Linking Farmers and Agro-processors to the Tourism Industry in the Eastern Caribbean

October 2015

Hans Jansen • Adam Stern • Eli Weiss

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# Acronyms and Abbreviations

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BAM</td>
<td>Banana Accompanying Measures</td>
</tr>
<tr>
<td>CARDI</td>
<td>Caribbean Agricultural Research and Development Institute</td>
</tr>
<tr>
<td>CET</td>
<td>Common External Tariff</td>
</tr>
<tr>
<td>CHTA</td>
<td>Caribbean Hotel and Tourism Association</td>
</tr>
<tr>
<td>ESW</td>
<td>Economic and Sector Work</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Points</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communication technology</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
</tr>
<tr>
<td>OECS</td>
<td>Organization of Eastern Caribbean States</td>
</tr>
<tr>
<td>PROPEL</td>
<td>Promotion of Regional Opportunities for Produce through Enterprises and Linkages</td>
</tr>
<tr>
<td>SME</td>
<td>Small and medium enterprise</td>
</tr>
<tr>
<td>UWI</td>
<td>University of the West Indies</td>
</tr>
<tr>
<td>VAT</td>
<td>Value added tax</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
Executive Summary

For the small island nations of the Organization of Eastern Caribbean States (OECS), a more dynamic, diversified, and entrepreneurial agriculture sector, in which farmers and agro-processors benefit from stronger ties to the tourism industry and wider markets for their products, could be a strong driver of sustainable development. This study identifies opportunities to reinforce linkages between domestic agricultural supply chains and the tourism sector and describes interventions with the greatest potential to strengthen those linkages. Based on detailed field interviews with a selected sample of “game changers” in the private sector and building on previous research, the study focuses on three essential areas for building stronger linkages, including marketing arrangements, the role of young farmer-entrepreneurs, and the agro-processing industry. While the OECS is composed of nine member countries, this study focuses on the following six: Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.
Findings

Across OECS countries, demand for food is expanding in volume and variety, and tourism is an important driver of this growth. Fresh products, which have the greatest potential to be supplied locally, account for about 60 percent of food purchased by hotels, and are mostly imported. Locally produced fruits and vegetables have the greatest potential to substitute for some of the imported produce because of high local demand, competitive cost of production in some cases, high perishability of these products, their ability to grow in most OECS countries, and their suitability for production even on small farms. Some types of fish and seafood also have potential, while local meat, poultry, and dairy products have limited potential in the short run. Apart from hotels, the yachting sector has been expanding in recent years and thus has had an increasing impact on local economies including local food provisioning. Beyond the tourism sector, linkages between local farmers and supermarkets are of high importance given the latter's demand for fresh food and thus the potential to substitute some of its imported food requirement with locally sourced food.

For hotels, especially the large ones, the main barrier to purchasing greater quantities of local produce and other fresh food is the limited ability of local farmers to deliver hotels' required quantities and quality of produce in a timely, consistent, and competitive manner. Most farms are small and lack the inputs, equipment, infrastructure, and farm management skills (including production planning, crop management knowledge, and post-harvest handling capacity) needed to become reliable suppliers. Few producers regard farming as a business, and most young people do not regard agriculture as a successful career. Yet the agricultural sector has room for growth and can absorb young farmers—an important consideration since youth unemployment in OECS countries is on average almost double the national unemployment rate.

Poor market information and a rudimentary market structure for fresh produce result in suboptimal market performance. The limited aggregation\(^1\) in marketing (such as contract farming and outgrower schemes\(^2\)) reduces farmers' access to assured and remunerative markets (and a more stable income), complicates buyers' purchasing operations, and creates a disincentive to buy locally. Moreover, Ministries of Agriculture throughout the OECS are actively involved in purchasing and marketing agricultural produce through marketing board arrangements,

---

1 Aggregators can include traders, wholesalers, agro-processors, larger lead farmers who buy from small-scale farmers, and producer organizations strong enough to take on the role of aggregation. Aggregators would enter into commercial relationships with buyers such as supermarkets, hotels, restaurants, exporters, and agro-processors.

2 Outgrower schemes or contract farming can be defined as agricultural production carried out according to a pre-planting agreement in which the farmer commits to producing a given product in a given manner and the buyer commits to purchasing it—usually at a guaranteed minimum price.
typically running at consistent losses, failing to provide remunerative prices to farmers and crowding out private sector-led marketing activities.

**Food losses are high, mainly because most farmers often produce the same products at the same time, and lack adequate storage facilities.** The resulting surpluses lead to low prices and revenues for farmers, as well as losses. On islands where marketing boards are mandated to buy all products meeting a minimum quality standard, large amounts of produce, such as mangoes, tomatoes, and citrus are ultimately dumped each year.

**While several agro-processing initiatives exist, the industry is underdeveloped.** Entrepreneurs need stronger skills and knowledge to develop viable business plans; establish plants; link with farmers; penetrate new markets; and comply with quality, food safety standards, and certifications requirements. Difficulties in obtaining financing on affordable terms limit investments in infrastructure, equipment, and inputs required in order to achieve a transformational impact.

**Recommendations**

1. **Private sector-led aggregation of smallholder produce**

   **a. Promoting private sector-led aggregation**

   To address the limited aggregation of smallholder produce—a fundamental issue in marketing fresh produce—a promising model is a combined production-marketing system led by the private sector. Under this model, off-takers purchase from small-scale producers, providing a market for their produce as well as additional services such as input supply, financing and technical advice. The off-taker is compensated (usually in kind) for the support (plus an implicit interest rate) at harvest when taking possession of the produce. These arrangements—also known as “contract farming”—help to overcome key constraints faced by smallholders.

   **Contract farming may be particularly suited for strengthening agriculture-tourism linkages and meeting demand from the tourism industry for fresh produce with specific attributes.** Small farm sizes should not be an issue, given that horticulture is largely scale-neutral and is in strong demand from the tourism industry. Smallholder farmers would produce according to a plan agreed upon with the aggregator and detailed in a written contract. Besides marketing (purchasing commodities and providing market information), contracts may cover input supply, financing, and other services such as technical assistance.

   **Some producer organizations have the potential to act as aggregators.** Although most farmer groups throughout the OECS region are relatively weak, the best performing ones should be supported in order to achieve this role. Nevertheless,

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3 An off-taker is a buyer that agrees through an offtake agreement entered with a producer to purchase a certain amount of the future production. It is generally negotiated before investments are made, in order to guarantee a market for future production and improve chances of obtaining financing for the concerned investments.
additional private sector actors should be encouraged to step in and assume the required organizational and aggregation roles. These could be traders, wholesalers, agro-processors, or larger (lead) farmers who buy from multiple small farmers.

Aggregation schemes and contract farming arrangements should be facilitated. Such arrangements may contain a matching grant mechanism to finance competitively selected and financially viable business plans needed in order to develop adequate aggregation schemes. Business plans could finance: (i) investments for aggregators (such as transport, storage, post-harvest, or cold chain facilities) and producers (such as equipment for land preparation and harvesting, irrigation infrastructure including rain water harvesting, or protected agriculture structures), and (ii) technical assistance for aggregators on logistics, storage, food safety, marketing, agronomy, accounting (and so on), and to producers on good agricultural practices and technologies, climate smart agriculture, innovation, or post-harvest handling. Rigorous financial analysis of these schemes is crucial for designing a matching grant structure, as is careful analysis of business plans to determine eligibility for a grant. Business plans should include a technical description of the scheme and beneficiaries and analyses of financial viability, market feasibility and environmental considerations, and ideally, have secured up-front resources from the financial sector to support the business plan. A matching grant contract is signed between the project and grant recipient (aggregator). In order to mitigate the risk of conflict between sellers and buyers, third-party verification or arbitration can play a constructive role.

b. ICT platform to match supply and demand

Aggregation schemes would also benefit from the use of information and communication technology (ICT) by collecting data on hotels’ demand for fresh food and matching it with agricultural supply data.

2. Advancing farming through the promotion of young entrepreneurial farmers

Enabling young entrepreneurial farmers to establish their own innovative farming enterprises would revitalize the OECS agriculture sector, promoting a shift from subsistence farming and a focus on traditional exports towards an increasingly diversified, dynamic, and commercial agriculture with improved linkages to the tourism sector and the local economy. To realize this shift, there is a need to (a) identify and sensitize/educate these young farmers and provide them with the skills and training required for starting and successfully operating a farming enterprise based on modern technology and climate smart agriculture; and (b) assist trained young farmers in establishing agricultural enterprises and marketing their products.
a. Capacity building and vocational training program

The selection process for the vocational training program would be competitive, based on previously identified, transparent criteria following the launch of a local awareness campaign to attract a pool as large as possible. The ideal candidates would be young individuals aged 16–35, an age group that faces similar challenges (such as difficulty in obtaining financing), finds it easy to adopt new technology, and can be motivated to embark on innovative ventures.

The training program would combine technical training in the classroom with internships or on-the-job training to increase trainees’ command of the subject matter and gain valuable experience. The training program would finance study-abroad scholarships of practical technical training in agricultural entrepreneurship, horticulture, plant biology, plant protection and production, climate smart agriculture, agriculture logistics, value chains, business, marketing, and ICT, followed by internships on farms that employ modern agricultural techniques. Program participants would be mentored throughout the training program, and a network of program participants would be established to develop contacts and promote information sharing.

b. Program for enterprise start-up

The enterprise startup program would provide financing, technical advice, and guidance for young farmers to establish their own agricultural enterprises. It would also combine financing (matching grants) with coaching and technical advice to selected agro-processors with plans to scale up their enterprises. A business plan competition would identify plans with the best prospects of success. Preference would be given to enterprises that use modern and environmentally friendly agriculture techniques, focus on producing higher value or highly perishable products, and ideally also have secured up-front resources from the private financial sector to support the business plan. The program would also assist participants in marketing their products locally and regionally.

3. Promoting agro-processing

In the agro-processing industry, support start-ups, established small and medium enterprises (SMEs) and producer groups, and improve their forward and backward linkages. The two priority areas for agro-processing interventions include: (i) improving skills for the agro-processing industry; and (ii) promoting investments and alliances that put those skills to work.

a. Improve skills for the agro-processing industry

Skills training would focus on financial literacy, marketing, food processing and machinery, packaging, quality control, and food safety and hygiene. Training (short or longer term, conducted in-country or abroad) would be practical and
directly calibrated to strengthen the industry. It could include study tours, trade fairs, and business roundtables to promote access to new skills and markets. Specific technical assistance would enable agro-processing enterprises to meet quality, food safety, and labeling standards and improve traceability.

b. Promote investments and alliances for agro-processors

Create alliances for agro-processors with farmers or farmer groups, commercial partners, technical service providers, or financial intermediaries. Following a similar model for marketing of fresh agricultural products, alliances with farmers or farmer groups based on formal contracts would improve the quality, quantity, consistency, and timing of the supply of raw materials to processing plants. Agro-processors would provide improved services to farmers and would purchase products directly from them. A formal agreement with at least one buyer would be a prerequisite to participate. Alliances would be encouraged with technical partners as well as with financial intermediaries, which could provide loans to complement the matching grants.

4. Laying the ground for concrete interventions

In order to develop some of these recommended interventions, specific additional analysis on agriculture-tourism linkages would be helpful. These include: the identification of key products that governments and aggregators would target; a market-scoping study focused on potential aggregators; a study of the potential for intra-regional and extra-regional markets; an analysis of logistics constraints; and a study of the yachting industry food supply chain.
The main objective of this Economic and Sector Work (ESW) is to identify opportunities for stronger linkages between domestic agricultural supply chains and the tourism sector in the OECS, and to outline priority interventions with potential to strengthen these linkages. Since this topic has been analyzed in a number of studies, the approach for this ESW is not to conduct yet another comprehensive study. Instead, the goal is to validate and build on previous work through detailed field interviews with a selected sample of “game changers” in the private and public sectors, and to come up with priority areas of focus and investments.

The member countries of the Organization of Eastern Caribbean States (OECS)\(^4\) continue to face serious development challenges. The region’s poor

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\(^4\) Established in 1981, the OECS has 9 member countries. In this study, however, “OECS” refers to the following six countries: Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.
economic performance of the 1990s has persisted into the 2000s; during the four consecutive years following the 2008 global financial crisis, OECS economies contracted on average by 1.5 percent per year. The crisis reduced demand for OECS exports and services and exacerbated unemployment. Poverty rates range from 18 percent in Antigua and Barbuda to around 38 percent in Grenada, with the majority of the poor across OECS countries living in rural areas.5 Youth unemployment—which is double the average regional unemployment rate—is a particular concern. While the island nations of the OECS depend on tourism for much of their economic activity, the sector's linkage with the local agriculture sector remains limited.

The continued focus on strengthening the agriculture-tourism linkages is appropriate given the unexploited possibilities for increasing the share of locally sourced food purchased by the tourism sector and reducing the growing food import bill (Figure 1). Recent studies, most notably from the OECS Commission (2014) and from the World Bank and Food and Agriculture Organization (2008) argue that there is room to increase local food sales to tourism operators, mainly to hotels. The studies also identified specific types of food with potential to satisfy demand from the tourism sector. Both studies caution, however, that the potential for local production to replace imports is limited, given the region's agro-climatic conditions and price competitiveness. The World Bank–FAO study estimated that the scope to substitute tourism import demand by local produce is limited to around 11 percent of hotel food imports, equivalent to approximately 2 percent of the total food import bill. The study estimated that the annual “leakage” of the tourism sector in fresh products could be reduced by about US$10 million, arguing that local and regional markets have greater potential to lower the food import bill. According to the recent agro-tourism demand study (OECS Commission, 2014), hotel tourist demand as a percentage of total food demand is 6.4 percent in Antigua & Barbuda, 6 percent in St. Kitts & Nevis, 4.4 percent in St. Lucia, 3.3 percent in Dominica, 2.6 percent in Grenada, and 2.1 percent in St. Vincent & the Grenadines.

OECS countries share similar features and challenges. All are island nations with small territories, populations, and economies. In addition, they are vulnerable to exogenous shocks due to their high dependence on imports and their exposure to natural disasters, especially hurricanes. With a historical dependence on a few export crops, OECS countries continue to have an undiversified economy and limited skilled labor. While gross domestic product (GDP) per capita ranges from about US$6,500 (St. Vincent & the Grenadines) to US$13,500 (St. Kitts & Nevis), their economies depend increasingly on tourism, which ranges from around 25 percent of GDP in Grenada to 75 percent in Antigua & Barbuda. Following the end of preferential trade arrangements with the European Union—mainly duty-free imports, quotas, and compensatory finance for key agricultural commodities produced in the OECS such as bananas and sugar—the share of agriculture in

5 Specific figures on rural poverty are not readily available, but conversations with governments and agricultural sector reviews reveal that most poor people in the OECS reside in rural areas.
OECS economies has greatly diminished, including agricultural exports (Figure 2).\textsuperscript{6} OECS Members have a common monetary policy and central bank in addition to a common currency, the East Caribbean (EC) dollar, which is pegged to the United States dollar.

**Figure 1: Food import bill (US$ millions)**

![Figure 1: Food import bill (US$ millions)](image1)

*Source:* OECS Commission, based on FAOSTAT.

**Figure 2: Agricultural exports (US$ millions)**

![Figure 2: Agricultural exports (US$ millions)](image2)

*Source:* OECS Commission, based on FAOSTAT.

**The agricultural sector is still a major contributor to employment.** While OECS agriculture is not a significant contributor to GDP (except for Dominica), it is an important source of employment (Table 1). This gap in labor productivity reflects some of the challenges facing the sector. The contribution of agriculture to

\textsuperscript{6} Agriculture remains a key economic sector only in Dominica, where it represents around 15 percent of GDP.
employment is especially high in rural areas, where the majority of farms and poor families are located. Thus, farming represents an important source of income for the poor.

Table 1: Importance of the agricultural sector in OECS countries

<table>
<thead>
<tr>
<th>Area (Sq Km)</th>
<th>Population</th>
<th>GDP per capita (SUSD)</th>
<th>Agriculture Sector (% of GDP)</th>
<th>Agriculture Sector (% of Labor Force)</th>
<th>Poverty Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>440</td>
<td>89,985</td>
<td>12,910</td>
<td>2.1</td>
<td>7</td>
</tr>
<tr>
<td>Dominica</td>
<td>750</td>
<td>72,003</td>
<td>6,760</td>
<td>14.9</td>
<td>40</td>
</tr>
<tr>
<td>Grenada</td>
<td>340</td>
<td>105,897</td>
<td>7,460</td>
<td>5.4</td>
<td>11</td>
</tr>
<tr>
<td>St. Kitts &amp; Nevis</td>
<td>260</td>
<td>54,191</td>
<td>13,460</td>
<td>1.5</td>
<td>NA</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>610</td>
<td>182,273</td>
<td>7,090</td>
<td>3.6</td>
<td>21.7</td>
</tr>
<tr>
<td>St. Vincent &amp; the Grenadines</td>
<td>390</td>
<td>109,373</td>
<td>6,580</td>
<td>7.5</td>
<td>26</td>
</tr>
<tr>
<td>OECS</td>
<td>2,790</td>
<td>613,722</td>
<td>9,043</td>
<td>5.83</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Authors, based on data from OECS Commission, World Bank, FAO, and CIA World Factbook.
Note: Figures for area, population, and GDP per capita are from 2014; data in the other columns are from earlier years.

OECS Members are signatories to four main trade-related treaties. These treaties led to the (i) OECS Economic Union, (ii) CARICOM Single Market and Economy (CSME); (iii) CARIFORUM-EU Economic Partnership (EPA); and (iv) Multilateral Trading System (WTO 2014). While the OECS Economic Union calls for the free movement of people, goods, capital, and services, it has not been fully implemented; more progress is needed in harmonizing legislation, institutions, and tariff schedules. The OECS Members’ main trading partners are the United States, EU, Trinidad and Tobago, Barbados, and Canada.

The agricultural sector in OECS countries faces serious challenges. OECS agriculture could potentially be a driver for sustainable development by reducing dependence on food imports while addressing food security and undernourishment concerns.\(^7\) But despite efforts by OECS governments to diversify their agricultural production base over the past two decades, a non-traditional, diversified agriculture has yet to take off, and most OECS countries continue to depend on single crop exports.\(^8\) Following trade liberalization and the lapse of the preferential trade

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\(^7\) The prevalence of undernourishment ranges from around 5 percent in Dominica to 19 percent in Grenada.

\(^8\) OECS agriculture historically has depended on a small number of traditional export crops, including bananas in St. Lucia, St. Vincent, and Dominica; sugar in St. Kitts & Nevis and Antigua; and nutmeg in Grenada.
agreements with the EU for traditional agricultural exports in the late 1990s, OECS governments and farmers were slow to adapt to the newly competitive environment.\(^9\) Challenges facing the sector include small farm sizes and complex land tenure systems, natural disasters and climate change, limited use of improved production technologies, low investment, limited financial capacity, limited water supply and irrigation development, production of low and inconsistent volumes for processing and shipping, and limited and expensive inter-island transportation. Additional challenges include a domestic private sector where skilled human resources are in short supply; an aging farming population; weak farmer organizations and marketing boards; phytosanitary issues; larceny (theft); and a range of other institutional and policy issues, including limited support from agricultural extension and a challenging investment climate.

**Due to limited, inconsistent and often costly domestic agricultural production, most food is imported.** OECS countries are net food importers, with meat, cereals, and dairy products featuring among the main imports. Trade balances have grown increasingly negative since the 1990s, and OECS agricultural imports are now about four times as high as agricultural exports. Food imports have increased in volume, variety, and value, fueled by increased tourism, higher incomes, and the rise of supermarkets. Demand for imported food from the hotel tourism sector amounted to US$93 million in 2008, representing about 25 percent of OECS agricultural imports. Only 32 percent of the food demand arising from the tourism industry is met locally (World Bank and FAO, 2008).

**The seasonality of the tourism industry in the Caribbean impacts demand for food.** Winter is considered the high season for tourism throughout the Caribbean, largely since tourists like to escape the cold winter weather of the north. During the high season (around mid-December to mid-April), hotels, cruises and flights are fullest; there is little rainfall and comfortable temperatures prevail. Tourism demand drastically decreases during the summer months, largely because the weather in tourists’ home countries is more comfortable while in the Caribbean it is less favorable than in the winter. The low season is generally described as mid-April to mid-December, with the slowest months being June through August. During the low season, which partially overlaps with hurricane season in the Caribbean (June 1 to November 30), many resorts reduce their off-season rates by up to 50 percent in order to attract visitors and fill empty rooms. In addition, there are often promotions and discounts on cruises, airfare, and attractions at destinations. Consequently, hotels and cruise lines make most of their profits in the winter, and that is when their food demand is highest.

\(^9\) Agriculture was the dominant economic sector in OECS countries until the 1990s, when preferential trade agreements with the EU were ruled incompatible with World Trade Organization (WTO) agreements and were not renewed. As a result, the importance of traditional export crops diminished greatly throughout the OECS. During the 25 years that the series of Lomé agreements were in effect, OECS governments had few incentives to diversify or strengthen linkages between agriculture and the tourism sector.
Agriculture production in the OECS is affected by the dry and wet seasons. During the dry season, which runs from around December to May (i.e. also the tourist season), agriculture production significantly drops due to the lack of intensive irrigation needed to sustain horticultural production. Annual rainfall is lower at the Leeward Islands of Antigua and St. Kitts & Nevis than in the Windward Islands of Grenada, St. Lucia, St. Vincent, and Dominica, thus causing more severe water-related challenges in these countries (FAO, 2000). Hoteliers interviewed in Antigua, for instance, mentioned that while availability and consistency of supply of local produce is problematic throughout the year, it is especially problematic during the dry season. The remainder months (June to November) are considered to be the wet season, although in recent years precipitation has been reduced and is less predictable due to climate change. Interviewed farmers have experienced more periods of droughts and high temperature in recent years, making their farms even more vulnerable. The wet season also coincides with the hurricane season, thus agricultural production can also be challenging during the wet season due to growingly unpredictable weather.

Seasonal production impacts the availability and prices of food. During the wet season, there is often an oversupply of certain agriculture crops, which leads to a drop in food prices and food losses. As food stocks decline during the dry, lean season, there are shortages of locally grown agricultural products, leading to a rise in food price. According to hotels’ executive chefs and purchasing managers interviewed by the Bank team, consistency of supply of locally grown produce is especially challenging during the dry season, which happens to coincide with the high tourist season. The main strategy used by hotels to mitigate locally grown food supply shortages is through importing food (by the larger hotels), or purchasing from importers such as traders, wholesalers, supermarkets and marketing boards (by smaller hotels). Some smaller hotels also employ a strategy of adjusting their menus to food that is available.

Despite their agriculture-related challenges, OECS countries have room for increasing food production and food sales to tourism actors. Given the growing domestic and tourism demand for fresh food, as well as concerns over food security and the import bill, OECS countries have the potential to increase production of

10 Many small OECS farmers are located on the steeper, more remotely located lands, with limited access to water. Larger farmers are typically located at the more fertile, flatter lands, either in the river valleys or by water sources.
11 This is mainly due to orographic influences of the Windward Islands being steeper. Even within the Windward Islands, the steeper mountainous parts often receive up to 60 percent more rainfall than the flatter, coastal regions.
12 Hotels are also impacted by water scarcity; Antigua hoteliers mentioned that hotels located by the beach employ their own desalination systems, which is very energy guzzling and thus costly. Other hotels truck in water.
13 Hurricanes and storms in the region have caused extensive damage to crops.
14 Large international hotel chains such as Sandals, Four Seasons, and Marriott cannot adjust their menus in such a way since they are required to follow their chain’s international standards.
some items such as fresh produce and fish. Many hotels have expressed a high level of willingness to increase the share of products purchased locally, as fresh foods and juices are highly attractive to tourists. At the same time, surveys have found strong interest among local farmers for devoting a larger share of their production to meeting the needs of the tourism industry.\footnote{Inconsistency of supply and lack of competitiveness currently prevent more fresh products from being sourced locally and offsetting imports. In some cases, a cost disadvantage is responsible for the low levels (or absence) of local production (meat and dairy products are two examples), while in other cases, agro-climatic conditions prevent certain commodities in high demand by the tourist sector from being produced (apples and cold-water fish, for example).}

The methodology employed in this study relied on both primary and secondary data. Secondary data was obtained from relevant studies, as well as from OECS governments’ publications, articles, World Bank reports, and international trade databases. Primary data was collected through meetings with key stakeholder groups and individuals during a two-week mission to the six countries of focus and to Miami and Barbados in May 2015, as well as through phone interviews. The authors visited six large hotels (or 30 percent of hotels with over 100 rooms in the six OECS countries of focus) and nine small- to medium-sized hotels. The team typically met with hotel executive chefs, purchasing managers and/or cost controllers, and sometimes with hotel owners as well. The authors also met with most of the national Hotel and Tourism Association managers, as well as with the heads of the Caribbean Hotel and Tourism Association (CHTA) in Miami. They also met with supply chain and procurement executives from two of the largest cruise lines operating in the Caribbean, as well as with the heads of the Florida-Caribbean Cruise Association (FCCA). Finally, the team also met with a range of other individuals and groups from the public and private sector, listed in Annex 1.
II. Findings

1. Competitiveness of OECS agriculture

Can OECS farmers compete with imports? The quick answer appears to be “Yes, sometimes,” but in actuality this is an intricate question, as tourism actors carefully examine multiple factors during their decision-making process concerning where food sourcing. These factors include availability and consistency of supply, cost, quality, quantity, variety, freshness, logistics, and standards. Recent surveys conducted in OECS member countries have found that while the percentage of food sourced locally by hotels and other tourism actors varies greatly among them, typically all source at least some share of their food requirements locally. Thus it appears that OECS products are attractive in some cases. While it is currently impossible to precisely quantify the potential demand and supply given the lack of data on food sales to the tourism industry actors and the paucity of agricultural production data, previous studies that employed comprehensive surveys have concluded that local supply in all OECS countries for the tourism sector could
increase. Some of the main factors contributing to the competitiveness of OECS agriculture and influencing tourism actors' decision making process for food purchases are discussed below.

### Hotels

**Hotels import much of their food requirements, including fresh products.** Statistics on food purchases by hotels are not regularly collected, but a World Bank–FAO study (2008) found that OECS hotels imported around US$94 million of food items in 2008, which amounted to around 20 to 25 percent of OECS food imports.\(^\text{16}\) Local food purchased by hotels amounted to around US$44.5 million that year. Fresh products, which have the greatest potential to be substituted by local production, account for about 60 percent of total hotel food purchases (Table 2). While approximately 64 percent of fresh products consumed by hotels were imported, the types of fresh products that they imported varied notably. For example, they imported more than 80 percent of their meat and dairy needs compared to 40 percent or less of their fruit and vegetable needs. Overall, the survey found that food products with little processing (fresh products) tended to be sourced locally, whereas highly processed foods (non-fresh products) and semi-processed foods (meat and fish) tended to be imported. This study reached the same conclusion.

<table>
<thead>
<tr>
<th>Fresh Products</th>
<th>Purchased Locally</th>
<th>Imported</th>
<th>Imports %</th>
<th>Total (US$)</th>
<th>% of Total Fresh Products Consumed</th>
<th>% of Total Hotel Food Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>3,938,444</td>
<td>31,346,796</td>
<td>89%</td>
<td>35,285,240</td>
<td>42.4%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Dairy</td>
<td>2,491,668</td>
<td>10,931,190</td>
<td>81%</td>
<td>13,422,859</td>
<td>16.1%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Fruit</td>
<td>6,349,736</td>
<td>3,616,938</td>
<td>36%</td>
<td>9,966,674</td>
<td>12.0%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>5,465,959</td>
<td>3,697,314</td>
<td>40%</td>
<td>9,162,910</td>
<td>11.0%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Fish</td>
<td>8,359,146</td>
<td>3,697,314</td>
<td>31%</td>
<td>12,056,460</td>
<td>14.5%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Eggs</td>
<td>3,375,809</td>
<td>0</td>
<td>0%</td>
<td>3,375,809</td>
<td>4.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>29,980,397</td>
<td>53,289,553</td>
<td>64%</td>
<td>83,269,950</td>
<td>100%</td>
<td>60.20%</td>
</tr>
</tbody>
</table>

*Source: World Bank and FAO (2008)*

The increase in the number of hotel rooms in recent years holds potential to boost local food sourcing. In recent decades, the number of hotel rooms has steadily increased, growing by approximately 51 percent from 1990 to 2000 and by another 15 percent or so from 2000 to 2015 (Figure 3).\(^\text{17}\) Many hotels have at

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16 These figures are based on a comprehensive survey conducted by the Mind Company in January/February 2008.
17 "Hotel rooms" refers to villas, apartments, and guest-houses catering to tourists,
least one restaurant on their property and thus purchase food to feed their guests and their employees; even where properties do not have restaurants, tourists still purchase food locally. The hotel survey conducted by the Mind Company estimated that hotel food purchases amounted to US$171 per room per week or US$8,892 per year. Thus for 2008, when the OECS had an estimated 15,457 hotel rooms, total hotel food consumption was estimated at US$138.5 million. Based on the current estimate of 16,000 hotel rooms in the OECS, hotel food consumption in 2014 is estimated to be worth around US$143 million (this estimate accounts also for the slight rise in the Food Price Index since 2008). Given that imports of fresh food represent about 38.5 percent of hotel food consumption, they are estimated at about US$55 million for 2014. Within fresh produce imports by hotels in 2014, fruit and vegetable imports are estimated at US$7.5 million, while fish imports are estimated at US$3.8 million. While the entire fresh produce imports cannot be substituted through local farming given countries’ agro-climatic conditions, production costs, availability of fish stocks, as well as other constraints, some substitution is possible.

Figure 3: Number of hotel rooms in OECS countries, 1990–2015

Source: Authors, based on data gathered from the OECS Commission and national Ministries of Tourism.
Note: Authors’ estimation for total rooms for 2005, 2010, and 2015, given missing data for some countries

Apart from food purchases, hotels have a significant impact on local economies through the employment absorbed by the hotel sector and the daily expenditures of guests. While almost twice the number of cruise passengers visited St. Lucia in 2014 than hotel guests (641,452 versus 338,158), the impact of cruise passengers is much lower than that of hotel guests. The average daily expenditure per cruise passenger is estimated at only US$35.22, compared to US$256.20 for hotel guests, and the average length of stay for hotel guests exceeded one week, compared to one day for cruise passengers. The recent establishment of new hotels as these are included in the same category when counted by OECS government authorities all lumped together in counting rooms used by tourists. While full data on hotel rooms were not available, in St. Lucia hotels represented about 90 percent of total rooms and in Dominica the figure was around 45 percent.

18 This is an estimate by the authors; data on hotel rooms were not available for all OECS countries.
19 Interviews with hotel managers and tourism associations revealed that American hotel guests typically stay for around 5 to 7 days, while European travelers typically stay for around two weeks.
throughout the OECS includes large enterprises such as Sandals in Grenada, which opened in 2013 and has 12 restaurants feeding over 900 people per day (450 guests and 500 staff). Hotels typically have a relationship with a number of local farmers who deliver to the hotels’ storage rooms (typically the same day that the produce is harvested, to maintain freshness). However, the rising number of total hotel rooms does not automatically translate into a rise in local food sourcing, which depends on availability of fresh food demanded by the hotels and hotels’ purchasing strategies, among other factors.

Small and medium-sized hotels are more strongly linked to local farmers than large hotels. Close to 40 percent of OECS hotels are members of the Caribbean Hotel and Tourism Association (CHTA); these typically include the larger hotels. Of the 303 hotels in the six OECS countries in focus, 20 are large hotels (defined here as those having at least 100 rooms). As seen in Table 3, 85 percent of large hotels are located in just two countries: St. Lucia and Antigua. In general, small- and medium-sized hotels typically purchase a higher percentage of their food requirements locally than large hotels. The actual percentage of fresh food sourced locally (typically including produce, fish, whole chickens, eggs, and pork) varies greatly even between small- and medium-sized hotels. Interviews with hoteliers found that small- and medium-size hotels purchase around 60 to 98 percent of their produce from local farmers, compared to around 10 to 60 percent for the large hotels. Some hotels place a strong emphasis on purchasing locally. All hotels in this size range indicated that their purchases of fresh produce are constrained by the limited availability and variety of products, among other factors.

20 In St. Lucia Sandals Resorts has three hotels, one with 169 rooms and two with over 300 rooms each. Sandals also has one resort in Antigua (373 rooms) and another in Grenada (225 rooms).

21 The Spice Island Beach Resort in Grenada is a case in point. Established in 1975, this upscale resort currently has 64 rooms and employs 185 full-time employees. During peak season, rooms are priced at over $1,000 per night. Luxury hotels such as this one place a strong emphasis on freshness, which is one of the main reasons that the Spice Island Beach Resort purchases around 98 percent of its fruits and vegetables locally. The hotel purchases directly from dozens of small farmers, who deliver their produce to the hotel on a weekly basis. The hotel typically tries to plan production schedules with the farmers, advising them about the expected demand for produce about three months in advance of purchase. The hotel purchases about 40 percent of its produce from the marketing board, although its first choice is to buy directly from farmers, since their product are fresher.
Table 3: Number of hotels in the OECS, 2015

<table>
<thead>
<tr>
<th></th>
<th>CHTA small hotels</th>
<th>CHTA large hotels</th>
<th>Non - CHTA hotels</th>
<th>Total Hotels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>13</td>
<td>6</td>
<td>36</td>
<td>55</td>
</tr>
<tr>
<td>Dominica</td>
<td>4</td>
<td>0</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Grenada</td>
<td>9</td>
<td>1</td>
<td>34</td>
<td>44</td>
</tr>
<tr>
<td>St. Kitts &amp; Nevis</td>
<td>12</td>
<td>2</td>
<td>23</td>
<td>37</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>21</td>
<td>11</td>
<td>61</td>
<td>93</td>
</tr>
<tr>
<td>St. Vincent &amp; the Grenadines</td>
<td>5</td>
<td>0</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>20</td>
<td>219</td>
<td>303</td>
</tr>
</tbody>
</table>

Source: Authors based on information obtained from the Caribbean Hotel and Tourism Association and national governments.

**Hotels typically source locally grown foods from a variety of sources.** These sources include local supermarkets, warehouse stores (such as Mega J in St. Lucia), national Marketing Boards, producer organizations, local suppliers, and directly from farmers. Medium- and large-size hotels also either import food themselves or order from a trader who imports. Interviews with hoteliers revealed that the main advantage of buying directly from farmers is that they get the freshest products (typically picked earlier that morning by farmers, who transport the produce to the hotels on set days). In addition, the cost of purchasing directly from farmers is often cheaper than buying from the Marketing Board or supermarkets. The difficulties, though, include lack of consistency with the quantity and quality of products delivered by farmers, and the limited availability of quantity and variety of products. Consequently, hotel purchasing managers have to purchase from multiple farmers and other sources to fill their demand, which can be very time consuming. Local farmers like to sell their produce to hotels since they often attain higher selling prices than from selling to the Marketing Boards, producer organizations or supermarkets. However, farmers interviewed by the World Bank team and by previous researchers claimed that selling to hotels is a challenge mainly because quantities ordered are typically small and vary greatly between orders, with no prior knowledge of what the orders will be, as well as unfavorable payment terms in some cases.

**Coordination and communication between hotels and farmers is very limited.** Most hotels do not provide farmers with a demand forecast, thus farmers cannot plan their production based on demand, contributing to periods of glut and shortages. Typically, communication between local farmers and hotels only takes place at the time the hotel places an order, which usually happens less than a week in advance. Only a few hotels, agro-processors, and supermarkets have stronger engagement with farmers, including sharing their expected demands and assisting with loans, inputs into production, and technical advice. However, even in these few
cases of close coordination, there are typically gentlemen agreements between the local buyer and lead farmers, rather than formal contracts.

Overall, the strategy adopted by small to medium-sized hotels is to maximize the food they can source locally; to import or purchase from suppliers who import only whatever is not available locally or does not meet quality or cost requirements. The reasons for this strategy are both economic and emotional—these hotels typically lack the economies of scale to import cost-effectively, and as residents of the island, they feel that they are part of the local economy and thus gain from contributing to it by purchasing locally. Smaller establishments also prefer buying relatively small quantities per order and to do so when they know that they will use the purchased food items, in order to reduce losses, maintain freshness, and avoid having to invest in large storage facilities. Local prices for the kinds of items purchased by hotels in country—mainly fresh produce, fresh fish, eggs, whole chickens, and some pork, as mentioned—are typically similar to that of landed prices of imported goods, given high transportation costs and taxation, except during times of shortages, when local prices can significantly increase. In addition, smaller hotels are typically more flexible with their food budgets and their menus, since they are typically not all-inclusive resorts and do not have to meet international standards, thus they can more easily adjust their menus to include dishes of food items that are available locally. Still, executive chefs of all hotel sizes are cautious about their food budgets, since they are required to achieve a certain profit margin on food sales.

Local food purchases of large hotels in the OECS typically represent a small percentage of their food demand. For hotels that belong to large international chains such as Sandals, Marriott, and the Four Seasons, it is financially attractive to purchase in bulk from Miami in order to get guaranteed quantities and volume discounts, rather than to attempt to source locally from smallholder farmers, given the considerable difficulty and uncertainty involved in sourcing large quantities from many small farmers. In addition, recently established large hotels have received concessions from OECS governments allowing them to import duty free, thus making it considerably cheaper for them to import items than for smaller traditional hotels. Moreover, in the case of Sandals Resorts, the purchasing orders are submitted by the chain’s purchasing department at its headquarters in Jamaica rather than in the OECS, thus apart from the requirement of placing purchase orders from pre-approved hotel vendors, the purchasing associate at headquarters has less awareness of local supply chains and no emotional ties to the island. Apart from the cost savings and consistency of supply and quality involved in purchasing in bulk from Miami, this strategy also reduces the risk of shortages, which occur very commonly in the OECS due to lack of production planning, limited water supply, limited protected agriculture, plant diseases, and the vagaries of weather (especially storms). Buying in bulk in Miami also makes it very difficult for local agro-processors such as Baron Foods (which operates out of St. Lucia and produces sauces, condiments, spices, and other products) and Summer (operating out of Grenada and producing fruit juice drinks) to sell significant quantities to large hotels. In comparison with small hotels, large hotels thus have a lower tendency to
purchase locally. In cases where large hotels purchase from the few local farmers who can deliver the required quantities and quality within the demanded price range, these farmers are typically large, and sometimes purchase from other farmers to fill the orders with produce that they do not grow or do not have handy. Box 1 is an example of the pricing structure for locally-grown versus imported produce.

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**Box 1: Pricing structure for imported versus locally grown produce:**

*The case of a large hotel in St. Kitts & Nevis*

This large hotel imports over 90 percent of its fresh produce, most of which arrives from Miami aboard reefer (refrigerated) containers. The hotel also imports almost all of its seafood requirements, also from Miami but via air freight. While it does purchase some fresh produce locally, it typically does so when it runs short of a particular item. The main reasons for sourcing in Miami are lower costs and consistency of supply. For instance, it imports Irish (white) potatoes from Miami at a landed cost of around US$0.50/lb, compared to a cost of around US$1.20/lb for local potatoes, when available, thus has little incentive to purchase locally given the much higher pricing. The hotel indicated that it would prefer to buy local in order to support the local economy and for freshness, but it would not be willing to pay more than around 5 to 10 percent above the landed cost for local potatoes.

While for some locally grown products the cost of production is simply too high to compete with imported products, there are examples where local fresh produce has the potential to be competitive. A case in point is tomatoes. Until May 2015, before it negotiated a reduced price with the Marketing Department, this large hotel had imported tomatoes from Miami. Before the new price was negotiated, the wholesale price (the Marketing Department in this case) was US$1.25/lb compared to a landed price of US$1.06/lb for imported tomatoes from Miami. The fact that local tomatoes cost US$0.19/lb or 18 percent more than imported tomatoes (see below figure) made them unattractive for the hotel. The newly negotiated price of US$1.11/lb became only US$0.05/lb (or 4.6 percent) over the landed cost, which was good enough for the hotel given the premium it places on freshness. Thus the hotel began purchasing tomatoes locally, and will likely continue doing so as long as consistency of supply and quality are met.
Cost of tomatoes imported by a large hotel in the OECS versus locally grown tomatoes (US$/lb)

This example illustrates that it is possible to increase sales of locally grown produce to large hotels, even when the local price is slightly higher than the landed cost of imports. In this case, direct communication with the hotel was key in order to negotiate a price that is workable for both buyer and seller.

*Source: Authors estimation based on interviews with hotel Purchasing Manager and local farmers in St. Kitts & Nevis in May 2015.*

Linkages between large resorts and local farmers have been strengthened in some cases. Sandals Resorts (which is the largest operator of all-inclusive resorts in the Caribbean), for instance, initiated a farmers program in Jamaica in 1996, intended to develop local agriculture supply linkages by improving a number of key areas including the quality of produce and its working relationships with farmers. Some of the program's activities included providing agricultural production support through various regional organizations and through funding a farmer extension officer to work with farmers, better coordination on pricing and volumes, and arranging meetings between farmers and hotels such as through workshops, visits of hotel management teams to farms and of farmers to hotels to discuss and coordinate related aspects. According to DFID (2004), the program was able to overcome problems and grow the number of participating farmers, sales, and farmers’ incomes, while improving quality and variety of local produce at a cost savings for the participating hotels. Since Sandals owns multiple hotels in Jamaica, investing in improving its local food sourcing is critical given the chain’s large food requirements for its guests and staff. In recent years, Sandals has been successful in
purchasing close to 100 percent of their fresh food requirements for its ten resorts in Jamaica locally, procuring from one lead farmer who fills Sandals orders from its own farm as well as through purchasing from other Jamaican farmers. Sandals provides the lead farmer with a forecasting of occupancy three months in advance in order to help the farmer with planning, while actual orders are done a week in advance. Prices are determined on a quarterly basis.\footnote{22}

**International experience suggests that it is possible for large hotels to purchase a significant portion of their fresh food requirements locally when conditions permit.** Team interviews with purchasing managers of large hotels located at several countries in the Latin America and Caribbean region revealed that these hotels purchased a high percentage of their food requirements locally. For instance, a 300-room hotel in Peru belonging to the same hotel chain mentioned in Box 1, purchases close to 100 percent of its produce requirements locally, as well as all of its poultry and eggs and much of its seafood. The main reasons that enable this hotel to locally purchase the majority of its fresh food requirement for its two restaurants is availability, good quality, and variety at competitive prices. In addition, while the hotel purchases directly from a small number of farmers, over 80 percent of its fresh food is sourced from a small number of suppliers who consolidate produce from multiple producers. While the hotel can get slightly lower prices when purchasing directly from farmers, local producers do not have the capacity to supply the quantities that the hotel requires.\footnote{23} While no official contract exists between the hotel and farmers, the hotel provides farmers with a demand estimate, which aids them in planning their production and transportation. Similarly, an interview with a 184-room hotel in Costa Rica that is part of the same management company as one of the large hotels interviewed by the team in the OECS found that about 90 percent of the food purchased by the hotel in Costa Rica for its four restaurants is produced locally. The vast majority of the fresh food is purchased from a small number of Costa Rican suppliers, who locally source the majority of the food except for certain products, such as beef, which the hotel requires to be imported from the U.S. for quality and food safety demanded by its guests, while the hotel purchases directly from farmers only in the case of eggs and cheese.

\footnote{22}{For all Sandals resorts located outside of Jamaica except for those in St. Lucia, the majority of fresh produce is sourced by Sandals Headquarters in Jamaica from a small number of vendors in Miami. For the three Sandals resorts located in St. Lucia, Sandals purchases from a small number of vendors in Jamaica that import the majority of Sandals food requirements from Miami, and purchases some of the food locally as well.}

\footnote{23}{In addition, since the hotel only purchases from formal establishments, the majority of farmers are excluded from selling to it since they do not have all the required licenses and permits that would enable it to be an approved vendor for the hotel.}
Cruise ships

The cruise line industry is a less likely potential market for local farmers in the short run. Close to half of all cruise ships worldwide navigate the Caribbean Basin, bringing with them around 10 million passengers annually to the region (Sánchez and Wilmsmeier 2009). In OECS countries, cruise passengers represent on average over half of all annual visitors (Figure 4), with varying impact on the local economies.\(^{24}\) However, cruise lines typically purchase very large volumes of food in a consolidated manner in Miami and have fewer incentives to purchase from OECS suppliers. Because cruise lines have stringent requirements concerning food quality, quantities, safety, packaging, and delivery, as well as relatively smaller food budgets per person, significant progress in all of these areas would need to be made before cruise lines would be able to source locally on a significant level. Finally, unlike OECS-based hotels, cruise lines do not have to pay maritime freight, insurance, import duties and customs fees (since they load the majority of their food in Miami). They usually purchase from OECS suppliers or farmers only when they are short on a product, which is an irregular and rare occurrence. However, cruise lines do strategically purchase a very small percentage of their food and beverages in a few non-OECS Caribbean countries.\(^{25}\) In addition, cruise line executives indicated that they would seriously consider sourcing more food locally once local suppliers develop the capacity to deliver the required quantities on a consistent basis and at competitive prices, in compliance with all of their product and logistics requirements.\(^{26}\)

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\(^{24}\) Within the OECS, St. Kitts and Nevis received the highest amount of cruise ship spending at US$65.7 million (11.4 percent of GDP, 2012 figures). In contrast, cruise line spending contributed only 0.3 percent to GDP in St. Vincent & the Grenadines (World Bank, 2015).

\(^{25}\) For instance, two leading cruise lines each spend around US$10 million annually on local purchases in the Caribbean, such as soft drinks in Puerto Rico and seafood in Barbados. It makes sense for them to purchase some food in these locations because they already stop there to load some supplies, and there are some financial incentives. For instance, the government of Puerto Rico provides cruise lines a rebate of 15 percent of the value of their local purchases in an attempt to incentivize cruise ships to visit and buy locally.

\(^{26}\) The authors met with supply chain and procurement executives of the two largest cruise lines operating in the Caribbean, as well as with the President and Sr. Vice President of the Florida-Caribbean Cruise Association.
Quantity and consistency of supply are major issues for tourism operators. Both the OECS Commission (2014) and the World Bank and FAO (2008) studies, as well as field interviews with tourism actors, both quantity and consistency of supplies were stressed as the major challenges to overcome once price is deemed competitive. These supply challenges are especially acute for large hotels and cruise lines, yet they are also an issue for small- and medium-sized hotels, because they have to deal with relatively large numbers of farmers to ensure supply. The majority of OECS farmers are smallholders who typically do not have the capacity to consistently deliver required quantities. Apart from farm size, consistency of supply can depend on factors such as the availability of inputs (water/irrigation, seed, fertilizer, harvesting equipment, and infrastructure for protected farming) and the level of farm management skills (including production planning, crop management knowledge, and post-harvest handling capacity).

Yachts

The yachting sector in the OECS has potential to increase its sourcing of locally grown food. In recent years, full-service, modern marinas have been built in OECS countries, including the 170-berth Port Louis Marina (Grenada) which opened in 2010, and the 60-berth Marina at Christophe Harbor (St. Kitts) which partially opened in February 2015. Both of these marinas can accommodate super-yachts of up to 300 feet. Official statistics on yacht passenger arrivals show an overall decreasing trend (Table 4), but statistics for the yachting sector remain very poor and largely unreliable across OECS countries (Bloomstein 2012). The highest growth rate in passenger visits from 2005 to 2014 appears to have been in St. Lucia (70.89 percent), but even here the numbers are likely understated. According to a maritime consultant at the St. Lucia Ministry of Tourism, yacht passengers are counted in only two of the island’s five ports of entry. The expert estimates that official yacht passenger arrival numbers in St. Lucia are understated by at least 30 percent; and that in the other OECS countries the numbers are understated by at least 50 percent (since St. Lucia is more adamant about data collection). Thus, it is likely that the number of yacht visitors in 2014 reached at least 181,000. While this figure is still substantially lower than arrivals of cruise passengers (2.468 million).
and hotel guests (984,000), average daily spending per yacht passenger (US$65) is almost double the spending per cruise ship passenger (US$35), and the average length of stay is significantly longer for yacht passengers (for example, the average stay for yachts in St. Lucia is 42 days),\textsuperscript{27} making the overall spending bill per yacht passenger relatively high.\textsuperscript{28} It is estimated that about 60 percent of yacht passenger spending is allocated towards food and drinks (imported and local).

Table 4: Yacht passenger arrivals, 2005 and 2014

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2014</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>25,824</td>
<td>24,996</td>
<td>-3.21</td>
</tr>
<tr>
<td>Dominica</td>
<td>8,572</td>
<td>11,909</td>
<td>38.93</td>
</tr>
<tr>
<td>Grenada</td>
<td>4,353</td>
<td>3,686</td>
<td>-15.32</td>
</tr>
<tr>
<td>St. Kitts &amp; Nevis</td>
<td>4,355</td>
<td>5,441</td>
<td>24.94</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>27,464</td>
<td>46,932</td>
<td>70.89</td>
</tr>
<tr>
<td>St. Vincent &amp; the Grenadines</td>
<td>81,890</td>
<td>46,899</td>
<td>-42.73</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>152,458</td>
<td>139,863</td>
<td>-8.26</td>
</tr>
</tbody>
</table>

*Source: Authors, based on data from the Caribbean Tourism Organization (CTO), 2015.*

**Food demand from the yachting sector is expected to rise in the years ahead.** The development of new marinas has opened new markets for larger yachts to visit the region. In St. Kitts & Nevis, local yacht agents estimate that there has been an increase of over 20 percent in the yachting sector over the past three years. Yacht clients value quality and overall standards more than cost, and they prefer locally produced items mostly because they are fresher. Locally produced fruits, vegetables, bread, and seafood are commonly purchased by yachts, while meats are typically imported since local meats generally do not meet the quality and preparation standards demanded by yachting clients. The food provisioning for yachts is somewhat similar to that of small to medium-sized hotels, in that it is done both through suppliers and directly with farmers.\textsuperscript{29} Due to the variety of yacht sizes,

\textsuperscript{27} The average stay of yachts varies across OECS countries. Typically, yachts stay longer in marinas that offer services such as fueling and yacht maintenance. The most developed marinas and services in OECS countries are located at Antigua, St. Lucia, and Grenada, in that order.

\textsuperscript{28} It is estimated that around 450 St. Lucians are directly employed in the yachting sector, and 130 businesses are servicing the sector, with an overall economic impact to the national economy of around US$59 million per year.

\textsuperscript{29} Yachts typically call the marina or an agent to source provisions, and they in turn have their network of local farmers and suppliers that deliver local produce and seafood. Marinas and agents also work with international provisioning companies for certain imported items (many large provisioning companies and agents are
average spending per yacht varies significantly, ranging on average from around US$4,200 per charter to US$98,000 for a super-yacht visit (Table 5). In Grenada (2012), the yachting sector’s estimated contribution to GDP was over US$48 million, and it directly contributed to 750 jobs. It is therefore estimated to have a larger impact on the local economy than the cruise ship segment (Henry 2013). No complete and reliable data on food sales to the yachting industry are available in the OECS, but an estimated US$6 million was spent on food provisioning in the sector in 2012, and around 75 percent of that was imported, for an estimated leakage of over US$2.2 million that year. While some of this food and drink included products that are not available in the OECS, charter agents and marina managers confirm that there is strong potential to increase purchases of local foods if the linkage with local farmers could be strengthened. For instance, given that farmers’ markets are very popular among yacht chefs and stewards worldwide, improving the availability, presentation and marketing of such farmers markets in OECS countries is likely to increase sales to the yachting sector.

### Table 5: Average spending per yacht type in Grenada, 2012

<table>
<thead>
<tr>
<th>Yachting Segment</th>
<th>Average Spent per Yacht ($US)</th>
<th>Number of Yachts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charters</td>
<td>4,199</td>
<td>500</td>
</tr>
<tr>
<td>Short Term Owners</td>
<td>9,354</td>
<td>2,034</td>
</tr>
<tr>
<td>Long Term Owners</td>
<td>20,077</td>
<td>857</td>
</tr>
<tr>
<td>Super Yachts</td>
<td>98,000</td>
<td>50</td>
</tr>
</tbody>
</table>

*Source: Authors, based on Henry 2013.*

**Logistics**

A **major advantage that local farmers have over food imports is transport time and cost.** Since locally grown food requires little transportation, it is fresher and saves on the high transportation cost of importing goods into the OECS. Maritime transport costs to CARICOM countries are significantly higher than to other regions, and within the Caribbean, the OECS countries experience the highest transportation costs (Sánchez and Wilmsmeier 2009). For example, it is cheaper located at Antigua, St. Martin, and St. Barths). Part of the food is purchased directly from local suppliers who approach yachts by fishing boats or paddle-boards to sell seafood, bread, fruit, and vegetables. In addition, local fishermen typically publish their contact information in marinas for chefs to pre-order fish.

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30 As mentioned, these figures significantly understate actual yacht traffic in Grenada.
31 For instance, the Grenadines could be a good place to establish or improve farmers markets in strategic locations, given the large number of yachts that tour its waters each year.
32 Two recent World Bank studies (January 2015) looked into the efficiency and performance of OECS ports and connectivity of Caribbean countries. They
to ship a 40-foot reefer container from Miami to Shanghai (around US$3,500) than from Miami to the OECS (around US$4,200). The transport segment can account for nearly half the landed cost of imported produce and thus strongly contributes to the price competitiveness of OECS farmers (World Bank and FAO 2008). At the same time, high transport costs pose a challenge for intra-regional trade. For instance, it costs about US$3,700 to ship a container of the type just mentioned from St. Lucia to Antigua. Due to the trade imbalances in OECS countries, however, exporters can benefit from lower rates on specific routes (as shipping lines try to avoid shipping empty containers).

Apart from the high maritime transport costs that prevail in the OECS, customs processes and procedures also impose hardship on importers. Customs assessments recently conducted by the World Bank in a number of OECS countries conclude that while customs performance varies throughout OECS countries, the average time to clear Customs is higher than in most other regions in the world. The assessments also identified serious challenges concerning customs transparency and control. High clearance times are mainly a result of low efficiency, which is in turn a consequence of limited use of information and communication technology (ICT), risk management systems, and electronic documentation, among other factors.

**Import duties**

OECS customs duties contribute to price competitiveness for OECS farmers, although some of the newer and larger hotels are exempted from these duties. CARICOM's Common External Tariff (CET) allows a maximum ad-valorem import tariff of 40 percent; OECS countries are independently allowed to set lower rates.

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33 This comparison looks at a 40-foot reefer container, including all container handling charges, excluding insurance (insurance prices vary depending on the value of the container contents). The comparison was based on actual prices paid in May 2015 by a large hotel in St. Kitts and Nevis; the estimate for Shanghai was provided by a global shipping line on May 29, 2015.

34 It appears that shipping connectivity (access to regular, frequent, and competitive freight services) in the Caribbean is a larger determinant of freight cost than distance (Sánchez and Wilmsmeier 2009).

35 Cost obtained from an importer of bananas from St. Lucia to Antigua, shipped with Geist shipping lines.

36 According to the World Bank Customs Assessment Trade Toolkit (CATT) carried out in recent years in several OECS countries, the main reason for slow clearance times exhibited across OECS customs is the high rate of traditional manual (physical) inspections of containers, due to limited use of an automated risk assessment system.

37 Taxes on imports in the OECS include tariffs, customs service charges, excise taxes, and environmental charges. In 2012 these taxes amounted to 33 percent of tax revenue for OECS WTO Members as a whole (WTO 2014).
Value added taxes (VAT) are also applied and vary across OECS countries, ranging from 10 to 17 percent. Apart from the CET and VAT, customs service charges range from 3 percent in Dominica to 15 percent in St. Vincent. In 2012, the average import duty for agricultural products in the OECS was 19.1 percent, noticeably higher than for non-agricultural products (9.4 percent). In theory, these duties benefit local farmers (although not consumers) by making imported goods more expensive, but that advantage is not always present, given the import duty concessions granted to recently established large hotels. In addition, agriculture inputs and equipment usually attract import duties, increasing the cost of production, although duties are typically waived following an application by the importer.

**Freshness**

In the short run, fresh products hold the highest potential to be sourced locally. Fruits and vegetables have been identified as the fresh products with the highest potential to replace some of the currently imported fresh produce, especially given the high perishability of these products and the premium that supermarkets and hotels are willing to pay for freshness given their clients’ demand. In addition, once assistance is provided in strengthening skills in farm management and developing modern agriculture technology such as greenhouses and irrigation systems, there is potential to increase yields, variety of products, and availability of supply, thus promoting the competitiveness of local farmers. Some types of seafood and other fresh food also have potential. To identify which products are in high demand, there is a need to examine the variety and quantity of fresh produce that is being imported into each OECS country, and then focus on increasing the production of those products that can be grown locally on a competitive basis, considering the agro-climatic conditions of each country, existing resources, and prospects for expansion if appropriate investments in training, production, and technology were available. As a rule of thumb, given that smallholders are noncompetitive in products that require economies of scale to be profitable, special attention should be paid to highly perishable products and high-value foods in which OECS farmers can compete. The main opportunities for locally grown fresh products to supply tourism demand are listed in Table 6. Specific recommendations on individual food products can be found in the recent OECS demand study.

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38 OECS countries have moved towards the application of the HS2007 tariff nomenclature. Although the tariff structure and levels are based on the CARICOM CET, they continue to vary across countries (WTO 2014).

39 Customs service charges are applied to all imports, including those from within the OECS region. These fees are high in comparison to those exhibited in other regions around the world.

40 While import duties for inputs into production are typically waived following a formal application by the importer, the challenge is that this process sometime takes several months and thus can be very burdensome.
Table 6: Opportunities for locally sourcing products of OECS agriculture, including livestock and fisheries

<table>
<thead>
<tr>
<th>Product</th>
<th>Sourcing Potential</th>
<th>Possible Improvement Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits and vegetables</td>
<td>Demand for fresh produce is expanding in volume and variety, and tourism is an important driver of this growth in demand. OECS members already produce some fruits and vegetables of relatively good quality at competitive prices and supply them to a range of hotels across the OECS. These advantages, combined with hotels' preference for fresh produce, provide these commodities with the greatest potential to increase local supply for the tourism sector. Tropical fruits and high-value perishable vegetables, in particular, have strong potential for expansion. Given that the tourism industry accounts for only one-third of fresh food purchases in the OECS, growers need to explore additional markets, including domestic and regional (export) markets.</td>
<td>Potential to expand quantity and crop variety based on tourism demand exists through a number of instruments, including production and harvest planning, supply and demand matching, aggregation, and expansion of modern agricultural technology and techniques, such as post-harvest technologies, cold storage, irrigation, protected agriculture, greenhouses, and hydroponics. Technical training needs to be introduced in order to promote the management skills required to achieve the quality, consistent supply, and other standards required by the tourism and export markets. An emphasis may be on enabling young entrepreneurial farmers to invest in modern agriculture and lead the way to a more diversified and dynamic agriculture.</td>
</tr>
<tr>
<td>Fish and seafood</td>
<td>Fresh fish and seafood are important products for the tourism sector and are therefore already in high demand by hotels, restaurants, and marinas. Because they are highly perishable, fresh fish and seafood harvested by OECS fishermen have an advantage over imported fresh fish and seafood. Potential also exists to increase exports of certain seafood (e.g., lobster) if regional import and export procedures (e.g., customs) improve.</td>
<td>Despite the high demand for fresh fish and seafood, the fishery sector has limited equipment (e.g., small fishing boats and limited cold storage), which constrains consistency of supply. The lack of specific products during certain seasons is also an issue. Hotels would purchase more fish if filleting were done under hygienic conditions (currently most fish are sold as whole). Some investment in aquaculture is taking place and can be expanded.</td>
</tr>
<tr>
<td>Meat</td>
<td>Locally sourced meat has limited potential for the tourism sector due to high production costs (driven by the high cost of imported feed), limited local production capacity, and problems meeting standards for quality (including unavailability of certain types of cuts), and hygiene. A large share of food imported by hotels consists of frozen meat and chicken; only a very small share is purchased locally. An exception is whole chicken, which is often purchased locally.</td>
<td>The upgrading and/or establishment of processing facilities would facilitate meeting the hotel industry’s standards for hygiene, cuts, and quality. The required investments are substantial, however, both at the farm level and at processing facilities. In addition, if local production costs remain significantly higher than the landed price of imported meat, it would be difficult for local producers to compete.</td>
</tr>
<tr>
<td>Dairy</td>
<td>Similar to meat, the low price of imported dehydrated milk reduces the competitiveness of local milk production.</td>
<td>Added-value processing, such as the production of local goat cheeses or yogurts prepared with local fruit, may offer opportunities to supply a niche market.</td>
</tr>
</tbody>
</table>

Source: World Bank and FAO 2008; OECS Commission 2014; authors, based on field interviews.

2. Marketing of fresh agricultural produce

The structure of the prevailing marketing system for fresh produce is rudimentary. Virtually all marketing of fresh local produce in OECS countries is done by individual farmers, and until they harvest, many farmers do not know where or to whom they will sell. Buyers simply keep a list of farmers (the number of farmers on the list depends on the size of demand but usually ranges from 5 to 20 farmers for hotels, and around 100 farmers for larger supermarkets) and call them whenever they need produce delivered. In addition farmers typically call hotels and supermarkets during harvest to inquire about demand. Farmers normally deliver the produce themselves on days requested by the hotels, and each week buyers go down their lists of farmers until demand is satisfied. Transportation of produce from farms to hotels and supermarkets is often costly and inefficient, as volumes
are typically low and the entire cost is born by individual farmers, and vehicles are unlikely to be utilized daily. Irrespective of the type of buyer (hotel/resort, restaurant, supermarket, or marina), no formal contracts are used except in very few specific cases, and there is a lack of information regarding supply and demand prior to harvest.

**Another salient feature of market structure is the low degree of farmer organization.** Farmers in the OECS are generally not well organized, and the numbers and percentages of farmers who are actively part of a producer or marketing organization are rather small. Where producer organizations do exist, they often face challenges that are not unique to the OECS, such as financial problems, unstable membership, and mistrust among individual farmer members. On the other hand, a few producer organizations have survived and are moving forward. It is important to analyze the experience of the more successful organizations and learn from the ways in which they have successfully overcome these challenges.

**An important aspect of market structure is the involvement of the public sector.** Ministries of Agriculture throughout the OECS are involved not only in governing the agricultural sector through regulatory and policy measures, but are also active in purchasing and marketing agricultural produce (and in some cases also in farming), typically through marketing board arrangements (some include retail operations as well). Agricultural marketing boards in OECS countries typically run at a consistent loss to the exchequer, however, and often crowd out private sector-led marketing activities. The infrastructure of some marketing boards (storage, chilling units, and so on) is in a dire state because proper maintenance has been lacking. In most cases, marketing boards have a monopoly on imports of some products, such as rice, sugar, and powdered milk. None of these activities seem to be carried out efficiently, which contributes to poor market performance.

**Poor market information leads to uncertainty for buyers and sellers.** Throughout the OECS, the lack of market information affects both the demand and supply sides. On the demand side, buyers (tourist establishments and supermarkets) face uncertainty about availability of products in terms of quantity, quality, and timeliness. On the supply side, farmers are unaware of the exact nature of the demand from either the tourist industry or supermarkets at a given time; they are at the mercy of buyers, who contact them to satisfy a demand that, until the moment of contact, remains unknown to farmers.

**The combination of poor market information and a rudimentary market structure for fresh produce results in suboptimal market performance.** Farmers, who typically deliver small and unpredictable quantities to buyers, are in a difficult situation—they lack a guaranteed outlet for their produce while facing price uncertainty. Yet the situation seems inefficient for buyers as well, given that they have to deal with numerous suppliers who cannot consistently supply quantities that meet certain minimum quality standards and are available at the appropriate time. This is especially a challenge for the large hotels and cruise lines, given the challenge of the current market structure to deliver large quantities of food that they require.
The business relationship between farmers and tourist establishments (large hotels in particular) often suffers from a lack of trust. Problems related to delayed payment by buyers, the inconsistent quality and quantity of products provided by suppliers, and unequal market power (often leading buyers to dictate prices without any negotiation) often cause mistrust to arise between buyers and sellers, and results in sub-optimal market conduct.

**Market performance is rather poor.** Examples of aggregation in marketing, such as contract farming arrangements and outgrower schemes, are scarce throughout the OECS. The authors encountered only a couple of examples of contract farming, including one with an agro-processor in St. Lucia and another with a hotel in Dominica.41 In Antigua, Sandals has an arrangement with a relatively large-scale farmer (60 acres),42 but even in this case there is neither a contract nor any kind of planning involved.43

The lack of aggregation of smallholder supplies compromises market performance and complicates the planning of farm production based on demand (which in any case is not a common practice among farmers in the OECS). While this in a sense is a logical outcome of the prevailing marketing system in which neither prices nor quantities are known before the start of the growing season, it also leads to shortages and surpluses, which are all too common throughout the OECS, resulting in considerable price variation over time and unstable farm income. In summary, the lack of aggregation in marketing not only limits farmers’ access to assured and remunerative markets (and a stable income over the seasons, with a shorter “lean” season), but it also complicates buyers’ purchasing operations and creates a disincentive to buy locally, especially for the larger hotels.

**When dealing with smallholders, marketing can rarely be seen in isolation from production.** A major constraint in the production and marketing of fresh produce in OECS countries is the absence of a combined production-marketing system that would ensure (i) a consistent supply of sufficient quantities of quality produce to buyers at required times, and (ii) a reliable income for producers. Both if these may require a certain degree of coordination in which private aggregators link up with smallholder producers and provide services, including the supply of inputs (often on credit), technical advice, and marketing. An important function

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41 Baron Foods, a relatively large agro-processor headquartered in St. Lucia, sources its raw products from about 30 local farmers, with whom it contracts to produce specific crops at an agreed-upon purchasing price. The company supplies production inputs and loans to farmers. Contracts between the hotel in Dominica and producers state guaranteed prices but do not specify quantities, which are communicated to suppliers by phone on short notice.

42 According to the latest agricultural census in Antigua and Barbuda (2007), only six farmers own over 50 acres. No farmer owned over 100 acres.

43 In this case, one week in advance Sandals informs the farmer of its required products, quantities, and prices. He fills Sandals orders from his own crops and by purchasing from other local farmers. Sales to Sandals by this farmer total about US$220,000 annually. Still, Sandals imports the vast majority of its fresh produce via Miami.
of private sector-led aggregation is coordination of supply and demand throughout the different stages of the value chain.

3. Youth involvement in agriculture

3.1. Challenges related to the aging agricultural sector

Most agricultural producers do not treat farming as a commercial business. The majority of farmers in OECS countries are smallholders who farm less than 2 acres. Many are unregistered. St. Vincent, for instance, has more than 6,000 registered farmers (and an estimated 4,000 unregistered farmers) within only 390 square kilometers. Grenada has over 9,000 farmers, only one-third of whom are estimated to be commercial farmers. Many farmers also have off-farm incomes. Farming is often carried out using traditional methods with limited technology and irrigation; practices have not kept pace with changes in agricultural technology. Throughout the OECS, only a small minority of farmers have strong skills in modern farming methods, farm management, marketing, and bookkeeping. Most producers employ a mixed cropping technique, where different types of crops are cultivated within the same field (and varieties of the same crop with different life cycles). While a mixed system helps farmers spread risks (related to demand, insects, and climate), it results in low economies of scale per crop. Many farmers maintain a small amount of livestock for obtaining manure and/or for weed control, as well as for selling.

The involvement of young people in the agricultural sector is very limited. An important aspect of the field-level challenges mentioned here is that farmers tend to be older and set in their ways, and thus less adept at taking up new technologies. Few updated statistics on the age distribution of farmers are available. According to interviews with officials from the various OECS ministries of agriculture, as well as with farm groups, most farmers are rather old, however. In St. Vincent, for example, a 2014 survey conducted by the Ministry of Agriculture found that the average age of farmers belonging to cooperatives was 51 years. In Antigua and Barbuda, the latest agricultural census (2007) found that only 9 percent of farmers were younger than 34, and 70 percent were 45 or older. Team interviews with farmers across OECS countries reveal that the majority of their children have chosen not to pursue a career in agriculture. Opportunities on farms exist, yet they are accessible to and appreciated by only a few young people. Apart from the stigmatization of farming because of a history of slavery, most young people do not perceive agricultural employment as an opportunity for a successful career. Instead, the young see the difficult situation faced by farmers struggling with small plots, outdated technology, and the need to work other jobs to supplement their farm incomes. The difficulty of obtaining financing and land titles, coupled with growing occurrences of weather-related disasters such as droughts and hurricanes, makes farming appear as a risky venture with little prospect for success. Instead, the majority of young people choose to pursue careers that command more respect in society and are less risky, such as law and medicine, or they prefer to work in the dynamic tourist industry.
Youth unemployment is high across the OECS. While national unemployment is high in most OECS countries, the rate of youth unemployment is even higher—on average almost double the national rate (Figure 5). Part of the unemployment challenge arises from a mismatch between the supply of unskilled labor and the demand for skilled labor to fill modern jobs. Recent labor market surveys in St. Lucia and Grenada revealed that hiring firms place high value on literacy, numeracy, and communication and behavioral skills (World Bank 2015). In addition, companies pointed to the shortage of skilled labor as the main constraint for improving competitiveness. In other words, perhaps the biggest labor market challenge is the mismatch between the skills and knowledge gained in schooling versus the skills demanded by employers. Recent graduates receive hardly any assistance as they transition into the labor force. High unemployment levels slow economic growth since people have less cash to spend. Youth unemployment can also lead to social distress, a higher incidence of crime, and economic migration.

Figure 5: Unemployment levels in OECS countries, 2014

![Figure 5: Unemployment levels in OECS countries, 2014](chart)

Source: Authors, based on First Council of Ministers of Agriculture Meeting, St. Vincent (March 27, 2015), and data from the Government of St. Lucia (2014).

3.2. Opportunities for overcoming field-level challenges and reducing unemployment

Young entrepreneurial farmers in the OECS have the potential to transform the agricultural sector from subsistence farming into commercial businesses. If young, motivated farmers could obtain the technical skills and financial support required in modern agriculture, they could initiate farming ventures that employ modern equipment and techniques, such as greenhouses and hydroponics, to produce food that cannot be grown using traditional methods and can substitute some of the imported foods. Young entrepreneurial farmers would bring drive and innovation into the workforce. They could have a transformative impact on the growth of the agricultural sector and economy, although this impact, sometimes referred to as the “youth dividend,” typically does not occur without government and/or outside support (Brooks, Zorya, and Gautam 2012). In addition, for young entrepreneurial farmers to be successful, some of the traditional challenges in the
agriculture sector, such as issues related to land titles and to water supply, would need to be dealt with appropriately.

The OECS agricultural sector has room for growth and can absorb young farmers. Increasing local demand for food through growth in the tourist sector and supermarkets, as well as through intra-regional and external demand, provides opportunities for the agricultural sector to expand. Modern techniques such as protected cultivation and other farming practices could allow young entrepreneurial farmers to produce non-traditional, high-value produce that is currently imported, such as cherry tomatoes and a greater variety of lettuce. Responding to the various challenges mentioned above could result in growth in the sector. The productivity gaps and underutilized land that exists across the OECS can be seen as an opportunity to both increase labor productivity and absorb labor. Modest improvements in management practices, tools, mechanization, and irrigation can increase farm yields and thus income, including the yields and incomes of smallholders.

Employing young people in agriculture would help mitigate youth unemployment and rural poverty. Leading international organizations such as the United Nations, the World Bank, the International Fund for Agricultural Development, and the International Food Policy Research Institute (IFPRI) have recognized the importance of rural employment for reducing poverty and improving food security. Although youth employment is often promoted by supporting the creation of formal jobs in the urban sector, enhancing employment opportunities for young people and promoting agricultural growth are complementary activities (Brooks, Zorya, and Gautam 2012). For these improvements to take place and bear fruit, however, countries need to develop a supportive environment for business that encourages competition, appropriate land titling procedures, financing for farmers, the sharing of information and provision of timely advice, the provision of proper production inputs, and the development of appropriate skills.

Efforts to promote youth employment in OECS countries have met with some success. In recent years OECS governments have placed a growing emphasis on youth employment. Two projects supported by the World Bank in recent years—the Inclusive Growth Adaptable Program Loan projects in St. Lucia (2008–09) and Grenada (2012–13)—supported reforms by OECS governments to increase the employability of youth through public-private partnerships for demand-driven technical and life skills training. The Skills Training for Unemployed Youth component of these projects also involved agriculture, including training in crop production and livestock rearing. More than 60 percent of the young people trained under these projects found jobs immediately after their training. At least two other projects that are underway (not financed by the World Bank) include activities to increase youth employment. The Promotion of Regional Opportunities for Produce through Enterprises and Linkages (PROPEL) project focuses on helping young farmers in the OECS to increase their incomes by connecting them to high-value
markets. The Banana Accompanying Measures (BAM) project also features activities that are likely to increase employment (including youth employment) in the sector. Finally, the OECS Commission is in the process of developing an OECS Youth Development Strategy with entrepreneurship identified as a key pillar for youth development.

4. Agro-processing

4.1. Food losses and limited value-added activities

Food losses are high throughout the OECS, mainly because most farmers produce the same products at the same time. The resulting over-supply (glut) during a relatively short period leads to low prices and revenues for farmers. It also leads to losses, also because of the lack of storage facilities on farms. In some islands, these problems are aggravated by marketing boards that are mandated to buy all products that meet a minimum quality standard, resulting in large amounts of produce, such as mangoes, tomatoes, and citrus being dumped each year.

The food processing industry in the OECS lacks the capacity to absorb, process, and preserve all the fresh produce supplied, yet at the same time, agro-processors experience difficulty in obtaining the amounts of products they require in a consistent manner. There is a mismatch between what farmers produce and what the industry demands. This mismatch, while related to seasonality, is much more of an organizational and marketing problem. In many cases, farmers plant crops they are familiar with or that did well the previous year, and they look for markets only at harvest, instead of planting what the market demands and ideally lining up a buyer for their produce before planting. Only a limited number of agro-processors operate in the OECS, mainly because the skills and know-how are lacking, relationships have not been developed with foreign markets, a significant amount of financing is required to invest in processing facilities, and energy costs are very high.

Nevertheless, several interesting agro-processing initiatives are underway in the OECS, especially in St. Lucia and Grenada. These mostly small- and medium-sized enterprises focus on products such as jams, jellies, cassava flour and bread, fruit juices, fruit syrup, fruit cheese, chips, coconut oil, chocolate, processed spices

PROPEL mainly assists smallholders to meet buyers’ quality, quantity, and food safety needs by strengthening linkages between private sector buyers, producers, and government institutions and by increasing producers’ access to appropriate financing. OECS countries included in the projects are Dominica, Grenada, St. Lucia, and St. Vincent & the Grenadines. The project is funded by the Canadian Department of Foreign Affairs, Trade, and Development and the Canadian Hunger Foundation.

BAM, an EU support package for a number of banana-exporting countries, seeks to facilitate the adjustment of these countries to a new trading environment. Countries participating in BAM in the OECS include Dominica, St. Lucia, and St. Vincent & the Grenadines. The measures began in 2012-13 and are country-specific.
(chili sauces, for example), medicines, or processed fish. Some examples of agro-processors are described below by type of product:

- **Hot sauces, condiments, jam and jellies, syrups**: Baron Foods Ltd. is one of the largest agro-processors in the OECS, manufacturing 150 products at plants in three countries (with HACCP and FSSC 22000 certification), employing 200 people, and exporting 60 percent of its products around the world. Other examples are the smaller De La Grenade Industries Ltd. in Grenada, or Susie's Hot Sauce, a company in Antigua and Barbuda.

- **Cassava flour and bread**: Plas Kassav Inc. in St. Lucia produces cassava bread, pone, muffins, and flour. It is based on artisanal production and is not yet HACCP certified.

- **Medicine**: Noelville Ltd. in Grenada produces Nut-Med, an instant relief spray with a blend of plant extracts, including nutmeg and mace, that relieves tight sore joints, arthritic pains, muscle soreness, inflammation, and back pain. The product is exported.

- **Fruit juices**: Summer Ltd. just started production in late 2014 and is currently obtaining HACCP certification. It produces nectars and fruit juices from locally grown fruits (golden apple, guava, mango, passion fruit, sorrel, soursop, and tamarind). The company visits farmers and purchases directly from the field to discourage larceny and to ensure freshness.

- **Chocolate**: The Grenada Chocolate Company Ltd., founded in 1999, produces organic dark chocolate; all of its members are certified organic farmers. The company has positioned itself as a sustainable enterprise. To be carbon neutral, its operations include a solar-powered factory, sailboat and bicycle transport, and solar-powered refrigeration. Jouvay Chocolate, a new chocolate factory, is a partnership between Grenada’s cocoa farmers and LA Budick Grenada. As majority owners of Jouvay (70 percent), Grenada’s cocoa growers are also manufacturers, doing the added-value processing that generates higher incomes and leads to greater financial security.

### 4.2. Challenges and untapped opportunities

**Low capacity utilization and high cost of operating processing plants decrease the competitiveness of the agribusiness industry.** Many processing plants run at low capacity, partially due to the seasonal availability of produce, the limited supply from farmers, and the challenge of finding larger markets. The competitiveness of the products is also reduced by high production costs, which mostly are the result of very high energy costs (OECS countries are highly dependent on imported fossil fuel to generate electricity) and the high cost of importing inputs in production. Electricity from renewable energy sources represents only a small percentage of the overall generation mix within the OECS.

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46 HACCP is Hazard Analysis and Critical Control Points.
Smaller enterprises generally lack the funds and knowledge to meet quality, food safety, and labeling standards. The process for complying with food safety standards is often lengthy, costly, and requires significant dedication and perseverance. Consequently, only few of the agro-processors are HACCP certified, or even ISO 22000 or FSSC 22000, which often impedes access to international markets.

Although traditionally the focus in the OECS has been on the export of traditional crops, many export opportunities exist for agro-processors. The OECS generally has been seen as an exporter of traditional crops such as bananas and nutmeg. Even though several agro-processing initiatives have emerged, many more unrealized opportunities exist to add value to fresh produce. In Grenada, for example, whereas cocoa beans and raw nutmeg can be exported only by their respective cooperatives, processed products can be produced and sold by anybody.

Several agro-processors have been linking agro-processing with agro-tourism. Taking advantage of the large tourism industry, including hotel stays and cruise ships, many agro-processors have already liaised with hotels and tour operators to bring tourists to their plants and factory shops, which is an important source of income for some of them. There is still significant potential, however, to increase this line of business.

Agro-processors find it difficult to sell to tourism actors in the OECS. According to several agro-processors executives interviewed, while their companies export to supermarkets, stores and other buyers in some none-OECS countries in the Caribbean region and outside the region (such as to the U.S. and Europe), 47 they sell very little to hotels located in their own countries. They claim that the reason for this is due to the import duty concessions received by large hotels, which incentivizes these hotels to import the majority of their food from Miami. In addition, they claim that with some of the large hotels and with the cruise lines, food-sourcing decisions are made at headquarters rather than in the OECS. Thus, in the few cases where agro-processors do sell to local tourist establishments, it is mostly sold to smaller hotels, which use their products in their kitchens and souvenir shops.

4.3. The role of the public sector in agro-processing

Where the public sector has been directly involved in agro-processing in the OECS, activities seem to be inefficient. Some OECS governments have compensated for the lack of agro-processing activities by setting up their own processing plants (mostly with donor funds), instead of facilitating the private sector’s entry into the market. These plants consistently run at a loss and in some cases have generated conflicts with farmers and small agro-processors.

47 The United Kingdom represents one of the main export markets for OECS crops and agricultural processed products due to a tradition of exports, familiarity with the UK markets, and business and political ties.
Where governments have been acting as facilitators to the industry, the market has reacted positively. For example, OECS governments have provided concessions for duty-free imports of equipment to agro-processing factories to make them more competitive. In addition, some governments have provided technical assistance to the industry. In St. Vincent, for instance, the Ministry of Agriculture with support from FAO is providing the four established processors of coconut water (High Mountains, Little Nut Farm, Fountain of Youth, and Seven Peaks) with technical assistance on improving the sanitary and phytosanitary conditions under which coconut is grown and water is bottled, improving marketing to locals and tourists, and improving process flow. The government will provide the technical assistance, but the financing for upgrading infrastructure and equipment will come from the processors themselves.
The study focuses on three essential areas for building stronger linkages: marketing arrangements, the role of young farmer-entrepreneurs, and the agro-processing industry. These three main recommendations are based on analysis carried out by the team of the information collected during detailed field interviews with a sample of “game changers” of the private sector and key public sector actors, combined with the findings and conclusions of previous studies on the topic. Some ideas were also drawn from a number of ongoing investment projects supported by the World Bank in the OECS and other regions. The three main interventions presented below were found to have the highest potential to advance the objective of strengthening the linkages between the agriculture and tourism sectors, and increase the share of agricultural products that are sourced locally.
1. Private sector-led aggregation of smallholder produce

1.1. Promoting private sector-led aggregation

Limited aggregation is a major issue in marketing fresh produce in OECS countries. It not only limits farmers’ access to remunerative markets but also complicates buyers’ purchasing operations, especially those of large hotels, thus it often provides a negative incentive to purchase locally. As noted, public sector efforts at aggregation are riddled with problems, and based on their historical performance there is little justification to promote them further. More promising models are based on aggregation by private sector actors—off-takers who buy from small-scale producers, thus providing them with a market for their produce. Such aggregators presumably would also provide other types of support/services to smallholders, possibly including planting material and other inputs (fertilizer, chemicals, technical advice, and so on). The off-taker would be compensated (usually in kind) for the costs of such support (plus an implicit interest rate) at harvest time when taking possession of the produce. These types of arrangements are also referred to as contract farming.

A marketing system based on private sector aggregators would have the potential to overcome a number of key constraints typically faced by smallholder producers. These constraints include: (i) limited access to finance for farming; (ii) limited access to improved production technologies and knowledge of how to apply them; (iii) difficulties in accessing reasonably priced and high-quality inputs; and (iv) limited and/or costly access to markets. While the aggregator would need to profit through the difference between the price it pays to farmers and the price at which it sells to clients, at least two additional benefits would accrue to the aggregator: (i) an enhanced image of being socially and environmentally responsible; and (ii) differentiating their products from mainstream products while satisfying new consumer demands. In addition, apart from aggregating, storing and marketing produce, aggregators could add value to certain products through basic activities such as washing, packaging, and cutting, which supermarkets interviewed in particular have expressed strong interest in.

Despite some notable examples of success (including rural productive alliances in a number of Latin American countries), effectively organizing smallholders into groups that regard farming as a business and aim at achieving

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48 The term “productive alliance” is used when producer organizations are playing the role of an aggregator. It brings commercial buyers, such as supermarkets, processors or exporters together with producer organizations with the purpose of increasing incomes and employment for rural producers through their participation in modern supply chains. The concept of rural productive alliances has been successfully applied in several Latin American countries with support from the World Bank. Because producer organizations can be unstable owing to poor management, lack of capacity to manage conflict, and lack of social cohesion, a strong producer organization is a prerequisite for a successful rural productive alliance.
scale has often proven to be a challenge throughout the developing world. Farmers often need outside assistance to organize into producer groups. Since such help has rarely been forthcoming in the OECS, it is not surprising that farmers’ efforts to form associations on their own have not always been successful. Some producer organizations in the OECS have the potential to act as aggregators, and those with the best performance should be supported to achieve this role. Nevertheless, it would not be enough in this context; there is a need for private actors to step in and assume the required organizational and aggregation roles. These actors could be traders, wholesalers, agro-processors, or even larger (lead) farmers, who buy from multiple small farmers. Smallholder farmers would produce according to a plan agreed upon with the aggregator and according to terms and conditions detailed in a written contract. Besides marketing (including the physical purchasing of commodities as well as providing market information), contracts may cover input supply, financing, and other services (such as technical assistance).

**Contract farming-type arrangements may be particularly suitable for strengthening agriculture-tourism linkages in the OECS.** Tourism-oriented enterprises are willing to pay a price premium for fresh produce with specific attributes such as freshness, size, color, uniformity, maturity, and even invisible attributes such as being organically grown or possessing zero chemical residues. Given the specific crop management methods and substantial supervision required to achieve such attributes, contract farming arrangements could be an attractive way to match supply with demand. The small farm sizes in the OECS countries should not act as a barrier to contract farming arrangements, given the intensive nature of horticulture, which is largely scale-neutral and is also a main interest of the tourism industry as far as local sourcing is concerned. On the other hand, small farm sizes do increase supervision costs. International experience suggests that a good practice is for lead producers, aggregators, or cooperatives to enter into semi-formal or formal arrangements with tourism operators to meet their supply needs (International Trade Organization 2010).

**Assistance is needed to finance the establishment and facilitate the development of aggregation schemes and contract farming arrangements.** Contract farming arrangements (or aggregation schemes in general for that matter) face substantial upfront establishment costs. The initial investments to set up a smallholder-based contract farming arrangement may include establishing the logistics of an extension and field supervision network; conducting the initial training of farmers and supervisors; obtaining equipment for land preparation and harvesting by smallholder farmers; developing infrastructure for post-harvest activities such as cleaning, grading, bulking, and packaging; and developing transportation and cold storage facilities. Contract farming arrangements may also require a number of growing seasons to develop, both in terms of quantity and quality; typically the majority of these establishment costs are incurred during the first two to three years of operation.

**Such assistance may contain a matching grant mechanism to finance competitively selected and financially viable business plans for the elaboration of aggregation schemes.** Such business plans could finance: (i) investments (goods,
works, equipment) for aggregators (such as transport, storage, post-harvest, or cold chain facilities) and for producers (such as equipment for land preparation and harvesting, small irrigation infrastructure including water harvesting, or protected agriculture structures); and (ii) technical assistance to the aggregator and its eventual supervisors on topics such as logistics, storage, food safety, marketing, labeling, agronomy, accounting, communication and ICT, and to producers on good agricultural practices, agricultural technology, innovation, climate smart agriculture, and post-harvest handling. Rigorous financial analysis of the contract farming/aggregator schemes is crucial for the design of a matching grant structure, as is careful analysis of business plans to determine eligibility for receiving such a grant. In addition to a technical description of the proposed subproject, business plans should include a thorough financial viability analysis (including a clear cost-benefit analysis with and without the matching grant), a market feasibility analysis, an environmental analysis, a description of the beneficiary population and ideally, have secured up-front resources from the private financial sector to support the business plan. A matching grant contract is signed between the project and the grant recipient (specifically, the aggregator).

**Incorporate approaches to minimize the risk of failure.** Plenty of contract farming schemes have failed, especially those involving smallholders in developing countries. To mitigate the risk of conflict between sellers and buyers, third-party verification—of quality or arbitration—for instance, by a non-governmental organization (NGO)—can play a constructive role, especially in environments where legal recourse is an imperfect option.

**Assist in improving the policy environment and strengthening institutions.** Aside from piloting contract growing schemes, assistance may strive to enable the bureaus of standards in the OECS countries to implement grades and standards established by them, which would facilitate communication and negotiation between farmers and buyers and make it easier to define contracts. Where public extension services are working relatively well, public-private partnerships in extension may be promoted, under which public extension services (for a fee) may assist the buyer in providing the required technical assistance to smallholder farmers. The provision of mediation services (by a public extension agent, for example, or another person or body acceptable to both buyer and farmers) as an alternative grievance mechanism is also a public good that may be promoted.

### 1.2. ICT platform to match supply and demand

**ICT can play an important role in private sector-led aggregation of fresh produce.** This technology can provide farmers real-time market intelligence (on prices, demand, quality standards, and weather, for example), which could contribute to higher farm income.\(^49\) Despite the fact that information provision already is a key element in most types of aggregation arrangements—especially in contract farming schemes, which enable farmers to make better-informed production and marketing decisions.
decisions and to participate more actively in value chains—ICT is still important in making information available in a more efficient and therefore cheaper manner (for example, through mobile phone messaging). The relevance of ICT thus lies in improving communication between buyers and sellers, improving agronomic performance by providing information to farmers, and reducing the risk of side selling (and therefore failure). An aggregator can facilitate access to ICT; this needs to be accompanied by efforts from the public sector (which could provide weather information, for example) and private sector (information on demand, quality standards, and technical advice) to improve both the information content of ICTs and the ability of potential users to employ these technologies.

One of the key recommendations of the Agro-Tourism Demand Study is the establishment of a data collection system to capture hotel demand and match it with agricultural supply data. Such an ICT system has the potential to facilitate a more efficient trade in agricultural products by providing reliable and timely marketing information. International experience also suggests that employing initiatives that address both food supply and demand are more likely to succeed than initiatives that focus on only one of the two. Thus, by mitigating current marketing and production planning challenges faced by local farmers and tourism actors, an IT platform that matches supply and demand would likely prove beneficial in strengthening the linkages between the two sectors.

2. Advancing farming through the promotion of young entrepreneurial farmers

The promotion of young entrepreneurial farmers would support the emergence of a more diversified, dynamic, and commercial agriculture in the OECS countries. Enabling young entrepreneurial farmers to achieve employment at farms employing modern agriculture technology and techniques or to establish their own innovative farming enterprises will revitalize OECS agriculture, helping it to shift from subsistence farming and a focus on traditional exports toward an increasingly diversified, dynamic, and commercial agriculture with improved linkages to the tourism sector and the local economy. This was also one of the main conclusions of the World Bank–FAO study (2008). To realize this shift, there is a need to (i) identify young entrepreneurial and driven farmers and provide them with the skills and training necessary to establish and successfully operate a farming enterprise based on modern technology; and (ii) assist trained young farmers in launching agricultural enterprises and marketing their products.

2.1. Capacity building and vocational training program

Identify young entrepreneurial farmers with the highest potential to excel in the program. The selection process for the vocational training program would be competitive, based on previously identified, transparent criteria following the launch of a local awareness campaign to attract a pool as large as possible. The ideal candidates would be young individuals aged 16–35, who are either farmers themselves or have shown a strong interest in farming, are bright and driven, and are
interested in eventually starting up their own farm employing modern technology. The reasons for targeting this relatively wide age group are that its members face similar challenges (such as difficulty obtaining skills, employment, and financing), they are still young enough to adopt new technologies, and can be motivated to embark on innovative ventures.

This group would require practical training to strengthen skills in agriculture, business, and entrepreneurship. These young people would require specific, practical training in the skills needed to establish and successfully run modern and environmentally friendly farming enterprises. The training would be as practical as possible and focus on a variety of topics, including agricultural entrepreneurship, horticulture, plant biology, plant protection and production, agriculture logistics, value chains, business, marketing, and ICT. Classroom training would also include basic and life skills, such as communication and teamwork. Vocational training would take place through study abroad and on-farm internships in the OECS and larger Caribbean countries.

The program would finance scholarships for study abroad. While some vocational training in agriculture is available in OECS countries, mainly through local colleges, extension officers, and workshops organized by the Caribbean Agricultural Research and Development Institute (CARDI), it is limited (basic) and insufficient to provide program participants with the skills to establish successful, modern and innovative agricultural enterprises. A more appropriate place to receive such training would be at the nearby University of the West Indies (UWI), which has campuses at Jamaica, Barbados, and Trinidad and Tobago.

Following study abroad, program participants would participate in on-farm internships. International experience suggests that combining technical training in the classroom with internship or on-the-job workplace training can increase trainees’ understanding of the subject matter as well as their employment prospects. Therefore, following their study abroad, program participants would be sent to a farm that employs modern agricultural techniques such as greenhouses, hydroponics, organic farming, and aquaculture, which would enable them to practice what they learned at UWI. The internships would not only further their understanding of modern farming operations but also help them to establish relationships with other farmers. Program participants could either intern in an OECS member country or in a different Caribbean country. While there are not many modern farms in OECS countries, they do exist. Program participants would have a say in choosing the

50 While wild fish stocks across the world have been in decline because of increasing consumption, aquaculture is expanding and can be seen as a sustainable way to deliver important food to consumers. Due to the limited fish quantities available in OECS countries waters, aquaculture may be a solution for providing fish and seafood both to local demand and potentially to tourists as well.

51 For instance, the authors visited an aqua farm in Antigua, and met with a young entrepreneur that has two hydroponics greenhouse in Nevis. A few farmers have greenhouses throughout the OECS.
kind of farm their internship would take place at, based on their interests and plans for an enterprise they wish to establish or work at.

Mentors would counsel program participants during the entire training program. Mentoring is critical to ensure a successful training experience and transition into establishing a farming enterprise or seeking employment. Mentors would provide any kind of support needed by participants, from technical questions related to agriculture to ideas on where to conduct the internship. In addition, a network of program participants would be established to develop contacts and promote information sharing.

2.2. Program for enterprise start-up

Provide financing, information and advice to facilitate young farmers to establish their own agricultural enterprises. Even if young, motivated, entrepreneurial farmers have developed the skills and a solid business plan to establish and operate an enterprise, they still need assistance. To facilitate the establishment of small and medium enterprises (SMEs) in agriculture and agribusiness, young farmers need financing, information, and advice. For instance, bank loans for agricultural businesses are very costly in the OECS and especially for young people, because banks perceive agricultural ventures to be risky and because young people typically lack collateral. Therefore, the enterprise program would combine financing (matching grants) with hands-on coaching and technical advice, which have been known to work well, especially with young people in light of their limited experience. The program would also provide support (assistance in financing or technical advice) to selected agro-related companies with plans to scale up.

The selection process for the start-up program would entail a business plan competition. The competition would identify business plans with the highest prospects of success. Preference would be given to enterprises that use modern agriculture techniques, focus on producing higher value or highly perishable products, and ideally also have secured up-front resources from the private financial sector to support the business plan. Successful participants in the study abroad and internship program would be encouraged to apply for the enterprise start-up program. Start-up enterprises could be composed of more than one owner, in cases where two or more young farmers would like to partner. The program would also have a website with information on the program for young entrepreneurs, and it would maintain a network of agricultural enterprises, farmers, and farm groups in order to facilitate networking and information exchange.

Provide assistance with marketing to lay the groundwork for success. Even before their enterprises would be established, participants in the enterprise start-up program would strategize about marketing and begin to obtain relevant information and contacts. Once their enterprise would be established and before crops are planted, farmers ideally would have identified a buyer for their products and set a selling price that is profitable for their business. Given the importance of marketing for any enterprise to succeed, the program would also assist participants in this regard. For example, young farmers could take advantage of the aggregation
schemes proposed in the second recommendation of this chapter (for private sector-led aggregation of smallholder produce). In addition, participants could utilize the IT platform matching supply of agricultural products with hotel demand, which is also proposed in that section. Moreover, the program would be in a position to connect farmers with the new agro-processing ventures that would be promoted (discussed in the third recommendation), as well as connect farmers with large hotels to discuss potential linkages. Finally, farmers would be encouraged to explore regional markets and could obtain advice from their mentor on how to do so.

3. Promoting agro-processing

Promote start-ups and established SMEs and producer groups in the agro-processing industry and improve their forward and backward linkages. While some interesting agro-processing initiatives exist in the OECS, the sector is small and underdeveloped. Constraints for developing agro-processing enterprises include a lack of skills and knowledge of how to put a strong business plan into place; set up or improve a plant; link with farmers; enter new markets; comply with quality, food safety, or labeling standards; or acquire the equipment and inputs needed at a low cost. Difficulties in accessing capital at affordable terms limit the scale of investments in infrastructure, equipment, and tools required for a transformational impact. The findings presented in this report point to the following two priority areas for agro-processing interventions in the OECS: (i) improve skills for the agro-processing industry, and (ii) promote investments and productive alliances that put those skills to work.

3.1. Improve skills for the agro-processing industry

Through training, technical assistance, and study tours, improve the pivotal skills enabling agro-processors to successfully build a plant, operate it, and market their products. Training would target skills including financial literacy, marketing, food processing and machinery, packaging, quality control, and food safety and hygiene. Training could be short or longer term, and conducted in-country or abroad. The training should be hands-on, practical, and directly calibrated to strengthen the industry. Study tours could be organized at the local, regional, or international level.

Facilitate access to new markets through training, business roundtables, and participation in trade fairs. Improved marketing skills would be necessary but not sufficient for penetrating markets and establishing the strong and lasting client relationships that are critically needed by agro-processors. Access to new markets would be promoted by facilitating the participation of current and prospective agro-processors in trade fairs and direct visits to potential clients. In addition, national and regional business roundtables would be organized to strengthen the match between supply and demand.

Specific technical assistance would be needed for agro-processing enterprises to meet quality, food safety, and labeling standards and improve traceability. The rigorous international standard adopted to support food safety and minimize
potential risks and hazards is HACCP. ISO 22000 standards and FSSC 22000 certification are designed to augment HACCP in relation to food safety and are also relatively demanding. The priority should lie with HACCP compliance, which requires substantial dedication, time and funds. The labeling laws of export markets must also be met and can be complicated (one example is for exports to the EU, for which EU Regulation 1169/2011 provides consumers with complete information on the content and composition of products).

3.2. Promote investments and alliances for agro-processors

Provide support to promising agro-processing initiatives. Start-ups, as well as established SMEs and producer groups involved in agro-processing, would be assisted in the development of financially viable business plans. Competitively selected business plans would then be partially financed with matching grants for infrastructure, equipment, tools, and other investments. High energy costs in the OECS make it attractive to invest in diversified strategies to generate power for processing plants, including energy-saving technologies and greater use of renewable energy.

Create alliances for agro-processors with farmers or farmer groups, commercial partners, technical service providers, or financial intermediaries. Following the same model for marketing fresh agricultural products, alliances with farmers or farmer groups would improve the quality, quantity and consistency of the supply of raw materials to processing plants. Formal contracts with individual farmers or farmer groups for certain crops would replace “gentlemen’s agreements” (or no agreements at all). Agro-processors would provide improved services to farmers, such as inputs on credit and technical assistance. They would also contribute to the fight against larceny by purchasing products directly from the farmers. A formal agreement with at least one buyer would be a prerequisite to participate. Alliances would be encouraged with technical partners such as CARDI, NGOs, or private firms, which would provide technical assistance for farmers and the processing firm. Ideally, alliances would also be established with financial intermediaries, who would provide loans to complement the matching grants.
IV. Laying the ground for concrete interventions

In order to develop some of the interventions recommended in this document, specific additional analysis on agriculture-tourism linkages would be helpful. Apart from conducting a review of the agricultural sector in the OECS, which would contribute to a deeper understanding of the sector, further analysis would provide additional key information as inputs into the design of possible policy interventions. These include:

4.1. The identification of key products that could be promoted in each country.

The idea behind such a study would be to identify fresh food with the highest potential to replace imports in each OECS country. Some of this information was already gathered through the 2014 OECS demand study. There is a need to build on that information, however, by developing farm budgets to fully understand production costs and productivity, as well as by carefully examining current import trends and biophysical and agro-climatic conditions of individual countries. Such a study could be carried out through key informant...
surveys for key commodities. Once potential products are identified, a value chain analyses for each product would help to understand the breakdown in costs and times, as well as potential bottlenecks.

4.2. A market scoping study focused on potential aggregators. This short study would be aimed at identifying potential aggregators in OECS countries with an interest in the recommended aggregator program.

4.3. A study to examine the potential for intra-regional and extra-regional markets. Given that the tourism industry’s demand for fresh food is limited, an expansion of agricultural production would require additional markets in order to spread risks and increase profits. A study looking into the potential of exports (looking at revealed comparative advantage, for instance) would be helpful for production planning and for informing OECS governments so that they could deal with the constraints identified.

4.4. A study of logistics constraints in the OECS. A better understanding of logistics constraints would enable governments to design interventions to reduce logistics costs and times. Such a study would also look at the following areas related to logistics: trade logistics, customs, and maritime shipping.

4.5. A study of the yachting industry food supply chain. Given the lack of information regarding both the number of yacht passengers arriving in OECS countries and the supply chain of obtaining fresh food, this study would enable governments to better understand the current contribution of the yachting sector to the local economy and identify better ways to strengthen the linkage between marinas and local food suppliers.
References


OECS Commission. 2014. “Agro-Tourism Demand Study.”


Annex 1: List of actors interviewed by the World Bank team

<table>
<thead>
<tr>
<th>OECD</th>
<th>Organization Name</th>
<th>Organization Type</th>
<th>Title/s</th>
<th>Meeting</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Lucia</td>
<td>Bay Gardens Resort</td>
<td>Hotel</td>
<td>General Manager, Purchasing Manager</td>
<td>In person Email</td>
<td>78 rooms, purchase from 4 local farmers</td>
</tr>
<tr>
<td></td>
<td>Sandals Grande</td>
<td>Hotel</td>
<td>Purchasing Manager</td>
<td>In person</td>
<td>301 rooms</td>
</tr>
<tr>
<td></td>
<td>Ti Kaye Resort</td>
<td>Hotel</td>
<td>Purchasing Manager</td>
<td>In person</td>
<td>33 rooms</td>
</tr>
<tr>
<td></td>
<td>Fond Doux Plantation and Resort</td>
<td>Eco-tourism resort</td>
<td>Manager</td>
<td>In person</td>
<td>17 rooms</td>
</tr>
<tr>
<td></td>
<td>Plas Kassav</td>
<td>Agri-tourism</td>
<td>Manager</td>
<td>In person</td>
<td>Producer of cassava products</td>
</tr>
<tr>
<td></td>
<td>Fond La Ti Sable</td>
<td>Agri-tourism</td>
<td>Owner</td>
<td>In person</td>
<td>Plantation tour and cassava bread making</td>
</tr>
<tr>
<td></td>
<td>Lazy Lagoon</td>
<td>Trading Company</td>
<td>General Manager</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wilcrest Holdings</td>
<td>Agriculture Exporter</td>
<td>Owner</td>
<td>In person</td>
<td>Exports fruit to Canada</td>
</tr>
<tr>
<td></td>
<td>Consolidated Foods Limited (CFL)</td>
<td>Retailer (some wholesale business)</td>
<td>Perishables Manager, Divisional Head Purchasing - Perishables</td>
<td>In person</td>
<td>10 supermarkets and 1 club store</td>
</tr>
<tr>
<td></td>
<td>Baron Foods</td>
<td>Agro-processor</td>
<td>CEO</td>
<td>Audio</td>
<td>Process of 150 products</td>
</tr>
<tr>
<td></td>
<td>Belle Vue Farmers' Cooperative</td>
<td>Farmers Group</td>
<td>General Manager Marketing Manager, VP of National Association of Cooperatives</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Agriculture</td>
<td>Government</td>
<td>Deputy Director of Agriculture Services, Fisheries Biologist</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Tourism</td>
<td>Government</td>
<td>Director of Product Development, Maritime Consultant</td>
<td>In person</td>
<td>Audio</td>
</tr>
<tr>
<td></td>
<td>Department of Planning &amp; National Development (DPND)</td>
<td>Government</td>
<td>Permanent Secretary, Deputy Chief Economist, Three Economists</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Head, Economic Development Policy Unit Agriculture Economist Program Officer, Tourism</td>
<td>In person</td>
<td></td>
</tr>
</tbody>
</table>
## Linking Farmers and Agro-processors to the Tourism Industry in the Eastern Caribbean

<table>
<thead>
<tr>
<th>OECS</th>
<th>Organization Name</th>
<th>Organization Type</th>
<th>Title/s</th>
<th>Meeting</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
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<td>St. Lucia Bureau of Standards</td>
<td>Government</td>
<td>Director</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing Board</td>
<td>Government</td>
<td>Accountant</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish Marketing Corp</td>
<td>Government</td>
<td>Senior Manager</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grenada</td>
<td>Spice Island Resort</td>
<td>Hotel</td>
<td>Food &amp; Beverage Cost Controller</td>
<td>In person</td>
<td>64 rooms</td>
</tr>
<tr>
<td></td>
<td>Sandals</td>
<td>Hotel</td>
<td>General Manager, Purchasing Manager, Cost Control Manager</td>
<td>In person</td>
<td>225 rooms, all inclusive resort, 12 restaurants</td>
</tr>
<tr>
<td></td>
<td>True Blue Bay</td>
<td>Hotel</td>
<td>Owner, Executive Chef</td>
<td>In person</td>
<td>50 rooms</td>
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<tr>
<td></td>
<td>Calabash Hotel</td>
<td>Hotel</td>
<td>Owner and Hotel Director</td>
<td>In person</td>
<td>30 rooms, Boutique Luxury Hotel</td>
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<td></td>
<td>Grenada Hotel and Tourism Association (GHTA)</td>
<td>Association</td>
<td>Executive Director, Officer Consultant</td>
<td>In person</td>
<td></td>
</tr>
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<td></td>
<td>De La Grande Industries</td>
<td>Nutmeg processor</td>
<td>Manager</td>
<td>In person</td>
<td>agri-tourism taking place</td>
</tr>
<tr>
<td></td>
<td>Nut-Med</td>
<td>Nutmeg processing</td>
<td>Owner</td>
<td>In person</td>
<td>agri-tourism taking place</td>
</tr>
<tr>
<td></td>
<td>Flowers farm site visit</td>
<td>Flowers farm</td>
<td>Owner</td>
<td>In person</td>
<td>Largest flowers farm in Grenada.</td>
</tr>
<tr>
<td></td>
<td>Summer Ltd (fruit juices)</td>
<td>Fruit Processor</td>
<td>Founder and Manger</td>
<td>Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Program Officer, Tourism</td>
<td>In person</td>
<td>Based in St. Lucia</td>
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<tr>
<td></td>
<td>Cocoa Association</td>
<td>Association</td>
<td>Accountant</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Herbs Growers Association</td>
<td>Association</td>
<td>Member</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horizon Yacht Charters</td>
<td>Yachting</td>
<td>Owner and Manager</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bananas Restaurant</td>
<td>Restaurant</td>
<td>Restaurant Owner, Farmer, Lobster Exporter</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foodland Supermarket</td>
<td>Private</td>
<td>Supervisor</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>North East Farmers Organization</td>
<td>Farm Group</td>
<td>President</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farm</td>
<td>Private Farm</td>
<td>Farmer</td>
<td>In person</td>
<td>Farm visit</td>
</tr>
<tr>
<td></td>
<td>Grenada Cooperative Nutmeg Association (GCNA)</td>
<td>Association</td>
<td>Member</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td>Organization Name</td>
<td>Organization Type</td>
<td>Title/s</td>
<td>Meeting</td>
<td>Additional Information</td>
<td></td>
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<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Ministry of Agriculture</td>
<td>Government</td>
<td>Minister Permanent Secretary Department Heads Chief Planning Officer</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grenada Marketing &amp; National Importing Board (MNIB)</td>
<td>Government</td>
<td>Chairman</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishermen Association</td>
<td>Association</td>
<td>Member</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry Association</td>
<td>Association</td>
<td>Member</td>
<td>In person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Young Hotel</td>
<td>Hotel</td>
<td>Purchasing Manager</td>
<td>In Person</td>
<td>73 rooms, 2 restaurants, built 1669</td>
<td></td>
</tr>
<tr>
<td>Dominica Agricultural Producers and Exporters (DAPEX)</td>
<td>Private Firm</td>
<td>Chairman</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Tourism</td>
<td>Government</td>
<td>Permanent Secretary (PS)</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Agriculture</td>
<td>Government</td>
<td>Permanent Secretary (PS)</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>Government</td>
<td>Chief, Development Planning Finance Secretary</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature Island Pineapple Association (NIPPA)</td>
<td>Association</td>
<td>Treasurer Secretary Member</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caribbean Vintage Sparkling Wine and Juice</td>
<td>Association</td>
<td>Manager</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Business Development Officer, agro-processing</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galley Bay Resort</td>
<td>Hotel</td>
<td>Executive Chef, Warehouse Supervisor</td>
<td>In Person</td>
<td>100 rooms, all-inclusive resort, 4 restaurants</td>
<td></td>
</tr>
<tr>
<td>Hermitage Bay</td>
<td>Hotel</td>
<td>Executive Chef</td>
<td>In Person</td>
<td>27 rooms, all-inclusive resort</td>
<td></td>
</tr>
<tr>
<td>Farm Visit to Tilapia Farm</td>
<td>Private Farms</td>
<td>Tilapia Farmer, Proprietor</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epicurean Fine Foods &amp; Pharmacy</td>
<td>Supermarket</td>
<td>Purchasing Manager</td>
<td>Audio</td>
<td>Privately owned</td>
<td></td>
</tr>
<tr>
<td>Team Fresh</td>
<td>Farmer Group</td>
<td>Vice President</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers</td>
<td>Private Farms</td>
<td>Several farm owners</td>
<td>In Person &amp; Audio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECS</td>
<td>Organization Name</td>
<td>Organization Type</td>
<td>Title/s</td>
<td>Meeting</td>
<td>Additional Information</td>
</tr>
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<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>Large Farmer</td>
<td>Private</td>
<td>Owner</td>
<td>Audio &amp; Email</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lead supplier for Sandals</td>
<td>Farmer</td>
<td>Owner</td>
<td>Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Agriculture</td>
<td>Government</td>
<td>Extension Officer, Liaison Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central Marketing Corporation</td>
<td>Government Agency</td>
<td>General Manager, Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agricultural Development Corporation</td>
<td>Government Agency</td>
<td>Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Tourism</td>
<td>Government</td>
<td>Director of Agro-Tourism Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antigua and Barbuda Agricultural Forum for Youth (ABAFY)</td>
<td>Farm Group</td>
<td>Member</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td>St. Vincent</td>
<td>Buccament Bay Resort</td>
<td>Hotel</td>
<td>General Manager, Executive Chef Purchasing Manager</td>
<td>In Person</td>
<td>112 rooms, all inclusive resort</td>
</tr>
<tr>
<td></td>
<td>Farmers</td>
<td>Private farms</td>
<td>Multiple farm owners</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farmer Groups: OINGCO, WALCO, RFCO, South Windward Co</td>
<td>Farmer Groups</td>
<td>Representatives and Members of farm groups</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caribbean Agriculture Research and Development Institute (CARDI)</td>
<td>Regional Institute</td>
<td>Officer</td>
<td>In Person &amp; Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inter-American Institute for Cooperation on Agriculture (IICA)</td>
<td>Regional Institute</td>
<td>Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poultry Association</td>
<td>Association</td>
<td>Farmer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pineapple Cooperative (PINGCO)</td>
<td>Association</td>
<td>Member, Farmer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Agriculture</td>
<td>Government</td>
<td>Minister of Agriculture Diversification Officer, Permanent Secretary, Chief Agricultural Officer</td>
<td>In Person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ministry of Tourism</td>
<td>Government</td>
<td>Diversification Officer Three Officers</td>
<td>In Person and Audio</td>
<td></td>
</tr>
<tr>
<td>Organization Name</td>
<td>Organization Type</td>
<td>Title/s</td>
<td>Meeting</td>
<td>Additional Information</td>
<td></td>
</tr>
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<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Agriculture Extension Station Visit</td>
<td>Government</td>
<td>Area Supervisor</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Visit</td>
<td>Private farm</td>
<td>Vegetable Farmer, WALCO member</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Visit</td>
<td>Private farm</td>
<td>Watermelon Farmer, RFCO member</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Agriculture Economist</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean Terrace Hotel</td>
<td>Hotel</td>
<td>General Manager</td>
<td>In Person</td>
<td>34 rooms (12 will be added)</td>
<td></td>
</tr>
<tr>
<td>Marriott Hotel</td>
<td>Hotel</td>
<td>Purchasing Manager</td>
<td>In Person and Audio</td>
<td>391 rooms</td>
<td></td>
</tr>
<tr>
<td>Restaurant Owner</td>
<td>Restaurant</td>
<td>Owner</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christophe Harbour</td>
<td>Private Marina</td>
<td>Director of Yachting</td>
<td>Audio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Agriculture Economist</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Kitts &amp; Nevis Hotel and Tourism Association</td>
<td>Association</td>
<td>Representative</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Kitts Farmers Co-operative Society</td>
<td>Farmer Group</td>
<td>Secretary President</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers</td>
<td>Farmers</td>
<td>Farm owners and/or workers</td>
<td>In person and Audio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producer organizations</td>
<td>Farm groups</td>
<td>Representatives and members</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four Seasons Resort</td>
<td>Hotel</td>
<td>General Manager</td>
<td>In Person</td>
<td>196 rooms</td>
<td></td>
</tr>
<tr>
<td>OECS Commission</td>
<td>Intergovernmental</td>
<td>Agriculture Economist</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevis Growers Cooperative Society (NGC)</td>
<td>Farmer Group</td>
<td>President, Multiple members (farmers)</td>
<td>In Person and Audio</td>
<td>Including hydroponics farmer</td>
<td></td>
</tr>
<tr>
<td>Nevis Agro Processors Cooperative (NAGROC)</td>
<td>Cooperative</td>
<td>President, Member, Agro Processor</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing Division</td>
<td>Government</td>
<td>Marketing Officer</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevis Agro Processing Plant</td>
<td>Government</td>
<td>Manager</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superfoods</td>
<td>Supermarket</td>
<td>Owner and Director Manager</td>
<td>In Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside OEC</td>
<td>Organization Name</td>
<td>Organization Type</td>
<td>Title/s</td>
<td>Meeting</td>
<td>Additional Information</td>
</tr>
<tr>
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<td>---------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Barbados</td>
<td>Caribbean Regional Organization for Standards and Quality (CROSQ)</td>
<td>Intergovernmental</td>
<td>Project Coordinator, Technical Officer, Standards Development</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canadian Hunger Foundation</td>
<td>Development Agency</td>
<td>Project Director, Deputy Project Director, Director of Programs</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>European Union</td>
<td>Intergovernmental</td>
<td>Attaché, Social and Rural Development Section</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td>Miami, FL</td>
<td>Florida-Caribbean Cruise Association (FCCA)</td>
<td>Association</td>
<td>President, Sr. Vice President</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carnival Cruise Lines</td>
<td>Cruise Line</td>
<td>Chief Strategy Officer, Chief Procurement Officer</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Royal Caribbean</td>
<td>Cruise Line</td>
<td>VP Supply Chain Management</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caribbean Hotel &amp; Tourism Association</td>
<td>Association</td>
<td>CEO and Director General, Director of Membership Development</td>
<td>In person</td>
<td></td>
</tr>
<tr>
<td>Jamaica</td>
<td>Sandals Resorts</td>
<td>Hotel</td>
<td>Procurement Officer</td>
<td>Audio</td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Four Seasons Resort</td>
<td>Hotel</td>
<td>Director of Food &amp; Beverages</td>
<td>Audio</td>
<td>184 rooms</td>
</tr>
<tr>
<td>Peru</td>
<td>JW Marriott</td>
<td>Hotel</td>
<td>Purchasing Manager, Food &amp; Beverages</td>
<td>In person</td>
<td>300 rooms</td>
</tr>
<tr>
<td>Bethesda, MD</td>
<td>Marriott International</td>
<td>Hotel</td>
<td>Procurement Department</td>
<td>Audio</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2: Semi structured interview guideline

Tourism Actors (Hotels, Yachting, Cruise Lines):

Tourism Actor Characteristics:
- Number of rooms
- Number of hotel employees
- Average length of stay
- Average rate per room per day
- Occupancy rate
- Peak vs. off season
- Number and type of restaurants
- Type of hotel (whether all inclusive, luxury, etc.)
- Premises-grown fruit trees and vegetable garden
- Products/items purchased locally
- Capacity of restaurants (number of seats)
- Taxation on food imports
- Number of yachts
- Marina infrastructure
- Trends of the yachting industry
- Effort by the tourist operator to emphasize that food is grown locally

Food Sourcing Pattern and Strategy:
- Percent of food purchased locally
- Type of food purchased locally
- Sources of local supply
- Number of farmers purchased from
- Number of wholesalers and supermarkets purchases from
- Value of produce purchased from the various sources
- Logistics of receiving and storing the food
- Challenges regarding purchasing locally
- Relationship with farmers (years, trust, etc.)
- Comparison of local product with imported food (price, quality, etc.)
- Types of agreement with farmers (contract, payment, etc.)
- Ordering procedure (telephone, internet, time in advance, etc.)
• Logistics of importing food (suppliers used, time, costs, challenges, etc.)
• Margin that executive chef has to make per guest per day
• Quality control carried out on purchased food locally and imported
• Preferences for purchasing local foods from a consolidator vs. directly from farmers
• Communication with farmers
• Agri-tourism activities
• Food variety (produce, chicken, meat, fish, etc.) with potential to increase local production and sales to hotels
• Purchases from local agro-processors
• Logistics of yachting food purchasing ad delivery
• Guests preference for locally produced food
• Corporate requirements and guidelines to approve suppliers

Agro-processors:

General Characteristics:
• Type of products produced at the agro-processor facility
• Number of employees, their ages and education
• Business climate/ environment
• Operation challenges
• Years of establishment
• Finances (sources, revenue, debt, etc.)
• Buyers – local and international
• Certification
• Challenges
• Taxation on imports into production and machinery
• Bookkeeping

Food Sourcing
• Percent of food purchased locally
• Type of food purchased locally
• Sources of local supply
• Number of farmers purchased from
• Logistics of receiving and storing the food
• Challenges concerning purchasing locally
• Relationship with farmers (years, trust, etc.)
• Comparison of local product with imported food (price, quality, etc.)
• Types of agreement with farmers
• Ordering process
• Logistics of importing food (suppliers used, time, costs, challenges, etc.)
• Quality control carried out on purchased food locally and imported
• Preferences for purchasing local foods from a consolidator vs. directly from farmers
• Communication with farmers
• Agri-tourism activities
• Relationship with farmers
• Sales to hotels
• Relationship with Marketing Board

Farmers:

• Farm size
• Farm ownership
• Farmer age and education level
• Number of workers and their ages and education levels
• Workers’ compensation
• Main products being grown on farm
• Farm budget (cost of production of main products grown)
• Main production seasons, and lean season
• Technology used on farm
• Sources for inputs into production
• Buyers
• Government extension services and general relationship with the Ministry of Agriculture
• Ways of obtaining technical advice (extension, CARDI, etc.)
• Agri-tourism
• Crop management
• Logistics (storage, transportation, packing, insurance, etc.)
• Relationship with hotels and other tourism operators
- Challenges for selling to hotels
- General challenges (operational, management, marketing, etc.)
- Taxation on imports of inputs into production and farm equipment
- Relationship with Marketing Board
- Access to finance
- Access to land
- Access to water
- Access to information
- Insurance
- Organic production
- Cost and ease of obtaining relevant certifications
- Bookkeeping
- Certification (GAP, HCCP, etc.)

Supermarkets:

General Characteristics:
- Number of supermarket outlets owned
- Ownership
- Competition
- Financing
- Year established

Food Sourcing
- Type and value of food and drinks purchased locally
- Number of local farmers supplying the supermarket
- Logistics of delivery of produce to supermarket
- Percent of produce and other food imported vs. purchased locally
- Restrictions on food imports
- Payment terms with farmers and other suppliers
- Coordination/planning with farmers of their production
- Relationship with local farmers
- Agreements with farmers and other suppliers
- Price negotiation
- Challenges for local food purchases
• Prices for a number of fruit and vegetables
• Food sourcing strategy
• Logistics of importing containers (cost, time, customs, Port, etc.)
• Mark up on fruit and vegetables

**Government Ministries and Agencies:**

• Initiatives carried out by the government to strengthen the linkages between the agriculture and tourism sectors
• Initiatives carried out by donors and others
• Main challenges for the growth and sustainability of the agriculture and tourism sectors
• Initiatives carried out by the government to strengthen the sectors
• Strategic crops
• Scheduling/planning of production
• Subsidizes given to the two sectors
• Protection provided to the two sectors
• Characteristics of farmers and hotels
• Food safety
• Farmers productivity and capacity
• Enabling environment
• Food safety bill to ensure food safety
• Coordination between the ministries
• Coordination with the private sector

**Marketing Boards:**

• Year established
• Ownership, management, employees
• Finances
• Objectives
• Volumes
• Margin
• Assets (outlets, storage, etc.)
• Number of active farmers who sell to them
• Use of crop planning or forecasting system
• Purchasing policy
• Percent and value sold to hotels, retail outlets, supermarkets wholesalers, exports
• Attempts to match supply and demand
• Relationship with hotels
• How prices with farmers and clients are established
• Imports by the marketing board
• Extension services
• Challenges

**Wholesalers and Traders:**

• Ownership
• Assets
• Sources of finance
• Types of products/items traded
• Main customers
• Number of local farmers they source from
• Relationship with farmers
• Assistance provides to farmers
• Planning of production with farmers (loans, tech’ advice, etc.)
• Type of agreement with farmers
• Payment terms with farmers
• Logistics of getting food from farmers, storage and distribution
• Food imports from abroad (type, value, duties, restrictions, etc.)
• Margins
• Products with potential to increase sales
• Seasons
• Cost of importing a container from Miami
• Challenges
• Assistance from government and other donors
• Imports that hold potential to be substituted by local production
• Standards being followed
• Purchase from farm groups
• Purchase from marketing board