approach is offered as a framework for analysis and to spur innovation for socio-economic development.

2. General and Specific Objectives

The **overall objective** of the programme is to strengthen the science, technology and innovation systems of the region's agriculture and rural sectors. Attention will be given to facilitating the development of robust science systems that can provide the technologies needed by the sector to safeguard sustainable development. Recognising that the 'new' agriculture is no longer defined by the linear model of 'technology transfer', the focus is on knowledge creation and diffusion and much emphasis is placed on farmers being valuable repositories and engines of innovation.

The **specific objectives** are to:

(i) Build appropriate networks to facilitate the diffusion of knowledge from wherever it is created to those who can use it for socio-economic development.

(ii) Provide a mechanism for the shaping and elaboration of appropriate multi-stakeholder processes that foster the strengthening of the innovation system.

(iii) Create collaborative and other partnership arrangements to strengthen science and technology inputs and outputs (including access to labs and scientific staff)

3. Target Groups and Beneficiaries

This programme will target the major stakeholders in the agri-food sector to ensure that the widest participation is sought and that opportunities are provided for key actors to buy into the process. Particular emphasis will be placed upon targeting actors in accordance with the following functional groupings:

Component	Actors
Market / Demand	Consumers / buyers / retailers / wholesalers / middle men
	Consumers of raw materials for industrial / added value e.g. agro processing industries, restaurants, hotels
	Commodity markets / traders /food banks
Enterprise	Farmers
	Input suppliers (seed /feed, agro-chemicals, machinery, packaging)
Diffusion	Extension services (public/private)
	NGOs and CBOs
	Farmer and trade organizations
Research and training	National, regional and international agricultural research and development organizations (public, quasi-governmental, private)
	Universities and other institutions of higher learning (public, quasi-governmental, private)
	Research foundations
	Private companies and NGOs with own research facilities
Infrastructure component	Policy making agencies (ministries; quasi-governmental agencies / state boards)
	Banking and financial agencies – private and public / quasi-governmental
	Transport and marketing agencies / commodity boards /exchange
	Information and communication infrastructure including libraries
	Organizations Networks - professional, farmer and trade networks
	Regulatory agencies (IPR, sanitary and phyto-sanitary regulations, etc)
	Standard setting bodies

Consumers who demand safe and wholesome foods at affordable prices will benefit from this process; farmers as the end-users of technology for improved production and productivity will also benefit. All participants in the food and agriculture value chain are potential beneficiaries of an improved innovation system.

4. Execution Strategy

The programme will be initially executed through internal capacity-building exercises, followed by the execution of a sector case study to determine the strengths and weaknesses of the underlying Agricultural Science, Technology and Innovation (ASTI) system being employed, key actors will be briefed on the innovation systems, the aims and objectives of the study. Technical expertise to this component will also be facilitated by the newly established Visiting Professionals Initiative in IICA that will facilitate the exchange of professionals between the Caribbean and Latin America.

Key actors will report on the developments throughout the execution phase and will participate in analysing and interpreting the findings. The result will be a series of policy and regulatory recommendations aimed at improving the ASTI system, as a foundation from which sustainable development of the agri-food sector can be built.

5. Costs and Funding

The CARDI programme's indicative budget is Euro 75,000

6. Duration of the Pprogramme

This programme can be delivered 18 months after the requisite resources have been mobilized.

Component 3

Develop Synergies with On-going Projects

Component 3.1: IICA-CARDI Collaborative Actions: Intra ACP Agricultural Policy Program - Caribbean Component

1. Brief Description of Problem

Regional development partners in the CARIFORUM agree that solutions to the agricultural development challenges require a regional response that integrates and builds on existing initiatives and articulates an explicit long-term strategy to address the situation and developmental needs of small producers. This consensus recognizes that a focused agricultural policy and strategy will provide effective support in two critical areas of need: (a) appropriate research and technology; and (b) effective market linkages sustained through adoptions of the value chain approach.

This Program is a component of the Intra Africa, Caribbean and Pacific (ACP) Agricultural Policy Program funded by the European Union. It will contribute to the strengthening of an enabling environment that encourages and enables small producers to influence decision-making on matters that affect their livelihoods, to enhance operational efficiencies through the validation and adoption of improved and appropriate technologies and practices that are sustainable, and effectively take advantages of opportunities to expand their access to and presence in markets through backward and down- stream linkages.

The Program will strengthen the capacity of Regional Institutions, including, but not limited to the CARICOM Secretariat, to support national agriculture policy and strategy processes to more effectively integrate micro, small and medium enterprises of producers and commodity associations. In this regard, attention will be paid to building capacity for evidence-based policy and strategies. An indispensable part of the program will be to improve the dissemination and adoption of applied agricultural production and processing research and technologies among small producers. These activities will be underpinned by the application of scientific principles and practices in production processes, with a particular focus on women, youth and climate change adaptation. These two components will be complemented by a third aspect aimed directly at stimulating and developing entrepreneurship in agriculture by building capacity of small producer and agro processor associations to establish and sustain linkages across value chains and to access markets.

2. General and Specific Objectives

The **overall objective** of the Program is to contribute to strengthening the regional agricultural development strategy of the Caribbean and inter-regional capabilities of the agricultural sectors in reducing poverty, improving food and nutritional security, and promoting sustainable economic growth.

The **specific objectives** are to:

(i) Increase the capability of regional agricultural development organizations of the Caribbean to address the development needs of smallholder agriculture, by promoting and supporting inter and intra-regional trade.

(ii) Contribute to improving the dissemination and adoption of applied agricultural production and processing research and technologies through the development of benchmarks established by participatory field trials and participatory extension methodologies, with a particular focus on women, youths and climate change adaptation.

(iii) Contribute to the enhancement of agricultural enterprise development through improved market linkages by assisting producer and agro-processor associations to strengthen their entrepreneurial, organizational and marketing capacity to facilitate better access to national, regional and international markets.

3. Target Groups and Beneficiaries

The final beneficiaries will be small and medium producers and processors in the agricultural sector and their communities. Other target groups include:

(i) Small and medium producers and processors in the Caribbean, particularly those organized associations and networks, including but not limited to CaFAN, CABA, CANROP, CAFY to enhance their technical and managerial capacities.

(ii) Policy advisors, technicians and Extension Services in the Ministries of Agriculture producer organizations in CARIFORUM to enhance capacity for creating the enabling policy environment for small producers.

(iii) Regional agricultural development institutions, including, but not limited to CARICOM, CARDI, UWI, IICA to strengthen capacity for delivering support services to small producers and processors.

4. Brief Description of Components and Main Activities

The program will address the following policy areas with the associated results:

(i) Strengthen Regional Agricultural Development Strategy

1.1 Regional agricultural policy and strategy - Community Agriculture Policy (CAP)/DR Agri. Policy Implemented.

1.1.1 Agriculture Policy.
1.1.2 Agriculture Strategy – Implementation of the Jagdeo Initiative supported

1.2 Regional statistical capability in agriculture and food systems enhanced.

(ii) Improve the dissemination and adoption of applied agricultural production and processing research

2.1 Commodity production bases improved with innovative production systems and technological packages for sustainable development of small producers.

2.2 Participatory technology generation and innovative methodology that promotes the engagement of small producers and vulnerable groups such as youth and women improved, disseminated and adopted.

2.3 Agricultural production strategies to mitigate the impact of risk and climate change improved, disseminated and adopted.

(iii) Contribution to agricultural enterprise development through improved market linkages

3.1. Improvements in the entrepreneurial, marketing, and organizational capacities of small holders and value-adding enterprises.

3.2. Development of domestic and regional market information and intelligence systems to support small holder and processor involvement in value chains.

3.3. Improved Financing Schemes to Support the Development of Commodity Value Chains involving Smallholders and processors.

5. Execution Strategy

The standard operating EU procedures will be applied to define the operational structure and management responsibilities for this Program. IICA's role will be that of the lead executing agency working in close collaboration with CARDI and the CARICOM Secretariat which are expected to contribute significantly to the implementation of program's components. CARDI will provide an important role in the policy area that addresses improving the dissemination and adoption of applied agricultural production and processing research, while CARICOM will have an important role with respect to strengthening of the regional agricultural development policy and strategy.

A Program Steering Committee (PSC) shall be set up to oversee and validate the overall direction and policy of the program and to monitor the implementation of its activities. The PSC shall meet at least every six months and shall be made up of: a representative of IICA, the contracting authority and executing agency with overall responsibility for the routine technical and financial monitoring; two representatives of participating states, the Dominican Republic and one CARICOM member-country; one representative each of the lead agencies - IICA, CARDI and CCS; two private sector representatives - CAFAN and an agro-processing representative that will represent the interests of the primary stakeholders; and a representative of the EC Delegation with observer status. Experts from the three lead agencies (IICA, CARDI and CARICOM) will be called upon to participate, as deemed necessary, in meetings of the PSC to provide technical advice in the specific policy areas.

A Technical Advisory Committee (TAC) will be established to support program implementation. Representatives from IICA, CARDI, CARICOM and selected development partners will constitute the Technical Advisory Committee which will serve as a Sub-Committee of the PSC, and will meet quarterly and shall provide *inter alia*:

i. Technical advice based on strategic analysis of the situation related to the proposed Actions and context in participating member states that could enhance of constrain implementation;
ii. Technical oversight of progress with the implementation of activities;
iii. Technical guidance and recommendations to address technical difficulties encountered in implementation;
iv. Support for coordination of technical activities;
v. Technical considerations which would support reporting to the PSC.

6. Cost and Funding

The program is awaiting approval by the EU. If approved, it will be totally financed by grant funding from the EU in the amount of approximately **Euro 8.7 million**. The component for which CARDI will assume major responsibility with respect to implementation is estimated to costs approximately **Euro 2.9 million**.

7. **Duration of the Program:** 48 months and it is expected to start in 2012.

Component 3.2 (a): Increased Production of Root and Tuber Crops in the Caribbean through the Introduction of Improved Marketing and Production Technologies

1. Background and Overview

Government policies in many Caribbean countries increasingly emphasize that enhancement of food and nutrition security and a reliable domestic supply of food is key to further economic development of the region. As a strategic response to the 2008 food crisis and the region's capacity regarding food security and sovereignty CARICOM governments agreed to pursue increased food production with the aim of substituting up to 25% of all imported foods with local produce. Therefore, potentially high yielding, carbohydrate rich root and tuber crops have been identified to play a crucial role in accomplishing this goal.

In most countries, the production and marketing of the major root and tuber crops (such as cassava, sweet potato and yam) share common themes, trends and prospects. However, the majority of the smallholders growing roots and tuber crops do so under less than optimal conditions with yields below world average and a low degree of market organization. In addition, there is a disjointed, disorganized approach to the development of the trade in such products, particularly the commodity value chains and the need to elaborate in several areas the adoption of models for broader national and regional implementation. There is recognition for the development and promotion efforts to be improved with a focus on the regional market, and better adaptive technology transfer, upgrading of existing processing and product development technologies, and the availability of characterized quality planting material, education, training and capacity building of producer groups for attaining the critical mass necessary to have a sustainable impact.

2. Objectives and Components

The overall goal of the project is support to the development of a commercially viable and sustainable regional root and tuber crop industry in CARICOM countries that facilitates the improvement of livelihoods and overall food security and sovereignty. The project seeks to address the key constraints identified along the value chain of each crop and explore opportunities for satisfying market (national and regional, in the first instance) demands, through an integrated approach. The countries identified are Jamaica, Haiti, Trinidad & Tobago, St. Vincent & the Grenadines, Dominica and Barbados.

The project has six specific objectives with their corresponding components as follows:

Component A: To Increase fresh and value-added products

This component will address the demand for fresh and value-added products of selected root and tuber crops. This will complement on-going value-added initiatives, provide technological support for product transformation and facilitate improvement of the

infrastructure for value-added operations. The principal areas of focus are root crop processing and juicing of potato; purchase and installation of juicing and centrifugal equipment and production of training material and brochures.

Component B: Value chain clusters

The objective seeks to strengthen existing producer groups and develop value chain clusters, by facilitating cluster dynamics training and the establishment and support of a Caribbean root and tuber industry association.

Component C: Competent producers, processor and marketers.

This objective seeks to ensure the presence of knowledgeable, skilful actors along the value chain through Integrated Crop Management training, training and demonstrations on utilization of value-added products and the effective dissemination of successes for maximum impact.

Component D: Availability of affordable, quality, planting material

This component seeks to strengthen the existing regional propagation infrastructure and where necessary establish hardening facilities for the purpose of increasing the availability of quality planting material at affordable prices. The activities will improve the capacity of institutions for multiplication and deliver quality planting material.

Component E: Value chain utilizing appropriate technologies

In this objective, the project seeks to promote the adoption of technological innovations to solidify the value chain. Performance gaps, quality shortcomings and areas of non-compliance will be determined and appropriate technological support packages demonstrated and introduced.

Component F: Project management and co-ordination

The final objective is to develop an overall operational plan for the project for review on a regular basis and used to effectively co-ordinate project activities and monitor progress for impact. This will ensure delivery of the stated project goals, objectives and outputs and the establishment of sustainable implementation mechanisms.

Supervisory Body and Project Executing Agency: The FAO (Inter-governmental Group on Tropical Fruits) shall be the Supervisory Body. The Caribbean Agricultural Research and Development Institute shall be the Project Executing Agency.

Funding: **CFC Financing:** USD 2,010,023 (Grant)
EC Co-Financing: USD 634,830 (Grant)
Counterpart Contribution: USD 169,786

Location: The project will be executed in the following countries - Haiti, Jamaica, and Trinidad & Tobago, St. Vincent & the Grenadines, Dominica and Barbados.

Collaborating Institution: IICA will collaborate with CARDI for the execution of the project's activities that will be implemented in Haiti only.

Grant Allocation to IICA: **CFC Contribution:** US$675,442
IICA's in kind contribution: US$ 30,087

Location: The project will be executed in the following countries - Haiti, Jamaica, and Trinidad & Tobago, St. Vincent & the Grenadines, Dominica and Barbados.

Duration: 3 years (February 2010 – December 2012).

Component 3.2 (b): Increased Production of Vegetables and Herbs Through the Use of Protected Agriculture (PA) in the Caribbean

1. Background and Overview

The dramatic increase in food prices in the recent past and its impact on the living standards has greatly increased the interest and desire of farmers and stakeholders (government and support agencies, processors) to invest and explore other non-traditional agricultural systems of increasing food production and incomes in the Caribbean. It is widely agreed that Protected Agriculture (PA) as a type of agriculture has enabled many countries to increase agricultural production through the modification of the natural environment to achieve optimum plant growth. Whilst the structure of markets for vegetables varies across countries, some general trends are noteworthy, such as a considerable variation in the retail sector demands, a larger role of supermarkets in distribution and supply, a rapidly growing demand for "convenience" pre-packed vegetables, etc.

However, the current market environment experiences inconsistent supplies and regulatory issues related to health, safety and traceability. As a consequence, the coordination at the sector level among all players in the value chain is critical to ensuring the sustainability of both the local/national and growing export (regional and extra-regional) demand.

Growing vegetables and herbs efficiently and profitably using PA systems has many proven advantages over open field agriculture (OFA). The advantages include among others, more intensive production, an optimum growing environment and reasonably unaffected by seasonality, faster growth rates with higher yields, better quality and effective management (or elimination) of pest and diseases and more efficient and cost effective use of agrochemicals.

The project presents opportunities for a commonality of approach at the regional level to improving productivity and production, import replacement, adoption of appropriate technologies, capacity building and developing marketing frameworks.

2. Project Objectives and Components

The central objective is to strategically adapt and transfer PA technologies through capacity building and infrastructure enhancement, so as to develop and intensify food production and security on the limited land available in selected Caribbean countries. In the first instance, it will focus on Haiti, Jamaica and Trinidad and Tobago and on vegetables and herbs based on their suitability for production under protected agriculture (PA) systems, market opportunities (existing and potential), economic benefits and the competitive advantages of protected agriculture (climate, land, labour and technology). The vegetables and herbs identified are tomatoes, sweet peppers, cucumber, lettuce, eggplant, squash, scallion,

thyme, dill, cilantro and chive. The project has seven (7) components, each with the following objectives:

Component 1: Project management and co-ordination

This component will develop an overall operational plan for the project that will be reviewed on a regular basis by the Project Coordinator and stakeholders in the three selected countries. It will also include workshops and planning meetings and will coordinate project activities and monitor progress for results.

Component 2: Product marketing and trading linkages

This component seeks to enhance product market and trading systems to create a solid business platform and employ best practices which will benefit smallholders, producer groups, cooperatives and the private sector. The activities include establishment and strengthening of marketing linkages; advise, develop and facilitate supply contracts; strengthen and integrate existing management information systems and analysis of PA production and markets; evaluate locations for replication and provide overview of markets and value chains.

Component 3: Establish improved PA systems for selected vegetables and herbs

Under this component, pilot demonstration units of suitable PA systems will be established in target areas of each country. Production indices (production inputs and outputs, growing conditions, etc.) for various PA systems will be established and/or strengthened to ensure adoption of appropriate technologies and practices. Concurrently, post harvest handling and selected marketing systems will be explored (Component 4). The activities include monitor production and productivity in different agro-ecological zones, identify best practices, strengthen PH handling, packaging, storage and transport of PA products, and replicate PA systems.

Component 4: Promote and strengthen PA producer groups and value chain clusters

This component will address the strengthening of existing producer groups involved in PA systems and strengthen the PA value chain that includes key stakeholders.

Component 5: Training

Training facilities to educate PA stakeholders along the value chain will be established. They will encompass producers, trainers, technical support personnel, extension workers, processors (utilization), marketers and general consumer awareness. There will be PA training programs and initiatives, on-farm packing/grading workshops and production of videos as part of the overall capacity building of stakeholders.

Component 6: Improved information sources and access

This component will address coordination in the collection and dissemination of information on PA systems in the selected countries and the Caribbean Region. It will also develop information platforms and media tools to disseminate information. Ultimately, the analyzed information will be disseminated to stakeholders along the PA value chain.

Component 7: Project supervision, monitoring and evaluation

To ensure the PEA and the collaborating organizations deliver on the stated project goals, objectives and outputs through continuous monitoring, evaluation and the establishment of sustainable implementation mechanisms.

Supervisory Body and Project Executing Agency: The Intergovernmental Group on Tropical Fruits shall be the Supervisory Body. The Caribbean Agricultural Research and Development Institute shall be the Project Executing Agency.

Collaborating Institutions: The Ministry of Agriculture, Kingston, Jamaica; the Ministry of Agriculture, Haiti; the Ministry of Agriculture, Trinidad and Tobago; and the Inter-American Institute for Cooperation on Agriculture, Haiti Office.

Funding: **CFC Financing:** USD 2,010,023 (Grant)
EU Co-Financing: USD 634,830 (Grant)
Counterpart Contribution: USD 169,786

Collaborating Institution: IICA will collaborate with CARDI under an institutional agreement for the execution of the project's activities in Haiti only.

Grant Allocation to IICA for execution in Haiti:

CFC contribution: USD 802,415
EC contribution: USD 230,937
IICA's counterpart contribution: USD 62,058

Location: The project will be executed in the following countries - Haiti, Jamaica, and Trinidad & Tobago.

Project Duration: 3 years (February 2010 – December 2012)

Component 4

IICA's Director General Competitive Fund for Technical Cooperation

1. Overview

In his inaugural address, the Director General of IICA mapped out the course the Institute should take for the following four years (achieving the goals defined in the Institute's 2010-2014 Medium-Term Plan (MTP)). One of the most important aspects he underscored was the need to transform it into an organization that attaches great importance to both innovation and knowledge, to be able to more effectively support the efforts of its member countries to make their agricultural sectors competitive and sustainable.

For this purpose, the Director General's Competitive Fund for Technical Cooperation (hereinafter referred to as FonDG or simply the Fund) was established as a mechanism that will contribute to improving the technical cooperation provided by the Institute to the member countries, enhance the competitive advantages of the Institute and promote innovation and the creation of topic-specific and multi-disciplinary networks.

IICA has invited CARDI to participate in the program by developing project proposals jointly with the IICA's offices for funding consideration.

2. General and Specific Objectives

The **main objective** is to contribute to attaining the goals established in the 2010-2014 MTP and encourage the provision of technical cooperation of excellence, by funding projects with innovative approaches that will contribute to a more productive, competitive and sustainable agriculture in the Caribbean.

Specifically both institutions will collaborate to:

(i) Prepare proposals related to at least one of the following areas for technical cooperation (2010-2014 MTP).

a. Design, analysis and evaluation of public policies and strategies
b. Strengthening and modernization of public and private institutions for agriculture
c. Creation and development of capabilities for a modern, sustainable, competitive and inclusive agriculture
d. Knowledge management for agriculture and rural well-being
e. Support for the countries on specific issues and investment projects

(ii) Use one or more of the tools for cooperation (2010-2014 MTP)

a. Prospective analyses, studies and situation analyses, and impact assessments
b. Training in subjects related to IICA's areas of competence
c. New conceptual frameworks, methodologies, models and tools
d. Knowledge management tools
e. Technical intermediation and the mobilization of cooperation
f. Information and communication technologies (ICT)
g. Specialized technical services
h. Direct technical cooperation
i. Development and administration of projects

3. Beneficiaries

The primary beneficiaries from the projects executed jointly include national institutions, such as the Ministries of Agriculture, farmers' organizations, producers, agri-business enterprises and universities. CARDI and IICA will be secondary beneficiaries.

4. Brief Description of the Projects

The projects to be formulated under the FonDG will be developed in collaboration with the IICA offices in the region, taking into consideration the current projects being executed under the IICA-CARDI agreement and those being executed under IICA's Caribbean Regional Strategy. They will seek as much as possible to be innovative and have high impact value to the agricultural sector.

5. Execution and Coordination

The proposal for each project will define its execution strategy. Overall responsibility for the projects will be done by the IICA office but they will be executed jointly by IICA and CARDI. An IICA-CARDI coordination committee will be responsible for project supervision, monitoring and follow-up at the country level.

6. Cost and Funding

The amount to be financed ranges from US$20,000 to US$100,000 for each project. This funding may be reinforced with external resources**.**

Component 5

IICA-CARDI Cooperative Agreement (2010-2014)

1. Brief Description of Problem

The joint efforts of IICA and CARDI aim to contribute to the modernization of the rural sector, the promotion of the food industry and the development of a sustainable agricultural sector. The collaboration of the institutes can provide a more effective contribution to agricultural research and development in the Member States that would otherwise not be achieved by independent actions. The framework will also provide a legal basis for future cooperation derived from joint initiatives and common interests.

A coordinated programme of work avoids at best the duplication of efforts and creates the synergies necessary to implement the Jagdeo Initiative with emphasis on the key Binding Constraints and the Liliendaal Declaration on Agriculture and Food Security. Importantly, it focuses the limited financial resources/financing available to pursue the requisite research and development that contribute to food and nutrition security and the alleviation of hunger and poverty.

2. General and Specific Objectives

The **general objective** of the Agreement is to jointly contribute to the sustainable development of the agricultural sector and the enhancement of rural prosperity in general, and the economic viability of selected agricultural sub-sectors and enterprises, in particular, in the Caribbean.

Specifically, both institutions will collaborate to:

(i) Identify, implement and coordinate the execution of projects and actions jointly to expand agricultural production and productivity as a means of enhancing food security in the Caribbean. The priority products are root crops, cereal and grain legumes, herbs, condiments, beverages and livestock (small ruminants).

(ii) To address emerging issues in the agricultural and rural sector, such as PA systems and Climate Change.

(iii) Foster cooperation and linkages between CARDI and selected R&D institutions in the hemispheric for the purpose of facilitating the reciprocal transfer of technology and information on agriculture and related areas.

3. Beneficiaries

The primary beneficiaries of the projects executed jointly under the agreement include national institutions, such as the Ministries of Agriculture, farmers' organizations, producers, agri-business enterprises and universities. CARDI is a secondary beneficiary of the Agreement.

4. Brief Description of the Main Activities

The matrix below outlines the description of the Main Activities being executed (ref. **Table 2**. Work Programme and Indicative Budget, 2011):

Expected Results	Activities	Responsibility	Beneficiaries
1. A dossier on management protocoles.	1.1 Regional Steering Committee (SC) established and meetings organized. 1.2 Operational guidelines for project implementation and reporting prepared.	ED, CARDI IICA's Regional Coordinator.	IICA, CARDI and national institutions in the steering committee.
2. Production and post-harvest tech packs available based on R&D of selected commodities and thematic areas (herbs, condiments & beverages, protected agriculture, root crops/starches, cereals and grain legumes and ruminants) from at least 10 projects.	2.1 Research activities at the farm level on priority crops – herbs and condiments, root crops, legumes and ruminants. 2.2 Development of protected agriculture system for selected products in selected countries.	IICA and CARDI Reps. and stakeholders at country level.	Producers, processors, marketers, Ministries of Agriculture.
3. Technology transfer and capacity building.	3.1 Production of manuals. 3.2 Execution of training seminars, etc.	CARDI Reps.	Producers, processors, marketers, Ministries of Agriculture.
4. Annual reports for IICA and CARDI's Board.	Performance reports on projects executed and	ED of CARDI and IICA's Regional	IICA and CARDI's governing bodies.

Expected Results	Activities	Responsibility	Beneficiaries
	results achieved.	Coordinator.	

5. Execution Strategy

The overall execution of the IICA-CARDI Cooperative Agreement is a joint responsibility of IICA and CARDI, both at the headquarters and country offices of the two institutions. Overall coordination and reporting to IICA's and CARDI's governing bodies on an annual basis will be the responsibility of the Executive Director of CARDI in collaboration with IICA's Coordinator in the Caribbean. CARDI, as the primary beneficiary, will be responsible for the overall administration of the project with an oversight by the Steering Committee (SC) and Project Management Committees (PMCs). Funds received from IICA under the Agreement will be managed in accordance with the CARDI's financial management system.

For the activities proposed IICA or CARDI will take the lead based on the respective areas of strength as indicated in the matrix above. However, at the country level, partners and stakeholders including the Ministries of Agriculture, farmers' organizations and other private sector will be involved within the framework of the PMCs.

The implementation schedule is presented below in **TABLE 1.**

TABLE 1

IMPLEMENTATION SCHEDULE

Year	2010/11				2012				2013				2014			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Activity																
1. Management Protocols, Operational Guidelines and SC Meetings, national PMC Meetings																
2. Project implementation, capacity building and preparation of manuals. Proposals																
3. Trimestral Reporting to SC and annually to IICA and CARDI.																

6. Cost and Funding

Funding under the Cooperative Agreement (as indicated in Resolution 464 of the IABA), currently valued at US$200,000 annually is provided by IICA. There is a tacit agreement that the counterpart (in-kind) contributions by both IICA and CARDI are not included in the budget. The indicative budget for 2011 is provided below in **TABLE 2**:

TABLE 2

Work Programme and Indicative Budget, 2011

Activity	Budget (US$)
1. Management Protocols, Operational guidelines revisions and SC meetings	To be determined
2. Project proposals and project Implementation:	
A. Herbs, condiments & beverages	31,900
B. Protected agriculture	36,500
C. Root crops (starches)	25,500
D. Livestock (small ruminants)	26,150
E. Cereals and grain legumes	27,750
F. Knowledge sharing, coordination and management	52,200
3. Reporting	To be determined
TOTAL	**200,000**

COMPONENT 6

Access External Resources for Joint Projects

(a) Technical Cooperation Program of the Government of Mexico to Support Protected Agriculture in the Caribbean

1. Brief Description of Problem

The majority of the population in the Caribbean lives in rural areas and depends on traditional agricultural activities for their livelihood and economic survival. However, they face a range of constraints that limit their productivity and competitiveness. In addition, limited land availability, various production constraints, weak market linkages in both the domestic and export (intra-regional) markets provide additional challenges to farmers.

Protected Agriculture (PA) production systems provide a range of advantages to farmers including overcoming the land constraint problem, increasing agricultural production and productivity through better control of the natural environment, more intensified production and improved quality and regularity of supplies which together can contribute to addressing the increasing problem of food insecurity. However, the use of appropriately adapted PA systems and the supporting technologies remain a shortcoming in many countries of the region.

The PA in the Caribbean has few experiences and different levels of development and implementation, for instance, in countries such as Barbados, Bahamas, Jamaica or Saint Lucia. The few experiences of success and investment are in the private sector hands; however, although there are some initiatives with small producers, they generally require higher thrust and greater investment, both in resources to acquire technology to produce under protected environments, suitable for the area and the type of cultivation, and for training of farmers in the management of such technology, in good agricultural practices, in marketing and entrepreneurship, among others, to make them sustainable and successful.

IICA and CARDI have collectively and independently supported (and continue to do so) technical research, production, marketing and capacity building initiatives in many Caribbean countries, e.g. Jamaica, Trinidad and the OECS countries as well as the Dominican Republic. Resource constraints, among other factors, have limited the extent to which both institutions can effectively provide expanded technical assistance to the countries to address the range of priorities in their agricultural sector.

Considering the conditions in the Caribbean and the situation of each country, the contribution of Mexico will be relevant to provide technology and appropriate models for PA

production for small and medium-sized farmers; also, it will be vital in order to build technical, administrative and managerial capacities with the producers (preferably organized) to manage adequately the PA system.

This project of technical assistance by the Mexican Government (through the Secretariat of Foreign Relations (SRE) and the Secretary of Agriculture (SAGARPA)) will provide support to improving PA systems and contribute to enhancing food security in the region. The initiative will have the technical and logistical support of IICA and CARDI, through their respective offices in the Caribbean and thematic cross-linkages at the hemispheric, regional and national levels. The project will also complement a project that is currently financed by the Common Fund for Commodities (CFC) and the European Union (EU) and executed by CARDI and IICA to support protected agriculture in Jamaica, Haiti and Trinidad and Tobago.

2. Objectives

General Objective: To implement a module that will contribute to strengthening of food and nutrition security, a more competitive agriculture and improved livelihoods of small farmers in selected CARICOM countries through the implementation of appropriately adapted Protected Agriculture (PA) systems. Three countries will be selected the first instance for technical assistance under the project – Haiti, Jamaica and Guyana.

Specific Objectives:

(i) Review the current PA systems being used and recommend appropriate technologies to be installed on each pilot model to be established in each country.

(ii) Facilitate the transfer of appropriate technology of protected agriculture systems from Mexico for improving vegetable production in the three selected countries.

(iii) Improve the national capacities of farmers and technicians from support institutions in PA system(s) through training and other capacity building activities.

(iv) Develop, strengthen and improve integration along the value chain in the PA system, from production and post-harvest management to packaging and marketing systems.

(v) Evaluate, systematize and documenting the experience carried out in three selected countries, which will serve as a basis to replicate the experience in other countries.

A summary of the project including its objectives, activities and expected results is presented in the log frame matrix in the attached **ANNEX.**

3. Beneficiaries

Beneficiaries of the program include at least 30 small farmers and members of commodity associations, technical and extension personnel of the Ministries of Agriculture and other stakeholders along the value chain in Haiti, Jamaica and Guyana.

4. Brief Description of Components

Component 1: Transfer of technology

This component will focus on technology transfer and adaptation that includes the establishment of appropriate PA model structures in the three Caribbean countries. The specific project locations and definitions to work with producer groups will be determined by the respective Ministries of Agriculture, IICA and CARDI. Activities will also include a review of current PA structures in operation and improvement of these based on more efficient technology available.

Establishment of the structures will be done jointly with experts from Mexico. To that purpose, based on the survey on the state of the art in PA in selected countries, the appropriateness of installing new modules or adapt and improve the existing modules in the countries shall be assessed.

Each PA system will address the issues of production of vegetables and serve as a unit of training for farmers and extension personnel. In principle the structures will validate and demonstrate sustainable vegetable production and post-harvest practices (fertility, pest management and agronomy) of selected/agreed commodities (market demand) at a commercial level.

Component 2: Capacity Building for Sustainability and Replicability

This component will focus on capacity building of the main stakeholders involved in PA agriculture including those of the value chain. Training activities and those related to sensitization and information dissemination will build the technical capacity of farmers and extension personnel of the Ministries, as well as personnel of IICA and CARDI to support PA systems on a sustainable basis in the selected countries.

Parallel to the development of technical capacity, the project will strengthen the managerial and administrative capacity of local beneficiaries and support institutions to replicate the model in other communities.

5. Expected Outputs

(i) Selection of appropriate PA systems for the three countries.

(ii) Capacity building activities implemented through direct technical assistance and dissemination of technical information on protected agriculture systems provided by experts from Mexico to be facilitated and supported by IICA and CARDI.

(iii) Increased capacities of farmers, farmers' organizations and extension personnel for establishing, managing and replicating improved protected agriculture systems on a sustainable basis.

6. Execution Strategy

This project will be executed over two years and will build on the various initiatives that have been executed over time to introduce and improve the use of PA technology systems in the region.

Overall responsibility and execution of the program will be done by IICA through its offices in the three countries. IICA will collaborate with CARDI and the Ministry of Agriculture, Mexico in the program design and execution of the various activities.

IICA, CARDI and the respective Ministries of Agriculture will be responsible for identification of the locations for establishing the model structures and the beneficiary groups to participate in the program. Overall coordination, management, monitoring, evaluation and generation of regular reports on the technical, financial and management aspects of the project will be done by IICA and CARDI.

7. Cost and Funding

The expected cost of the project is US $200,000 for the two-year period. The major contribution of US$100,000 will be made by the Government of Mexico with in-kind contributions totaling US$100,000 to be provided by IICA, CARDI and national collaborators (Ministries of Agriculture, etc.) as indicated in **TABLE 1** below.

TABLE 1
Program Costs and Expected Sources of Financing

Project Component	**Total Cost (US$)**	**Contribution (US$)** Government of Mexico	**In-kind Contribution (US$)** IICA, CARDI & National Collaborators
1. Transfer of Technology	$120,000	$80,000	$ 40,000
2. Capacity Building	$80,000	$ 20,000	$ 60,000
TOTAL	**$200,000**	**$100,000**	**$100,000**

ANNEX
Project Module on Protected Agriculture in the Caribbean
Logical Frame Matrix

Summary Description	Indicators	Means of Verification	Assumptions
Goal			
Contribute to increased productivity, competitiveness, sustainability of small farm agriculture and enhanced food security in the Caribbean.	▪ Percent increase in the output of small farmers using improved PA system. ▪ Higher earnings of farmers with PA system versus similar farmers without PA system.	• Production and income statistics of the beneficiary group (taken at the beginning and at the end of the project).	• Farmers have technical and management capabilities for development of PA system. • Infrastructure and equipment for PA are suitable for cultivation and agro ecological and social conditions of farmers.
Purpose			
Establishment of improved PA system(s) in Haiti, Jamaica and Guyana for the competitive and sustained production of vegetables.	▪ Number of geographic locations and beneficiary groups identified. ▪ Identification and production of a selected group of vegetables based on agro-ecological and other conditions of the producer group. ▪ Number of PA system(s) ready to be replicated in other geographic locations.	• Data from field visits and monitoring reports indicating establishment and adoption of the PA system in each country.	• Beneficiary groups and product selection have been selected based on specific defined criteria. • PA system(s) have been established under optimal conditions for their operations.

Summary Description	Indicators	Means of Verification	Assumptions
Results			
Farmers in the three countries have the managerial and technical capacity to produce vegetables on a competitive and sustained basis.	▪ Number of farmers trained in PA system by country, by geographic location and by product category. ▪ Marketed output and increased income of farmers participating in the project. ▪ Number of extension and support personnel trained in managerial, technical and marketing aspects by the project.	• Data from monitoring reports on training activities implemented for farmers, farmers organizations and extension personnel. • Production and marketing data of the beneficiary groups of farmers. • Data on costs of production of farmers adopting the PA system compared to those not utilizing the PA system.	• Training courses were implemented in time and their content suitable to the specific conditions of the countries. • Monitoring system established to generate information on farmers adopting the PA system and those that do not. • Farmers and technicians who received the training will be involved in the project on a continuous basis.
Activities			
➢ Review of vegetable production systems currently in use, including PA system, and marketing system and their respective constraints in the three countries.	▪ Report on the current production and marketing systems, including existing PA system(s) for vegetables in the three countries.	• Report submitted and reviewed by stakeholders.	• Producers and technicians participate actively in the review process.
➢ Identify groups of producers and technicians from the organizations and institutions that will participate in the three countries.	▪ Report prepared on potential participants that have been identified and level of knowledge and training needs in PA systems.	• Report submitted and reviewed by stakeholders.	• Costs to be financed by contributing institutions (SAGARPA, IICA and CARDI).
➢ Identify the level of knowledge			

Summary Description	Indicators	Means of Verification	Assumptions
and training needs on the management of the PA systems by producers and technicians. ➢ Recommend the appropriate PA models to be developed, as well as the type of technology to be implemented.	▪ Feasible candidates (including different PA systems) identified as appropriate models for each product and country.	• Report available.	• Field work completed in the three countries.
➢ Define an operating strategy to develop pilot modules for each country considering the groups of producers and technical participants.	▪ Operational strategy prepared. ▪ Organized the participation of the beneficiaries identified in the three countries.	• Document approved by IICA, CARDI and SAGARPA of Mexico. • Defined list of participants and the logistics for their participation.	• Among other aspects, to include: potential areas, beneficiaries, range of vegetable products, performance and success criteria and reporting and monitoring activities for implementation of the project. • Producers and technicians participate actively in the strategy preparation process. • Strategy accepted by stakeholder institutions including the Ministries of Agriculture.
➢ Prepare materials and training courses for each group of participants for the proposed PA system(s).	▪ Training courses and materials prepared according to the needs of each group.	• Report on training component presented and approved.	• SAGARPA, IICA and CARDI coordinated and ready to teach.
➢ Institutional coordination in Mexico organized and ready to provide the PA equipments and the technical cooperation to three	▪ Organized and sent equipment and materials needed to establish and adapt the pilot modules of PA in the countries.	• Equipments of PA received in the countries in a timely manner.	• Costs covered by the project. • Governments facilitate the entry of these equipments in their respective countries.

Summary Description	Indicators	Means of Verification	Assumptions
countries.			
➢ Establish the PA systems (pilot modules) in selected locations having the optimal conditions for vegetable production in at least two countries during the first year.	▪ Pilot modules established with appropriate infrastructure.	• Report on the number of pilot modules established per product, location and per country.	• Farmers willing to participate in establishing the pilot modules. • Acceptance of the modules by farmers. • Costs to be covered by SAGARPA, IICA and CARDI.
➢ Train at least 30 persons (farmers and technicians)/country/year on managerial and technical aspects of the PA production system(s) and post-harvest activities through in-country and exchange visits to Mexico.	▪ Number of training courses completed and executed. ▪ Exchange visits of selected farmers and technicians executed. ▪ Producers and technicians with new capabilities for the sustainable management of the PA models.	• Report on training activities on capacity building of the beneficiaries developed and executed. • Report presented on implementation of the exchange visits to Mexico.	• Farmers and technicians willing to participate in the training courses. • Costs covered by the project (SAGARPA, IICA and CARDI)
➢ Identify the main participants and constraints involved by product along the value chain (production, processing, marketing, etc.) of each PA system implemented in each country.	▪ Report available for each PA model established that identify the main participants and constraints along the value chain.	• Reports available and presented to stakeholders. • Farmers organized and trained in PA models can market their products regularly and efficiently.	• Acceptance to participate in the identification of constraints of each product by the different participants in the value chain.
➢ Assess each PA model's experience and the level of knowledge and skills acquired by farmers and technicians participating in the three countries at the end of the	▪ Report prepared indicating the success, constraints, lessons learnt and recommendations for the future.	• Farmers and technicians have increased capabilities for the sustainable management of the PA models. • Models operating satisfactorily	• Data and information collected and available for final report preparation. • Producers and technicians have successfully completed their

Summary Description	Indicators	Means of Verification	Assumptions
project. ➢ Recommend a critical future path for diffusion to farmers and stakeholder institutions interested in supporting PA from the pilot models developed.	▪ Proposal developed on the future location and use of the established pilot models, training requirements in the PA systems (with trained technicians) and the role of institutions in the three countries.	in the second year. • Final reports available and approved by CARDI, IICA, SAGARPA and Ministries of Agriculture of the three countries.	training process. • Pilot modules developed sufficiently for them to be replicated. • Ministries of Agriculture and other national institutions are ready to support the PA production systems and approve the required policy, resources and technical assistance.

June 10, 2011
DB/FDR/LP