Jamaica is one of ten countries, currently benefitting from the regional Coconut Industry Development for the Caribbean project, being funded by the European Union and implemented by the International Trade Centre (ITC) and CARDI.

The Institute has partnered with Coconut Industry Board (CIB), on several initiatives aimed at improving the availability and quality of planting material to farmers. Two sites on opposite ends of the island have been selected for demonstrating good nursery management practices to farmers.

In Spring Garden, Portland the CIB-operated nursery has undergone modifications to its seedbeds to minimize the impact of frequent flooding in the area. In addition, the project has funded the construction of a 10,500 ft² (975 m²) shade house at the site. CARDI and CIB have consulted with the National Irrigation Commission (NIC) on the specifications for an effective irrigation system. The procurement and installation of this system will be supported under the project. The shaded, irrigated, expanded nursery area can accommodate approximately 33,600 seed nuts. Germination rates are expected to improve from 50 to 80%. Through these interventions in the medium-term, acreages are expected to increase by 1,080 acres.

The second nursery site is at Knockalva Agricultural School, Hanover. This nursery is strategically located in the west of the island to increase availability of seedlings in that region. The location also provides an opportunity for youth involvement in coconut industry development. When completed the nursery is expected to supply seedlings for the expansion of 300 acres.
Three Integrated Pest Management (IPM), study/demonstration sites were established in Jamaica to promote IPM strategies against Coconut Mite, Ambrosia Beetle and Coconut Lethal Yellowing Disease. The strategies all emphasize the use of proper field sanitation and fertility management as the key components for mitigating the impact of these maladies on yield (quantity and quality).

The first phase of this project will end on the 30th December 2018 and over the 4 years some other noteworthy achievements in Jamaica have been:

- The establishment of functional National Stakeholders platforms (NSPs) which continue to guide and support the implementation of project activities.
- The forging of strategic alliances with stakeholders along the value chain. Alliance activities are now on-going at the farm level.
- The training of local and regional stakeholders in Quality Planting Material, group dynamics; nursery management; pest and diseases of coconut. Alliances to support the value chain; processing of green coconut water; the use of LEAN manufacturing techniques in coconut processing facilities; quality and safety of coconut water have been established. Investment profiles of the coconut industry in Jamaica have been completed.
- The completion of a Coconut Water Quality Survey for Jamaica. This has led to a series of planned-partnered (CARDI, CIB, SRC, Ministry of Health, Bureau of Standards of Jamaica and Technological Solutions) follow-up actions.

**CARDI Jamaica and the Climate Studies Group, Mona join forces under the Pilot Program for Climate Resilience Project**

The CARDI office in Jamaica, participated in the University of the West Indies Research Days, from the 7 - 9th February 2018, at the Mona campus, Kingston, Jamaica.

The Research Days is an annual event, which allows the University to highlight its research efforts with its collaborators and various partners. This year’s theme was: “Powering Development through Partnerships in Research and Innovation”.

CARDI, in collaboration with the Climate Studies Group at Mona (CSGM), mounted a joint display to outline the partnership under the Pilot Program for Climate Resilience (PPCR) Project.

Under the PPCR, CARDI is utilising adaptation initiatives such as crop simulation modelling as a necessary tool for responding to the sector’s approach to addressing climate change. Crop simulation modelling will be conducted on selected crops such as roots and tubers and vegetables. Simulation models support decision making in a cost effective and efficient manner. It enables researchers to conduct experiments in a virtual environment under several “what if” scenarios. The results will enable them to better predict crop yields under a range of scenarios. It also allows users to rapidly appraise new crops products and practices before adopting.

The mini display showcased in a summarised fashion, CARDI’s role in agriculture, its global partnerships, research efforts and various information products emanating from the Institute’s Work Programme and Strategic plan.

The display and information disseminated was well received by visitors (academics, scientists, farmers, students) to the booth.

**New Zealand funded project positions Jamaica as the regional centre for training in small ruminants**

The New Zealand funded Small Ruminant Activity, was an initiative between government of New Zealand, Ministry of Foreign Affairs and Trade (MFAT) and CARDI. The project was launched in 2016 with its major goal being to contribute to the increased production and productivity of the small ruminant sector in CARICOM Member States. Activities were implemented in Jamaica and nine other Caribbean territories.
Artificial Insemination and Multi Ovulation Embryo Transfer are two important reproductive boosting technologies livestock experts were trained to conduct. A key output of this project was the development of a Module Learning Management Platform. Users of the platform can access 12 instructional chapters on a range of topics relevant to small ruminants production in the tropics including husbandry, feeds and feeding systems, identification and record keeping, Artificial Insemination (AI), Multi Ovulation Embryo Transfer (MOET), preventative health maintenance and housing. These topics are presented in text and video formats and are accessible on YouTube.

Under the Activity a pilot demonstration and training centre was completed at the MICAF Sheep and Goat Centre, Hounslow. The small-scale stock housing facility, was populated to demonstrate the life cycle production under a semi-intensive system of management. Included in the facility were water harvesting and feeding facilities; forage banks of King Grass, Mombasa, Guinea grass and multi-purpose trees such as; Mulberry, Moringa, Tricanthera and Canavala. These were established as cut and carry protein/energy banks.

Upgrading of the facilities at Hounslow and Bodles, allowed Jamaica to become the regional centre for training in small ruminant husbandry, AI and MOET. Ten countries from CARICOM, have participated in training activities at Hounslow and over 80 persons (Veterinarians and Veterinary Assistants, Agricultural Extension Agents, Livestock Officers, Research Assistants, butchers and farmers) have been trained at the facility. The trainees on their return home have facilitated successful training sessions for persons on AI and MOET procedures using the small ruminant husbandry kits provided.

Deploying ICTs to improve information sharing and training was a deliberate strategy under the project. Two mobile apps; SR-Learn and SR-Market were developed and are currently available for download on IPhone (IOS) and Android platforms.

CARDI SR-Market brings buyers and sellers together in order to facilitate the sharing of information on the availability of live animals, meat, and farm inputs including small equipment, machinery and veterinary medical supplies, which can be traded offline by those participating in this virtual market.

The CARDI SR-Learn is an e-learning Moodle based platform which can be used for training and information sharing. The mobile application offers another level of functionality by delivering the training and information resources to stakeholders on their mobile devices. Since the launch of the apps over 3,000 persons have visited the sites.

This project has been closely monitored by the funding agency through consultant, Dr Chris Asby. He has conducted interviews with key stakeholders across the benefitting countries. His findings reveal that the beneficiaries of the project have been actively engaged in implementing the improved small ruminant production technology learnt over the past 2 years. His Excellency Daniel Mellsop, New Zealand High Commissioner to Jamaica also met with members of the project implementation team, where he expressed thanks to CARDI & MICAF for teaming with MFAT to use the research facility at Hounslo to boost the productivity of small ruminants. He also indicated that it was wonderful to meet the impressive grade 11 agriculture students from Newell High School who were using the facility.

Investing in Jamaica’s coconut industry makes economic sense

Jamaica and the rest of the Caribbean can benefit from the global resurgence in the demand for fresh and processed coconuts, if the right investments are made to grow and expand the industry. The dynamics in the coconut market offers tremendous opportunity to agribusiness industries in Jamaica and the Caribbean. There are huge opportunities for thousands of smallholder farmers to raise incomes and profitability by connecting them to local, regional and international value chains.

In Jamaica and across the Caribbean the supply base is stagnant. This has been linked to the slow growth profile of the trees and the years of neglect and underinvestment in the industry as a result of the legacy of the copra industry.
Investing in Jamaica’s coconut industry is a viable economic option.

Although Jamaica accounts for 0.3-0.5% of the world supply the country is still uniquely positioned in the Caribbean to develop a vibrant coconut industry to supply local, regional and international markets. Some of the enabling factors that facilitate this are:

- Well-established coconut R&D capabilities (CIB);
- Alliances between lead brands and retail firms with regional and global reach in consumer markets;
- The country’s strong brand reputation;
- Strength in sea and air freight connectivity; and
- Ongoing policy and institutional reform.

Researchers convening in Kingston in February 2018, under the context of the Intra-ACP project, funded by the European Union for Coconut Industry Development for the Caribbean, modeled the projected economic and financial impacts of investing in Jamaica’s coconut sector. Two business components were explored:

- Investments in revitalized coconut production (seedlings and nurseries);
- Investments in coconut water processing for export.

Investments were considered over a 10-year period, and assumed an additional growth of 10,000 acres per year, starting from 10,000 acres, with 87 trees per acre and a base case of 60 nuts per tree. A price of J$75 per nut was considered. These numbers are realistic based on existing conditions, and the extent of under-utilized plantations in Jamaica currently. Investment in primary production had the lowest estimated rates of financial return but is imperative to achieving the potential impacts. Significant impacts from biodiversity and maintained soil quality are also expected.

### Table 1: Initial results from economic analyses (investments over 10 years, project life 42 years)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total investment need</td>
<td>J$ 51,893m</td>
</tr>
<tr>
<td>Investment - seedling production</td>
<td>J$ 2,186m</td>
</tr>
<tr>
<td>Investment - farming</td>
<td>J$ 37,764m</td>
</tr>
<tr>
<td>Investment - processing</td>
<td>J$ 11,943m</td>
</tr>
<tr>
<td>Aggregate expected Internal Rate of Return (IRR)</td>
<td>26% - 16%</td>
</tr>
<tr>
<td>New jobs created</td>
<td>10,631</td>
</tr>
<tr>
<td>Smallholder farmers reached</td>
<td>Up to 40,000</td>
</tr>
<tr>
<td>New tax revenues</td>
<td>J$ 63,281m - 55,444m</td>
</tr>
<tr>
<td>Export value</td>
<td>US$ 10,460m - 9,408m</td>
</tr>
<tr>
<td>Estimated climate value</td>
<td>2m tCO₂e</td>
</tr>
</tbody>
</table>

**Source:** International Trade Centre March, 2018

The project partners are finalizing initial assessments, including:

- Farmer characterization with support with MICAF, RADA, CIB, SRC, and CARDI;
- Meetings and letters of intent signed with major Jamaican corporates in the Alliance for Action;
- Discussions with potential alliance investors and funders.

There is strong potential for investments in the coconut & associated crop sector to generate both financial and non-financial impacts. There is interest and willingness from the private sector, both local and international to engage and invest in the Jamaican coconut & associated crop sector, including ensuring strong links to smallholder production, rural livelihood improvement and green development.

This initiative will continue to be supported by MICAF, CIB, SRC, RADA, ITC, CARDI, EU, ACP and other Alliance partners. We would like to expand our partnership with the government of Jamaica on:

- Engaging with SRC on technology transfer, regarding promotion of tissue culture technology for the coconut sector.
- Associating with JAMPRO, in positioning “Brand Jamaica” in key import markets, along with leading local companies.
- Maintaining support activities to lead farmers with MICAF, CIB and RADA.
- Continuing to engage with financial institutions (notably the Development Bank of Jamaica) and development partners (IFAD, EU, and others) to develop and implement appropriate finance mechanisms to facilitate access to finance and increase investment.
- Diversification of products and markets for coconut & associated crops.
- Support from government departments on access to green funding lines, e.g. GEF, GCF.