



Seizing the “Organic” Moment:
Cuba’s Agricultural Crossroads and
Certified Organic Export Potential

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“Cuba has been referred to as ‘the world’s first national experiment in sustainable agriculture’. Given the critical shortages in chemical inputs to Cuba’s agricultural sector following the loss of Soviet economic support and subsidization, this may well be a fitting description. Cuba’s use of the term ‘organic’ to describe some of its agricultural production can be misleading. Not all of Cuba’s ‘organic’ products would satisfy the organic certification requirements for most developed countries. That being said, Cuba is shipping certified organic fresh citrus and citrus juices into EU markets. With proper investments and implementation of the appropriate procedures and protocols, Cuba could well establish itself as a global supplier of organic products.”¹

I. INTRODUCTION:

Following the collapse of trade with the former Soviet bloc in 1990, Cuban imports of pesticides and fertilizers dropped dramatically.² The disappearance of these farming inputs severely diminished nationwide crop yields, and thus placed Cuba’s agricultural production in a dire state.³ In response, Cuban agricultural agencies implemented far-reaching initiatives to

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¹ U.S. DEP’T OF AGRIC. FOREIGN AG. SERV., CUBA’S FOOD & AGRICULTURE SITUATION REPORT 33 (2008), https://www.ilfb.org/media/546435/fas_report_on_cuba.pdf

² U.N. Conference on Trade and Development, *Organic Agriculture: The Experiences of Central America, Cuba and the Dominican Republic*, 233, U.N. Doc. UNCTAD/DITC/TED/2005/12 (2006).

³ *Id.* [U.N. Conference on Trade and Development, *Organic Agriculture: The Experiences of Central America, Cuba and the Dominican Republic*, 233, U.N. Doc. UNCTAD/DITC/TED/2005/12 (2006).]

promote low input, “organic,” agricultural systems throughout the country.⁴ According to a United Nations report, this transformation of Cuban agriculture in the 1990s may have been the most widespread conversion to organic agriculture in history.⁵

While Cuba’s “organic” farming initiatives demonstrate profound creativity and resourcefulness in addressing serious systemic problems, they have been no food production panacea. Indeed, Cuba's food insecurity persists, resulting in a heavy reliance on imported food to feed the population.⁶ The Cuban government has long struggled to address this imbalance.⁷ But progress has been severely hampered by, among other things, a basic lack of capital resources.⁸

Cuba has made a number of policy adjustments over the past few decades to address the basic economic problems that underlie its food security concerns. A recent and potentially important expression of these efforts comes in the form of Cuba's new foreign investment law, referred to as Law 118,⁹ which addresses “Cuba’s need to provide greater incentives to attract foreign capital, new technologies, and know-how to increase domestic production and better position Cuba to export to international markets.”¹⁰ Cuba has actually allowed, and in some cases actively sought, foreign investment as far back as the 1990s. Law 118 represents another

⁴ *Id.* (“Key elements included the promotion of organic agriculture and forestry in vacant municipal, State and private lands, recycling of all “green waste” material into compost, and the creation of a variety of markets for local produce. Two basic innovations have been the adoption of (i) agro-ecological techniques in the countryside, and (ii) organically-based urban agriculture. Cuba's agricultural transformation has included the substitution of imports by technology. According to Koont (2004), ‘Cuba has become a gigantic laboratory for farming without petroleum and petroleum derivatives. From pest control to fertilization and soil preparation, chemistry is out and biology is in.’ The Crop Protection Institute operates over 220 centres that provide cheap and plentiful beneficial insects and micro-organisms that attack plant pests. Hundreds of centres produce one million tons of natural compost per year to improve poor quality urban and rural soil. The Ministry of Agriculture has been supporting this process with a network of extension agencies and supply stores.”). [U.N. Conference on Trade and Development, *Organic Agriculture: The Experiences of Central America, Cuba and the Dominican Republic*, 233, U.N. Doc. UNCTAD/DITC/TED/2005/12 (2006).]

⁵ *Id.* [U.N. Conference on Trade and Development, *Organic Agriculture: The Experiences of Central America, Cuba and the Dominican Republic*, 233, U.N. Doc. UNCTAD/DITC/TED/2005/12 (2006).]

⁶ *Cuba: Current Issues and What the World Food Programme Is Doing*, WORLD FOOD PROGRAMME, <https://www.wfp.org/countries/cuba> (last visited June 8, 2016). Thus, a majority of the food now consumed within Cuba comes from other countries. However, there is apparently some controversy surrounding these statistics. See Miguel A. Altieri & Fernando R. Funes-Monzote, *The Paradox of Cuban Agriculture*, 63 MONTHLY REV. xx, xx (2012), <http://monthlyreview.org/2012/01/01/the-paradox-of-cuban-agriculture/>

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⁹ Law 118/2014 see *infra* section

¹⁰ Luis M. Alcade, *Cuba’s New Foreign Investment Law*, KEGLER BROWN HILL & RITTER (Aug. 8, 2014), <http://www.keglerbrown.com/publications/cubas-new-foreign-investment-law/>.

effort to stimulate increased foreign investments into government-approved sectors, and agriculture is one such sector.¹¹

Indeed, relations between the United States and Cuba have significantly changed over only the past 17 months. On December 17, 2014, Cuban President Raul Castro and U.S. President Barack Obama simultaneously announced that negotiations would begin for the restoration of diplomatic relations.¹² On July 20, 2015, the United States and Cuba reopened embassies in each other's capitals for the first time since 1961.¹³ On March 22, 2015, President Obama—while accompanied by several prominent American business leaders and government officials—made what was essentially an unprecedented visit to Cuba, becoming the first sitting U.S. President to visit Cuba in nearly 90 years.¹⁴ The recent diplomatic engagement between the United States and Cuba is certainly noteworthy,¹⁵ and several U.S. firms have recently received authorization from the U.S. government to enter into joint venture business relationships in Cuba. Yet, the U.S. embargo restricting full and open trade with Cuba is an Act of Congress (Helms-Burton legislation, 1996) and as such, it can only be modified by Congress. Despite the recent thaw, there is still no clear end to the embargo in sight.¹⁶

As Cuba continues to open its economy to foreign investment and trade—and, relatedly, as relations with the United States continue to evolve—Cuba may see an influx of capital and resources. Cuba will almost certainly continue to try to address its food security concerns, and an increase in foreign investment in the agricultural sector would be expected to have a positive impact. However, such investment could mean returning, at least in part, to a traditional high input, high yield, commercial agricultural model.

¹¹ *Portfolio of Opportunities for Foreign Investment*, MINISTRY OF FOREIGN COMMERCE & INV. (Nov. 2014), <http://www.caribbean-council.org/wp-content/uploads/2014/11/Cuba-foreign-investment-projects-Nov-2014-official.pdf>.

¹² *Timeline: U.S.-Cuba Relations*, COUNCIL ON FOREIGN RELATIONS, <http://www.cfr.org/cuba/timeline-us-cuba-relations/p32817> (last visited June 8, 2016).

¹³ *Id.* [*Timeline: U.S.-Cuba Relations*, COUNCIL ON FOREIGN RELATIONS, <http://www.cfr.org/cuba/timeline-us-cuba-relations/p32817> (last visited June 8, 2016).]

¹⁴ Donna Tam & Sarah Menendez, *Who Were the Executives Hanging out with Obama in Cuba?*, MARKETPLACE (Mar. 22, 2016, 6:01 PM), <http://www.marketplace.org/2016/03/22/world/who-are-us-business-leaders-hanging-out-obama-cuba>.

¹⁵ *Charting a New Course on Cuba*, WHITEHOUSE.GOV, <https://www.whitehouse.gov/issues/foreign-policy/cuba> (last visited June 8, 2016).

¹⁶ On his trip to Cuba, President Obama also proclaimed that the embargo was going to end, but gave no timetable. Kevin Liptak, *Obama Tells Raul Castro: Cuban Embargo Is Going to End*, CNN (Mar. 21, 2016, 5:54 PM), <http://www.cnn.com/2016/03/21/politics/obama-cuban-raul-castro/>

Therefore, Cuba may soon be at an “agricultural crossroads.” It will need to decide whether, and to what extent, it wishes to maintain its present organic agricultural identity. That decision will involve balancing two key interests. On one hand, Cuba would like to remain a world leader in, and continue to benefit from environmentally friendly agricultural practices. On the other hand, Cuba would like to better satisfy the nutritional needs of its people without having to rely in large part on food supplies from other nations. There are surely compelling arguments on both sides, including whether these are mutually exclusive. This Article, however, is premised upon the notion that Cuba should, at least to a significant extent, maintain its organic farming practices.

II. THE REGIONAL CONTEXT: THE CASE OF THE DOMINICAN REPUBLIC

Several countries in the greater Latin American and Caribbean Region have robust organic export markets. Foremost among these are Costa Rica, Ecuador and the Dominican Republic. Of these, arguably, none is more relevant to Cuba than that of the Dominican Republic, which sits less than 170 miles from the eastern edge of Cuba on the neighboring Caribbean island of Hispaniola. The two countries share a number of characteristics, including many of those relevant to agricultural production. Further, the two countries share a similar recent history of “de facto organic” farming as a response to difficult economic situations.¹⁷

Despite operating with only a small fraction of arable land as compared to Cuba,¹⁸ the Dominican Republic has emerged as the one of the world's foremost exporters of organic

¹⁷ Laura T. Reynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 166 (2008) (“While agricultural modernization was heavily promoted [in the Dominican Republic] in the 1960s in a few irrigated regions of the country, greatly increasing chemical use among some producers, many peasants have been too poor to purchase large quantities of agrochemicals. The central features of what is now called organic agriculture—the reliance on natural methods of enhancing soil fertility and resisting disease and the rejection of synthetic chemical fertilizers, pesticides, and pharmaceuticals—have thus been historically maintained in the Dominican Republic In the 1980s and early 1990s, conversion to organic agriculture by Dominican producers was relatively easy. Producers were typically practicing low-input, often de facto organic, farming prior to their entry into formal organic farming.”); accord FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20> (“Generally it is important to note that many of the small scale farmers were using few inputs prior to conversion to organic agriculture mainly for economic reasons. However, this also meant that the switch to organic production did not require a major shift in ingrained 'bad habits' such as overdependence on pesticides.”).

¹⁸ Cuba is about twice as large as the Dominican Republic. However, Cuba has twice as much arable land as the Dominican Republic, relative to its size. *Cuba vs. Dominican Republic*, INDEXMUNDI, <http://www.indexmundi.com/factbook/compare/cuba.dominican-republic> (last visited June 8, 2016). Further, Cuba maintains fewer permanent crops than the Dominican Republic, relative to its size. *Id.*

bananas and cocoa, a top exporter of organic coffee, and an export pioneer in newer commodities like organic mangos.¹⁹ The Dominican organic export sector has had positive economic impacts on the Dominican Republic at large, as well as on thousands of individual farmers. But developing the Dominican organic export sector was no simple task.

Dominican organic agriculture has historically been dominated by small-scale growers.²⁰ Unifying these farmers to meet the requisite collective economies of scale, and developing methods to ensure that production would meet international certification standards was a complicated process. Early support came from small, progressive development groups and nongovernmental organizations that were generally most interested in improving yields for local consumption. In more recent decades, however, the United Nations, multilateral donors, foreign government agencies, and export companies “have provided substantial financial and technical assistance for Dominican organic export production, certification, and marketing.”²¹

On the farmer side, numerous associations and cooperatives have emerged.²² These vary in size from a few individual farmers to several hundred.²³ They also vary in terms of sophistication. The National Confederation of Dominican Cacao Producers (CONACADO), for example, provides a wide range of services to, and on behalf of farmers, including organization, technical support, loans, and marketing of products.²⁴ CONACADO has even contributed to the development of organic regulations.²⁵ Associations and cooperatives have been instrumental to achieving large-scale production through sharing of information and resources.²⁶

¹⁹ Raynolds, *supra* note 17, at 180. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 180 (2008)]

²⁰ As of 2002, Dominican organic export production involved “about 14,000 producers, the vast majority of whom farmed fewer than three hectares of land.” *Id.* at 177. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 177 (2008)].

²¹ *Id.* at 168; accord FOOD & AG. ORG. OF THE U.N., *supra* note 17, at xx. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 168 (2008); FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>].

²² FOOD & AG. ORG. OF THE U.N., *supra* note 17, at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²³ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²⁴ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²⁵ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²⁶ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

The Dominican government influences and oversees its organic agriculture sector principally through its Ministry of Agriculture, and Centre for Export Promotion (CEDOPEX).²⁷ The government has demonstrated a deep commitment to develop and improve organic production nationally.²⁸ Indeed, “government policies, along with the availability of cheap land and labor,” have “encouraged an influx in foreign as well as domestic investments in a wide range of new export crops.”²⁹

All Dominican exports of organic produce are certified in accordance with international standards.³⁰ Although meeting the certification requirements is logistically difficult and very expensive, these certifications are essential given that destination markets legally require them.³¹ Several agencies perform the certifications, the most prevalent of which is the Germany-based BCS ÖKOGarantie, which has “established a national office in the Dominican Republic with trained technical staff to facilitate activities.”³² Thus a BCS certifier need only visit from Europe once a month.³³ Other certification companies active on the island include the following: Demeter (Germany), FVO (United States), Imo Control (Germany, Switzerland), Suolo Italia (Italy), Skal (Netherlands), IBB (Brazil), QAI (United States).³⁴

The main certified organic agricultural products exported from the Dominican Republic include cocoa and tropical fruits.³⁵ Others include coffee, eggplant, peppers, and coconut oil, to

²⁷ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²⁸ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

²⁹ Raynolds, *supra* note 17, at 167. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 167 (2008)]

³⁰ *Id.* at 168. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 Latin Am. Res. Rev. 161, 168 (2008)] “For most Dominican producers, keeping the detailed farm records required for certification is difficult, given relatively low educational levels. . . . ‘Certification is hugely expensive: we have to hire local semiprofessionals to help keep the records as well as the organic certifier.’” *Id.* at 175.

³¹ *Id.* at 175–76. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 Latin Am. Res. Rev. 161, 175–76 (2008)]

³² FOOD & AG. ORG. OF THE U.N., *supra* note 17, at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

³³ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

³⁴ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

³⁵ *Id.* at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

name a few.³⁶ Notably, certain semi processed products, such as mango puree and concentrated juice may be some of the most lucrative among Dominican certified organic export products.³⁷

Most Dominican organic exports go to only a handful of countries. Somewhat surprisingly given its location, organic goods are exported largely to Europe “as a result of that region’s dominance in the organic market and favorable trade policies.”³⁸ Lead importers of Dominican organics have included the Netherlands, Belgium, and the United Kingdom.³⁹

Although the Dominican Republic’s organic export sector has not been uniformly successful,⁴⁰ it is considered “an important segment” of its national economy.⁴¹ Indeed, statistics from around 2008 show the Dominican Republic as one of the largest organic producers in Latin America, with exports generating around thirty million U.S. dollars per year.⁴² At that time, organic products accounted “for more than 4 percent of all Dominican agro-export earnings, representing .5 percent of total export revenues and .1 percent of the national economy.”⁴³

III. CUBA’S REGULATORY STRENGTHS, AND POTENTIAL CONSTRAINTS

Cuba has at its disposal a number of key regulatory and organizational resources that may assist in an effort to build-out its certified organic export sector. They include:

- Cuba’s Foreign Investment Law 118/2014;

³⁶ Raynolds, *supra* note 17, at 174. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 174 (2008)]

³⁷ FOOD & AG. ORG. OF THE U.N., *supra* note 17, at xx. [FOOD & AG. ORG. OF THE U.N., WORLD MARKETS FOR ORGANIC FRUIT AND VEGETABLES xx (2001), <http://www.fao.org/docrep/004/y1669E/y1669e0k.htm#bm20>]

³⁸ Raynolds, *supra* note 17, at 172. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 172 (2008)]

³⁹ *Id.* [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 172 (2008)]

⁴⁰ “Organic production in the Dominican Republic is substantially more expensive than conventional agriculture because of certification costs as well as higher labor expenses and lower yields. While organic prices have generally more than compensated for these costs over the past fifteen years, premiums are declining. Profit margins for all major Dominican organic exports are eroding. Rising competition has driven down organic banana and cocoa prices; organic coffee prices have recently failed to cover even local production costs. As one longtime exporter lamented, ‘the solid and dependable profits we once got for Dominican organic products have simply disappeared in the last few years.’ While profits have eroded for organic banana, cocoa, and coffee exports, this is less the case for the newer mango, lemon, and plantain exports.” *Id.* at 176 (citations omitted). [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 Latin Am. Res. Rev. 161, 176 (2008)]

⁴¹ *Id.* at 168. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 168 (2008)]

⁴² *Id.* at 168–69. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 168–69 (2008)]

⁴³ *Id.* at 168. [Laura T. Raynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 168 (2008)]

- The Mariel Special Development Zone (ZED Mariel);
- Existing National Organic Standards;
- Available unutilized agricultural land;
- Farming organizations and evolving incentive structures (direct incentives, surplus incentives and land grant incentives);
- Existing certified organic operations; and
- Local institutional resources.

At the same time, however, there are a number of potential constraints that could hamper the build-out of Cuba's certified organic export sector. Inherent to almost all of these constraints is the problem of cost and the associated challenge of attracting foreign capital, which is of critical importance in providing the requisite investment for any build-out. Also, there are issues with making sure that prices offered to farmers cover costs, as well as organizing, educating, and incentivizing farmers to convert to certified organic farming methods. Beyond these financial and organizational challenges, there are other considerations as well.

a. Balancing Food Security with Exportation

Any proposal to build-out Cuba's certified organic export sector presumably must be structured so that it will not cause a large net decrease of domestic food production meant for internal consumption, and therefore significantly worsen Cuba's food security status. Under such a program, it is conceivable that Cuba could actually increase its domestic food production meant for internal consumption by reinvesting the capital it gains from export sales into its agricultural sector, thereby improving its food security status. However, the actual Cuban economic dynamic that might follow a certified organic sector build-out is unknown. Before committing to a certified organic export sector build-out, Cuba should assess the potential economic consequences with food security in mind, and balance risks with potential rewards.

b. Biological Feasibility

Biological feasibility is a potential roadblock to any agricultural operation, but especially so when dealing with heightened organic certification requirements and fickle international market consumers obsessed with certain aesthetic crop characteristics. It is thus key for Cuba to determine, before investing in a certified organic sector build-out, whether their soils are healthy enough to produce high quality crops, and whether prior or current farming practices have left legacy pollutants that could compromise organic certification potential.

c. Environmental Risks

i. Hurricanes

Hurricanes have been a constant threat to Cuba's development. Indeed, "several disastrous storms caused the loss of complete harvests and destroyed plantations, as well as packing and processing facilities."⁴⁴ While hurricanes are, of course, outside of Cuba's control, they are important to consider in terms of a build-out of Cuba's certified organic export sector insofar as they threaten to undermine the stability of that sector.

ii. Pests & Disease

Pests and disease can be an impediment to any agricultural operation. But they are especially threatening to organic farming operations due to the inherent lack of pesticides used in organic farming practices. Cuba has experienced a recent surge in new pests and diseases. Indeed, the Coffee Berry Borer has caused recent problems, and Citrus Greening (Huanglongbing, or HLB) threatens the very future of Cuba's citrus industry.⁴⁵ A shift to certified organic practices may expose growers to new threats so Cuba should assess these risks prior to investing in a certified organic sector build-out.

d. Quality control

Many international certified organic markets will import only the best looking products. These high aesthetic standards are in addition to organic certification requirements. Indeed, the Dominican Republic's example reveals situations in which crop aesthetics became a problem.⁴⁶ It appears that smaller groups of farmers were most susceptible to wavering product consistency.⁴⁷ It is therefore imperative that any certified organic exporter maintain the quality

⁴⁴ Lukas Kilcher, *Organic Agriculture in Cuba: Managing with Limited Resources*, in THE WORLD OF ORGANIC AGRICULTURE: STATISTICS AND EMERGING TRENDS 2010, at 198, 200 (Helga Willer & Lukas Kilcher eds., 2010), <http://orgprints.org/17925/1/kilcher-2009-world-organic-agriculture.pdf>.

⁴⁵ *Id.* [Lukas Kilcher, *Organic Agriculture in Cuba: Managing with Limited Resources*, in THE WORLD OF ORGANIC AGRICULTURE: STATISTICS AND EMERGING TRENDS 2010, at 198, 200 (Helga Willer & Lukas Kilcher eds., 2010), <http://orgprints.org/17925/1/kilcher-2009-world-organic-agriculture.pdf>.]

⁴⁶ Reynolds, *supra* note 17, at 176 [Laura T. Reynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 176 (2008)] ("While quality criteria for organic produce were historically relatively low, supermarkets now require that organic and conventional fruits and vegetables meet essentially the same standards. Most Dominican organic bananas are sold in the United Kingdom, the country with the tightest supermarket regulations. Exporters in the Dominican Republic report that they cannot sell bananas of the quality shipped just a few years ago because buyers require that organic bananas "look like" conventional bananas; in other words, they must be of a uniform specified size, color, shape, and blemish-free appearance." (citation omitted)).

⁴⁷ *Id.* at 181. [Laura T. Reynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 LATIN AM. RES. REV. 161, 181 (2008)] ("[C]ertified organic food exports are becoming more 'buyer driven,' as the commodity chain literature would suggest. Current market trends

and the consistency of production. Controls should thus be implemented to maintain these standards throughout the production, post-harvest and transportation processes.

IV. CRAFTING A CUBAN CERTIFIED ORGANIC PILOT PROGRAM

Cuba appears to have many of the resources necessary to support a build-out of its certified organic export sector—that is, with one glaring exception: capital.⁴⁸ In order to fill the financing gap, Cuba will need to attract foreign investors.⁴⁹ Therefore, if Cuba wishes to pursue a sector build-out, it will likely need to demonstrate to foreign investors that it is capable of being host to a certified organic regime. This could potentially be accomplished through the development of a pilot program for certified organic production, or via demonstration through its existing certified organic programs. Some of the issues that would be important in Cuba proving its capability to host expanded certified organic production are identified as follows:

a. Objectives

The primary objectives of a Cuban certified organic pilot program might include: (1) demonstrating that Cuba is capable of organizing and incentivizing a group of nationally representative farmers to successfully produce marketable organic products, at scale, and in concurrence with international certification standards; (2) developing institutional certified organic farming training and support systems that can be scaled up over time; (3) exploring and addressing the various concerns facing certified organic production, including cost, biological feasibility, and quality control; and (4) developing a sector base that can eventually be monetized and scaled up.

b. Location

While many areas of Cuba have excellent soil fertility, few have the potential for efficient access to international markets. Indeed, that would require connection to internal distribution networks and good proximity to international ports. Assuming only these factors, one obvious site for a Cuban pilot program is the province of Artemisa.

Artemisa is sometimes referred to as “Villa Roja (Red Town) or the “Jardin de Cuba: (garden of Cuba) “for the famous fertility of its [red] soil, which still yields a rich annual harvest

are increasing the power of buyers and are working to displace or disempower small organic producers. Yet if we look beyond the realm of economic firms, we find that strong producer associations and transnational movement ties have countered these trends with some success in the Dominican Republic.” (citations omitted)).

⁴⁸ See *supra* notes 7–8 and accompanying text.

⁴⁹ See *supra* notes 9–11 and accompanying text.

of sugarcane, tobacco and bananas.”⁵⁰ Further, the Mariel Special Development Zone is within Artemisa.⁵¹ Thus, Artemisa falls within proximity of extensive internal distribution infrastructure and Cuba’s largest and most important international shipping port.⁵² Indeed, the Special Development Zone has reserved land specifically for agriculturally related facilities and operations.⁵³

It appears that Artemisa also has a significant amount of unused or idle farmland that could potentially be used to facilitate a pilot program. Of Artemisa’s 244.2 thousand hectares of agricultural land, only 112.3 thousand are cultivated.⁵⁴ That leaves 131.9 thousand uncultivated, of which 22.6 thousand is considered idle.⁵⁵

c. Participants

Farmers would obviously be a key participant in a pilot program. Artemisa provides a well-balanced mix of farmer profiles.⁵⁶ But these farmers would need guidance and technical assistance in order to convert to, and maintain, certified organic farming practices. Therefore, Cuban organic farming proponents such as the Cuban Association of Agricultural and Forestry Technicians (Asociación Cubana de Técnicos Agrícolas y Forestales, or ACTAF),⁵⁷ or the equivalent thereof, would likely be another necessary component of any pilot project.

A final major participant in any pilot program would be the Cuban government. Indeed, the government would ultimately be responsible for the success of any pilot program, as they control the vast majority of Cuban farming practices.⁵⁸

d. Incentives

Because there are significant hard costs, opportunity costs, and risks associated with participating in a pilot program, the government also will need to properly incentivize and support farmers throughout the program. This should include assurances that if yields are lower than expected, the government will nevertheless continue to financially support the farmer for

⁵⁰ ZED MARIEL Handbook

⁵¹ *See supra* section

⁵² *See supra* section

⁵³ *See supra* section

⁵⁴ OFICINA NACIONAL DE ESTADISTICA E INFORMACION, ANUARIO ESTADISTICO DE CUBA 2014, at 11 fig.9.2 (2015). (Figure 9.2 – Land distribution according to its use per province on June 2014)

⁵⁵ *Id.* [OFICINA NACIONAL DE ESTADISTICA E INFORMACION, ANUARIO ESTADISTICO DE CUBA 2014, at 11 fig.9.2 (2015).]

⁵⁶ *Id.* at 12 fig.9.3. [Oficina NACIONAL DE ESTADISTICA E INFORMACION, ANUARIO ESTADISTICO DE CUBA 2014, at 12 fig.9.3 (2015).]

⁵⁷ *See supra* section

⁵⁸ *See supra* section

the duration of the program. The government will need to work with farmer representatives to determine what combination of incentives is sufficient to garner a critical mass of farmer participation.

e. Products

Initial efforts might be best targeted toward producing tropical fruits, such as mangoes. Tropical fruit products have seen biological and economic success in the neighboring Dominican Republic and should thus be adaptable to Cuba. Further, tropical fruits can be converted to tropical fruit products, such as juice and puree, which can be even more lucrative than the fruits alone.⁵⁹

f. Certification

While Cuba does have its own internal certification standards to work from,⁶⁰ any pilot program should ultimately receive certification from an internationally recognized certification agency as Cuba has already done with selected crops.

V. CONCLUSION

The international demand for certified organics appears capable of absorbing Cuba's market entrance. Indeed, these already massive markets are trending toward continued expansion, having nearly doubled in size from \$57.5 billion in 2010 to \$104.7 billion in 2015.⁶¹ Many products, including fruits and vegetables, are in demand.⁶²

Certification of organic food products for the export market is a complex and extensive technical and administrative process that requires adherence to rigorous farming methods, extensive monitoring, and, at least initially, a third party stamp of approval. Furthermore, many consumers of organic products simply will not purchase products that are not consistently aesthetically pleasing. These high aesthetic standards must be met, above and beyond the certification status, and this can be especially difficult for organic products. Nevertheless, the benefits, can be demonstrable.

In addition to the certified organic citrus product exports cited in the quote at the beginning of this paper, Cuban certified organic export products also are reported to include

⁵⁹ See *supra* text accompanying note 37.

⁶⁰ See *supra* section

⁶¹ olexa powerpoint source

⁶² olexa powerpoint source

coffee, cacao, honey, citrus, and sugar.⁶³ Thus, Cuba is familiar with the rigors of international organic certification processes, the challenges associated with maintaining organic status and the aesthetic requirements to meet consumer demands and expectations.

While the European markets alone can probably support Cuba's certified organic export potential, the United States represents a major additional market opportunity for Cuban certified organic products if and when the embargo might be lifted.⁶⁴ Establishing a certified organic export sector now will position Cuba to respond to the rapidly growing American market for organic products once the opportunity becomes available.

If Cuba is able to attract foreign capital, and ultimately create a certified organic export sector, it would be, in effect, committing to long-term environmentally sustainable farming practices while at the same time bringing capital into its agricultural sector. If planned correctly, that capital could be reinvested to incentivize a net increase in internal agricultural production. This would be a favorable result for Cuba's economy, its food security and environmental future, and the individual lives of Cuban farmers, alike.

⁶³ MAY LING CHAN & EDUARDO FRANCISCO FREYRE ROACH, UNFINISHED PUZZLE: CUBAN AGRICULTURE: THE CHALLENGES, LESSONS & OPPORTUNITIES § 2.7 (2015).

⁶⁴ Ivet González, *Thaw with United States Will Put Cuba's Agroecology to the Test*, IPS (Mar. 30, 2016), <http://www.ipsnews.net/2016/03/thaw-with-united-states-will-put-cubas-agroecology-to-the-test/>; Jenny Hopkinson, *U.S. Companies Make Case for Keeping Cuba Organic*, POLITICO (Apr. 1, 2016, 4:22 PM), <http://www.politico.com/story/2016/04/the-case-for-keeping-cuba-organic-221475>; Mary Pols, *U.S. Rep. Chellie Pingree to Go to Cuba on Organics Research Trip*, PORTLAND PRESS HERALD (Mar. 23, 2016), <http://www.pressherald.com/2016/03/23/havana-harvest-u-s-rep-chellie-pingree-traveling-to-cuba-on-organics-research-trip/>.