

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

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1. OFFICE OF GLOB. ANALYSIS ET AL., CUBA’S FOOD & AGRICULTURE SITUATION REPORT 33 (2008), https://www.ilfb.org/media/546435/fas_report_on_cuba.pdf.

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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 promote low input, “organic,” agricultural systems throughout the country.⁴ According to a

2. René Vossenaar & Amy Angel, *Organic Agriculture: Experiences of Central America, Cuba and the Dominican Republic*, in TRADE AND ENVTL. REV. 2006, at 225, 233 (United Nations, 2006).

3. *See id.*

4. *Id.* (stating “[k]ey 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

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, there has 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, but progress has been severely hampered by, among other things, a basic lack of capital resources.⁷

Cuba has made a number of policy adjustments over the past few decades in an effort to address the basic economic problems that underlie its food security concerns.⁸ 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.¹¹ Law No. 118 represents another effort to stimulate foreign investments

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.”)

5. *Id.*

6. *See Cuba: Current Issues and What the World Food Programme is Doing*, WORLD FOOD PROGRAMME, <https://www.wfp.org/countries/cuba> (last visited Feb. 10, 2017) (stating “Cuba imports 70 to 80 percent of its domestic food requirements . . .”). *But see* Miguel A. Altieri & Fernando R. Funes-Monzote, *The Paradox of Cuban Agriculture*, MONTHLY REV., Jan. 2012, at 23, 25 (indicating that there is apparently some controversy surrounding Cuban food import statistics because “[o]verall data show that Cuba’s food import dependency has been dropping for decades, despite brief upturns due to natural and human-made disasters.”).

7. *See Cuba: Current Issues and What the World Food Programme is Doing*, *supra* note 6.

8. *See* Altieri & Funes-Monzote, *supra* note 6, at 23.

9. *See* Foreign Investment Act (Law No.118/2014) (Cuba).

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

11. *See, e.g.*, MINISTRY OF FOREIGN TRADE & INV., PORTFOLIO OF OPPORTUNITIES FOR FOREIGN INVESTMENT 11 (2015), <http://www.granma.cu/file/sp/cartera-de-opportunidades-de->

into government-approved sectors, and agriculture is one such sector.¹²

Indeed, relations between the United States and Cuba have significantly changed over the past twenty 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.¹³ On July 20, 2015, the United States and Cuba reopened embassies in each other's capitals for the first time since 1961.¹⁴ 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 ninety years.¹⁵ The recent diplomatic engagement between the United States and Cuba is certainly noteworthy,¹⁶ 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 diplomatic thaw, there is still no clear end to the embargo in sight.¹⁷

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.

inversion-extranjera-
23/datos/documentos/Portfolio%20of%20Opportunities%20for%20Foreign%20Investment%202015.pdf.

12. *Id.* at 13.

13. *Timeline: U.S.-Cuba Relations*, COUNCIL ON FOREIGN REL., <http://www.cfr.org/cuba/timeline-us-cuba-relations/p32817> (last visited Feb. 10, 2017).

14. *Id.*

15. 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>.

16. *Charting a New Course on Cuba*, WHITEHOUSE.GOV, <http://obamawhitehouse.archives.gov/issues/foreign-policy/cuba>, (last visited Feb. 10, 2017).

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

Therefore, Cuba may soon be at an “agricultural crossroad.” Cuba will need to decide whether, and to what extent, it wishes to maintain its present organic agricultural identity. That decision will most likely 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. 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. 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.

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.¹⁸ Foremost among these are Costa Rica, Ecuador, and the Dominican Republic.¹⁹ Of these, arguably, none is more relevant to Cuba than the Dominican Republic, which sits less than 170 miles from the eastern edge of Cuba on the neighboring Caribbean island of Hispaniola.²⁰ 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

18. See Salvador V. Garibay & Roberto Ugas, *Organic Farming in Latin America and the Caribbean*, in *THE WORLD OF ORGANIC AGRICULTURE – STATISTICS AND EMERGING TRENDS 2009*, at 176, 179 (Willer, Helga & Lukas Kilchen eds., 2009).

19. *Id.* at 179-80.

20. GOOGLE MAPS, <http://maps.google.com> (last visited Feb. 10, 2017) (follow “directions” hyperlink; then search starting point field for “Cuba” and search destination field for “Dominican Republic”; right click and select “measure distance”).

of “de facto organic” farming as a response to difficult economic situations.²¹

Despite operating with less than one quarter of Cuba’s arable land,²² relative to its size, the Dominican Republic maintains more acreage in permanent crops than Cuba.²³ Further, “the Dominican Republic has emerged as one of the world’s foremost exporters of organic bananas and cocoa, a top exporter of organic coffee, and an export pioneer in new commodities like organic mangos.”²⁴ 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 not a simple task.

“Dominican organic agriculture has historically been dominated by small-scale growers.”²⁵ 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

21. Laura T. Reynolds, *The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?*, 43 *LATIN AM. RES. REV.* 161, 166, 175 (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” However, “[i]n 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 *World Markets for Organic Fruit and Vegetables—Opportunities for Developing Countries in the Production and Export of Organic Horticultural Products: Dominican Republic*, FOOD & AGRIC. ORG. U.N. (2001) [hereinafter *World Markets for Organic Fruit and Vegetables*], <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.”).

22. *Cuba vs. Dominican Republic*, INDEX MUNDI, <http://www.indexmundi.com/factbook/compare/cuba.dominican-republic> (last visited Feb. 10, 2017).

23. *Id.*

24. Reynolds, *supra* note 21, at 161.

25. *Id.* at 177 (As of 2002, Dominican organic export production involved “about 14,000 producers, the vast majority of whom farmed fewer than three hectares of land.”).

substantial financial and technical assistance for Dominican organic export production, certification, and marketing.”²⁶

On the farmer side, numerous associations and cooperatives have emerged.²⁷ “These vary in size from a few individual farmers to several hundred.”²⁸ They also vary in terms of sophistication. The National Confederation of Dominican Cacao Producers (CONACADO), for example, provides a wide range of services on behalf of farmers, including organization, technical support, loans, and marketing of products.²⁹ CONACADO has even contributed to the development of organic regulations.³⁰ Associations and cooperatives have been instrumental to achieving large-scale production through the sharing of information and resources.³¹

The Dominican government influences and oversees its organic agriculture sector principally through its Ministry of Agriculture and Centre for Export Promotion (CEDOPEX).³² The government has demonstrated a deep commitment to developing and improving organic production nationally.³³ 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.”³⁴

All Dominican exports of organic produce are certified in accordance with international standards.³⁵ Although meeting the certification requirements is logistically difficult and very expensive, these certifications are essential, given that destination markets legally require them.³⁶ Several agencies perform these 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.”³⁷ Thus, a BCS certifier

26. *Id.* at 168; see also *World Markets for Organic Fruit and Vegetables*, *supra* note 21.

27. *World Markets for Organic Fruit and Vegetables*, *supra* note 21.

28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.*

34. Reynolds, *supra* note 21, at 167.

35. *Id.* at 175 (“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.’”).

36. *Id.*

37. *World Markets for Organic Fruit and Vegetables*, *supra* note 21.

need only visit from Europe once a month.³⁸ 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).”³⁹

The main certified organic agricultural products exported from the Dominican Republic include cocoa and tropical fruits.⁴⁰ Others include coffee, eggplant, peppers, and coconut oil, to name a few.⁴¹ 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.⁴²

Most Dominican organic exports go to only a handful of countries. Somewhat surprising, 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.”⁴³ Leading importers of Dominican organics have included the Netherlands, Belgium, and the United Kingdom.⁴⁴

Although the Dominican Republic’s organic export sector has not been uniformly successful,⁴⁵ it is considered “an important segment” of its national economy.⁴⁶ Indeed, statistics from around 2008, show the Dominican Republic as one of the largest organic producers in Latin America, with exports generating around 30 million U.S. dollars per year.⁴⁷ At that time, organic products accounted “for more than 4 percent of all Dominican agro-export earnings, representing 0.5 percent of total export revenues and 0.1 percent of the national economy.”⁴⁸

38. *Id.*

39. *Id.*

40. *Id.*

41. Raynolds, *supra* note 21, at 171.

42. *World Markets for Organic Fruit and Vegetables*, *supra* note 21.

43. Raynolds, *supra* note 21, at 172.

44. *Id.*

45. *Id.* at 176 (“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 (internal citations omitted). 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.”).

46. *Id.* at 168.

47. *Id.*

48. *Id.*

III. CUBA’S REGULATORY STRENGTHS

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.⁴⁹ They include:

- (A) Cuba’s Foreign Investment Law 118/2014;
- (B) The Mariel Special Development Zone (ZED Mariel);
- (C) Existing national organic standards;
- (D) Available unutilized agricultural land;
- (E) Farming organizations and evolving incentive structures (direct incentives, surplus incentives and land grant incentives); and
- (F) Existing certified organic operations.

These resources are described in detail in the following subsections.

A. Cuban Foreign Investment Law 118/2014

In 2014, Cuba enacted Foreign Investment Law 118/2014,⁵⁰ which “[s]ets out the principal legal structures for the implementation of investment projects in Cuba including investment protection and the general rules relevant to foreign investors.”⁵¹ Law 118 is designed to address “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.”⁵² In other words, Law 118 is designed to channel large foreign investments into government-approved sectors.⁵³

To that end, the law defines the legal and tax frameworks guiding foreign investments in Cuba.⁵⁴ Law 118 is generally viewed as a “good start in laying the framework for well-planned projects viewed to be viable by both foreign investors and the Cuban government.”⁵⁵ However, it is unclear how appealing Cuban investment opportunities will be. Investors may be reluctant to enter Cuba given the country’s history of nationalization and potential for political instabil-

49. See discussion *infra* Section III(a)-(f).

50. See generally Foreign Investment Act (Law No. 118/2014) (Cuba).

51. ZONA ESPECIAL DE DESARROLLO MARIEL, OPEN TO THE WORLD 47 (2014), http://kuba-komora.cz/wp-content/uploads/2015/09/2EN_ZED-Mariel-Investor-Guide.pdf.

52. Alcalde, *supra* note 10.

53. *Id.*

54. *Id.*

55. *Id.*

ity.

Nevertheless, Law 118 provides a key corridor for capital to enter Cuba. Without access to such capital, a certified organic large scale sector build-out is likely impossible at this time given Cuba's current economic profile.⁵⁶

B. Mariel Special Development Zone

Just prior the enactment of Law 118, the Cuban government published Special Development of Mariel Decree Law 313/2013, which "[e]stablishe[d] a special regime for investment . . . within the province of Artemisa," adjacent to the existing municipality of Mariel.⁵⁷ This "Mariel Special Development Zone" or "ZED Mariel," encompasses 180 square miles, partially covering six municipalities.⁵⁸ ZED Mariel is designed as a major port operation, with access to the national rail system and a local airport.⁵⁹ It is about twenty-eight miles west of Havana.⁶⁰ Further, Taxation Act 113/2012, which "[d]etails the general tax rules for all economic activites in Cuba, including for Cuban/non-Cuban nationals and Cuban/international companies,"⁶¹ grants certain key tax breaks and exemptions for qualifying foreign businesses so long as they operate within the ZED Mariel.⁶²

56. *Id.*

57. ZONA ESPECIAL DE DESARROLLO MARIEL, *supra* note 51, at 47.

58. *Id.* at 31.

59. *Common Questions, Answer to What Infrastructure Does the Zone Have?*, ZEDMARIEL, http://www.zedmariel.com/pages/eng/Preguntas_Frec.php (last visited Feb. 10, 2017) ("A modern container terminal is already being exploited with 702 metres of docks, having the capacity and services to handle Super-Post-Panamax vessel operations, with modern equipment having a high level of automation for container handling, warehousing, connections and monitoring. The terminal is managed by PSA of Singapore, classified as one of the principal port operators in the world. There is a new roads network permitting inter-connections between the Zone and the Havana-Pinar del Rio Throughway and the Pan-American Highway. Construction is rapidly being carried out on railroad lines and on repairing and extending other existing rail lines, thereby permitting the Zone to connect with the national railway network in order to guarantee moving merchandise to any point in Cuba, as well as moving the work force from the capital. Conditions are in place to ensure that stable drinking water can be supplied to all investments that are being executed in the Zone. Power supply is ensured by a network of modern sub-stations, with three entry circuits that permit dealing with any contingencies that may occur due to meteorological reasons or unforeseen disruptions. The Zone has a communications system interconnected by fiber optics and back-up radio linkup. In the future we foresee the installation of a communication center connected by fiber optics backing up its networks.").

60. *General Information*, ZEDMARIEL, http://www.zedmariel.com/pages/eng/Informacion_General.php (last visited Feb. 10, 2017).

61. ZONA ESPECIAL DE DESARROLLO MARIEL, *supra* note 51, at 47.

62. *Id.* at 48.

ZED Mariel could be a key resource in developing a certified organic sector in Cuba given the tax and logistical advantages. Notably, ZED Mariel provides for agricultural activities.⁶³ Indeed, the initial development phase of ZED Mariel includes eleven zones, one of which is reserved for “agricultural development and processing.”⁶⁴

C. National Organics Standards

Cuban organic products exported to major international markets must be certified in accordance with the respective international organics standards of the countries for which they are bound.⁶⁵ Although meeting those certification requirements is logistically complicated and expensive, they are necessary because destination markets legally require them.⁶⁶

An important step for countries wishing to achieve countrywide organic certification is to develop national certification standards.⁶⁷ Adopting such standards allows producer countries to better monitor and control the quality of their products and signal a high level of sophistication to import markets.⁶⁸ Indeed, if a country is able to demonstrate that its national organic standards are

63. *Id.* at 31.

64. *Id.*

65. Raynolds, *supra* note 21, at 175 (“For most Dominican producers, keeping the detailed farm records required for certification is difficult, given relatively low educational levels. As a major organic exporter explains, ‘Certification is hugely expensive: we have to hire local semiprofessionals to help keep the records as well as the organic certifier.’”).

66. *Id.* at 175.

67. Sophia Twarog, *Organic Agriculture: A Trade and Sustainable Development Opportunity for Developing Countries*, in TRADE AND ENVTL. REV. 2006, at 141, 172 (United Nations, 2006). There has been a lot of recent activity within Cuba to this end. Indeed, “Winrock volunteer and organic agriculture expert Charles Mitchell traveled to Cuba [in November of 2016] to participate in the country’s first ever National Conference on Organic Certification, where he shared his expertise as both an organic farmer and organic inspector in the United States and Canada.” Building on the initial Winrock-sponsored exchange in March, the Asociacion Cubana de Tecnicos Agricolas y Forestales (ACTAF) invited Mitchell to present at this historic event at the Ministry of Agriculture in Havana. Helping inform 40 participants from various governmental organizations—as well as farmers, processors, researchers and students about the organic certification process—Mitchell outlined the general crop production standards of the U.S. National Organic Program (NOP), discussing inspector qualifications and the inspection process.” *Winrock Volunteer Shares Organic Farming, Certification Expertise in Cuba*, WINROCK INT’L [hereinafter *Winrock Volunteer*], <https://www.winrock.org/winrock-volunteer-shares-organic-farming-certification-expertise-in-cuba/> (last visited Feb. 10, 2017).

68. Ulrich Hoffmann, *Environmental Requirements and Market Access for Developing Countries: Promoting Environmental - Not Trade - Protection*, in TRADE AND ENVTL. REV. 2006, at 1, 19 (United Nations, 2006).

compliant with European Union standards and that its standards are effectively enforced for a certain period, it may be eligible for placement on the European Union Equivalence list of third- countries.⁶⁹ Making that third country list may simplify the process of exporting to the European Union,⁷⁰ reduce certification costs, and allow easy access to other countries who maintain equivalence agreements with the European Union.⁷¹

After establishing a Technical Committee to discuss the possibility of creating national organic standards, the Cuban National Standards Office decided that it would move forward with a national standard modeled upon the EU standard.⁷² The resulting regulation is entitled Norma Cubana 500/2010, *Guidelines for the Production and Processing of Food by Organic Methods*, which is based upon CODEX GL 32-1999, Rev. 1 - 2001, *Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods*⁷³ and European Union (EU) Council Regulation (EC) NO 823/2007, *On Organic Production and Labeling of Organic Products*.⁷⁴ However, it is unclear to what extent the

69. Twarog, *supra* note 67, at 213.

70. *Id.* at 214.

71. *Id.* at 213.

72. Vossenaar & Angel, *supra* note 2, at 235.

73. See generally Codex Alimentarius Comm'n, *Guidelines for the Production, Processing, Labeling and Marketing of Organically Produced Foods*, Doc. No. GL 32-1999 (2013) [hereinafter Doc. No. GL 32-1999]; see also CODEX ALIMENTARIUS COMM'N, ORGANICALLY PRODUCED FOODS iii (3d ed. 2007) [hereinafter ORGANICALLY PRODUCED FOODS] (stating "The Codex Alimentarius Commission is an intergovernmental body with over 170 members, within the framework of the Joint FAO/WHO Food Standards Programme established by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), with the purpose of protecting the health of consumers and ensuring fair practices in the food trade. The Commission also promotes coordination of all food standards work undertaken by international governmental and non governmental organizations The Guidelines are intended to facilitate the harmonization of requirements for organic products at the international level, and may also provide assistance to governments wishing to establish national regulations in this area. The *Guidelines* include general sections describing the organic production concept and the scope of the text; description and definitions; labelling and claims (including products in transition/conversion); rules of production and preparation, including criteria for the substances allowed in organic production; inspection and certification systems; and import control.").

74. See INT'L FED'N OF ORGANIC AGRIC. MOVEMENTS EU GRP., EUROPEAN ORGANIC REGULATIONS (EC) NO 834/2007, 889/2008 AND 1235/2008: AN EVALUATION OF THE FIRST THREE YEARS LOOKING FOR FURTHER DEVELOPMENT 6 (2012), http://www.ifoam-eu.org/sites/default/files/page/files/ifoameu_reg_regulation_dossier_201204_en.pdf (stating "[I]ike its predecessor, Council Regulation (EEC) No 2092/91, Regulation (EC) No 834/2007 set up primarily as an internal market and consumer protection regulation, describes the organic production standards and the control and labelling requirements.").

Cuban government is promoting or enforcing its national standards. The Cuban standards may also be slightly outdated.

More recently, efforts have been made in Cuba to promote the Sistema Participativo de Garantía (PAAC),⁷⁵ which is “a local Cuban certification process, which is a separate but similar organic standard to other international standards established by the International Federation of Organic Agriculture Movements.”⁷⁶ The Asociación Cubana de Técnicos Agrícolas y Forestales (ACTAF)⁷⁷ has been working in conjunction with the Cuban Ministry of Agriculture “to bring more awareness of the benefits of the PAAC system, in order to expedite its approval.”⁷⁸ However, these standards appear geared toward certification for products bound for only domestic markets.⁷⁹

While these existing certified organic standards have their limitations, they could nevertheless be a powerful resource insofar as they could form the regulatory backbone of a national certified organic sector build-out. This is true, especially because they appear largely compliant with European Union certified organic requirements. This is important not only because the European Union

75. See generally Pedro Gavilanes Díaz, *Participative System of Guarantee: A Viable Alternative for Organic Certification in the Context of Urban and Suburban Cuban Agriculture*, 2011 AGRICULTURA ORGANICA, no. 2, 2011, at 43.

76. *Winrock Volunteer*, *supra* note 67 (stating “These standards are the basis for all the current country-based standards in the U.S., Canada, the European Union, along with other smaller country standards.”).

77. *Cuban Partners*, Answer to *Asociación Cubana de Técnicos y Forestales (ACTAF)*, HAVANDA CONSULTING, http://www.havanada.com/?page_id=17&lang=en (last visited Feb. 10, 2017) (“Founded in 1987, ACTAF has branches in every province and some 100,000 affiliates, one fourth of the country’s force of agricultural and forestry technicians. Since 1999 ACTAF contributes to the agricultural development of the country by promoting sustainable production techniques in harmony with the environment, both in rural as well as urban communities. Its first efforts were to encourage and extend organic agriculture, through the Organic Agriculture Group, which earned it the Alternative Nobel Prize ‘Right Livelihood’ in Sweden (1999). ACTAF is a member of IFOAM – International Federation of Organic Agriculture Movements, and the Caribbean representative before MAELA – Latin American Organic Agriculture Movement (Asociación Cubana de Técnicos Agrícolas y Forestales, 2005). ACTAF had implemented dozens of projects with international cooperation partners throughout the country, in such areas as urban agriculture, agroecology, sound agricultural management, sustainable forestry, gender focus in the farm sector, and production of bamboo, beans, cocoa and medicinal plants. Its partners have included Oxfam America (US) and Canada, IDRC, LifeCycles Project and CARE.”).

78. *Winrock Volunteer*, *supra* note 67.

79. *Id.* (“[The advantage of PAAC] is that is simpler for small farmers to get into local markets, sell to tourists, and hotels . . . [It] could have the potential to open these markets for smaller producers, as well as give consumers some confidence that the product was actually produced with organic methods.”).

would probably be Cuba's major target market but also because European Union compliance is a potential gateway to other major international markets by way of both the European Union third country list and the equivalency agreements between certain major organic import countries.

D. Available Land Fit for Agricultural Use

Another resource potentially available to assist in the build-out of the Cuban certified organic export sector is Cuba's reserves of unused arable land. This is true primarily for two, interrelated reasons. First, if Cuba decides to build-out its certified organic export sector now, it will probably need to balance related exports with existing internal food security concerns.⁸⁰ Existing land reserves could play an important role in achieving this balance by allowing the country to add certified organic farms to its farming sector while at the same time maintaining current levels of internal production. In other words, tapping into Cuba's surplus farmland as part of a certified organic export build-out could help mitigate potential net losses of internal food production for domestic consumption. Second, excess farmable land could be used to incentivize both new and existing farmers to participate in certified organic exports through land grants.⁸¹

The extent of the underutilization of Cuba's agricultural potential was partially revealed by a survey of land use conducted by the Cuban National Office of Statistics at the end of 2007. That survey revealed that "since 2002, the area under cultivation in the country had shrunk by 603,000 hectares, or 16.8%, while the area totally idle, i.e., not used even for pasture, had grown by 32.1% to some 1,230,000 hectares, constituting 18.6% of all agricultural land."⁸² In other words, the report shows a significant reduction in the use of arable lands or, conversely, a significant availability of lands suitable for farming in Cuba. Based on more recent statistics released by the Cuban government, it appears that little has changed in this regard.⁸³

80. See generally G.B. Hagelberg & Jose Alvarez, *Cuban Agriculture: The Return of the Campesinado*, 19 CUBA IN TRANSITION 229, 232 (2009).

81. See *id.* at 236.

82. *Id.* at 230 (stating "These numbers put into perspective the government's programs of urban market gardens and to encourage the cultivation of vacant plots elsewhere, which have received much attention also outside Cuba.").

83. NAT'L OFF. OF STATS. & INFO., STATISTICAL YEARBOOK OF CUBA 2014, at 228 fig.9.2 (2015), <http://www.one.cu/aec2014/00%Anvario%20Estadistico%202014.pdf> (describing "Land distribution according to its use per province on June 2014" in figure 9.2, which shows 6,278.9 miles de hectáreas of agricultural land in Cuba with only 2,668.7 of those miles de hectáreas under cultivation).

E. Farming Incentives & Organizations

Farming incentives would likely be an indispensable resource in any effort to build-out the Cuban certified organic export sector. These incentives would need to motivate Cuban farmers to convert to certified organic practices, convince existing farmers to increase their crop coverage area, convince farmers to farm new types of produce, or attract existing or new farmers to move to previously unfarmed land. Cuba maintains a set of farming incentives which may be adaptable to potential certified organic incentives. These existing incentives can be roughly divided into three categories: direct, surplus, and land grants. Each is discussed in the subsections below.

However, before exploring individual incentives, it is important to understand the ever-shifting context within which the incentives function. This requires a look at how the Cuban government interacts with and exerts control over farmers, as well as the ways in which farmers are allowed by the government to organize themselves. Indeed, farmer organizations are themselves an additional key resource available to a certified organic sector build-out. A certified organic sector build-out would require mobilizing potentially thousands of farmers to change methods, move, or expand operations. From a purely practical perspective, it would be very difficult to mobilize such farmers without a means to communicate with farmers. Farmer cooperatives, along with the National Association of Small Farmers (Asociación Nacional de Agricultores Pequeños, or ANAP), which represents them, may provide such a hub for communications.

Following the 1959 Revolution, the Cuban government and most Cuban farmers were once one-and-the-same from an enterprise perspective.⁸⁴ That homogeneity, however, began to disappear in the early 1990s following the loss of Soviet economic support and subsidization to Cuba resulting from the dissolution of the Soviet Union.⁸⁵ As the “Special Period” began, the Cuban government began to dismantle its immense state farms, breaking them up into smaller “Basic Units of Cooperative Production” (Unidades Basicas de Produccion Cooperativa or UBPCs).⁸⁶ The development and framework of UBPCs were described by one expert as follows:

Former state farm workers were given the option of becoming members of the new UBPCs. Members of the cooperative elect their leaders (referred to as a “Direction Board”) from among their membership. The board of each UBPC is composed of nine members: the manager; the chiefs of economics,

84. Hagelberg & Alvarez, *supra* note 80, at 229.

85. *Id.*

86. *Id.*

production, services, machinery, and land; the principal engineer; and two other UBPC members. Members also have the right to vote on the admission of new members and the termination of members who may not be performing their duties adequately.⁸⁷

Only one year after the UBPC model was initiated, about half of the area formerly in state hands had moved to UBPCs along with their approximately 257,000 members.⁸⁸ This represented a dramatic shift in land shares from the state to the non-state sector.⁸⁹ It also resulted in a slightly expanded degree of farmer autonomy not previously available on state farms during the current governmental regime. These trends of increased land transfer from state to non-state sectors have continued over the past twenty years.⁹⁰

The UBPCs are somewhat similar in form and function to other types of agricultural production cooperatives in existence in post-Revolutionary Cuba, including Agricultural Production Cooperatives (Cooperativas de Producción Agropecuaria or CPAs) and Cooperatives of Credit and Service (Cooperativas de Crédito y Servicios or CCSs). Indeed, according to official Cuban statistics, the state sector is comprised only of State Farms and Enterprises and individual farms managed by various state entities, whereas the non-state sector includes UBPCs, CPAs, CCSs, and “dispersed farmers.”⁹¹ According to recent data released by the Cuban government, 4,336,300 hectares of agricultural land are in the non-state sector, while only 1,942,600 hectares of agricultural land remain in the state sector.⁹²

While the various non-state farming entities differ from one another in interesting and important ways,⁹³ those intricacies are largely beyond the scope of

87. JOSÉ ALVAREZ, CUBA'S AGRICULTURAL SECTOR 77 (John M. Kirk ed., 2004).

88. *Id.* at 76.

89. *Id.*

90. *See id.* at 75-89.

91. *Id.*

92. NAT'L OFFICE OF STATISTICS & INFO., *supra* note 83, at 228.

93. *See* Hagelberg & Alvarez, *supra* note 80, at 230 n.3 (indicating, for example, that various non-state farming entities can differ in bargaining power, possession of farming machinery, historical significance, and form of land tenure. Also, “[w]here to locate the UBPCs on the public-private sector spectrum is open to debate. Cf. Pollitt (1997): ‘part worker cooperatives, part collective farms . . . on lands leased in perpetuity from the state . . . largely modeled on the Agricultural Production Cooperatives (*Cooperativas de Producción Agropecuaria*, or CPAs) that had been fostered among private farms since 1977’; Burchardt (2000): ‘a dual entity halfway between the state enterprise and the true cooperative’; Enríquez (2000): ‘an intermediate form of organization located somewhere between state farm *granjas* [state enterprise units] and CPAs’; Espinosa Burquet (2004): ‘a new type of [semi-autonomous] state cooperatives’; Molina Díaz (2007): ‘semi-private cooperatives’; Roman (2004) cited

this paper. Rather, here, it is only important to emphasize that these entities, along with ANAP, are the gateway to communicating with farmers for the purpose of establishing and effectuating successful farming initiatives, and are thus, a key resource available to promote the build-out of a certified organic export sector.

i. Direct Incentives

One of the primary government incentives available to Cuban farmers today is what may be referred to as a direct incentive.⁹⁴ The primary direct incentive utilized in Cuban agriculture is monetary: namely, the amount of money the Cuban government pays farmers for their contractually mandated production quotas.⁹⁵ In some instances, however, the prices the government pays farmers for their quota production are not sufficient to cover the farmers’ costs of production.⁹⁶ In recognition of this, the Cuban government has been attempting to increase the prices it offers to growers.⁹⁷ A 2012 report claims that “[i]nterviews conducted with farmers and officials beginning in 2008 have indicated that prices paid to producers for . . . milk and plantains [have] tripled, and the prices of potatoes, sweet potatoes, and black beans have doubled.”⁹⁸ “However, the prices paid for milk and rice . . . [were only] about one-third [of] Cuba’s cost of importing those products[.]”⁹⁹ To the extent that the same is true of other agricultural products, there appears to be “more room to raise producer prices [as direct] incentives in the interest of reducing import costs.”¹⁰⁰

Orlando Lugo Fonte, president of the National Association of Small Farmers (ANAP), to the effect that since their land was state-owned, UBPCs were not considered to be agricultural cooperatives, did not belong to ANAP, and were not covered by the laws regulating agricultural cooperatives. However, Cuban statistics assign the UBPCs to the ‘non-state sector,’ together with CPAs (officially defined as ‘a collective form of social ownership’ of the land and other basic means of production), credit and service cooperatives (*Cooperativas de Créditos y Servicios*, or CCSSs, in which ‘ownership of each farm, its equipment and the resulting production remain private’), scattered private farmers, and domestic plots. The problems of UBPC governance and management, particularly of the units primarily growing sugarcane, were discussed and extensively referenced in Hagelberg and Alvarez (2006).”).

94. See, e.g., PHILIP PETERS, LEXINGTON INST., REFORMING CUBAN AGRICULTURE: UNFINISHED BUSINESS 3 (2012), <https://www.american.edu/clals/upload/LexingtonCubanAgriculture-1-2.pdf>.

95. See *id.*

96. See *id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

Other direct incentives include the physical resources needed to farm effectively in Cuba. For example, farming inputs are potentially, one type of non-monetary direct farming incentive.¹⁰¹ Indeed, limited access to agricultural inputs has been a major problem for Cuban farmers since the collapse of the Soviet Union.¹⁰² Even recycled and locally sourced inputs are in limited supply.¹⁰³ Therefore, direct farming incentives may include improved access to domestically-produced and imported fertilizers as well as compost production from local raw materials including coffee pulp, manure, and sugarcane bagasse.¹⁰⁴ Similarly, cover crops “are an excellent solution for improving soil fertility, adding additional nutrients to the soil while contributing to the management of weeds.”¹⁰⁵ But seeds and propagation materials for cover crops as well as for regular crop production are often unavailable or only available in limited supplies.¹⁰⁶

Machinery is another example of a potential non-monetary direct farming incentive.¹⁰⁷ Labor can be scarce, especially at larger Cuban farms.¹⁰⁸ In such cases, machinery can be particularly important to improve production and productivity to achieve cultivation, compost production, and compost application.¹⁰⁹ However, in some cases “these tools are not available, and in other cases, the [farming] cooperatives cannot afford them.”¹¹⁰

ii. Surplus Incentives

Another one of the primary government incentives available to Cuban farmers today is what may be referred to as a “surplus incentive.” That form of incentive has been described as follows:

With the opening of the agricultural markets . . . UBPCs [and, indeed, all agricultural producers] were provided with important production incentives. Once the production goals are agreed upon between the state enterprise and a UBPC Direction Board, the UBPC quota for sale to [the state collection and distribution agency] is set at 80 percent of the overall production goals.

101. Lukas Kilcher, *Organic Agriculture in Cuba: Managing with Limited Resources*, in *THE WORLD OF ORGANIC AGRICULTURE – STATISTICS AND EMERGING TRENDS 2009*, at 198, 201 (Willer, Helga & Lukas Kilcher eds., 2009).

102. *See id.*

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.*

110. *Id.*

This quota is broken up into monthly commitment levels. The UBPC is free to sell the remaining 20 percent of the production goal and 20 percent of any excess above the production goal in the agricultural markets.¹¹¹

The “surplus incentive” is a form of option agreement between the government and farmers. The farmers receive the right but not the obligation to produce a limited amount over the mandated base production quota. If the farmers choose to exercise their option to produce in excess of their mandated quota, they can then sell that excess at local markets at free market prices which are considerably higher than the prices paid by the government for quota production volumes.¹¹²

These “surplus incentives” are extremely important because “in addition to being the source of funds that the UBPC uses to pay off its equipment and other loans, [they are also] the source of incentive compensation to the individual workers.”¹¹³ Depending on the type of crops produced and the mix of crops within a particular UBPC, elaborate systems of recordkeeping and control have been implemented in order to maintain fairness in distribution of payments to individual member farmers.¹¹⁴

Many Cuban farmers are authorized to sell a wide range of products directly to the tourism sector, “without the mediation of a state enterprise.”¹¹⁵ This allows farmers with high-quality products to negotiate appealing purchase pricing with large, domestic buyers with the financial ability to pay higher prices, including hotels. Cuba has also experimented with wholesale farmer’s markets.¹¹⁶

111. ALVAREZ, *supra* note 87, at 78.

112. *Id.* at 79 (stating “[t]he UBPCs have some degree of autonomy within this system. For example, they are free to sell surplus production in any agricultural market they choose. It obviously costs less to transport their crops to local markets, but prices in these markets are typically lower than the prices prevailing in the markets in the city of Havana . . . The government charges a lower tax rate on crops sold in agricultural markets in the cities than at rural markets to encourage shipment of food into the cities. Leaders of the UBPCs understand these tradeoffs and carefully assess the relative costs and benefits when deciding where to market their surplus.”).

113. *Id.*

114. *Id.*

115. *Cuban Farmers Will Be Able to Sell Their Products Direct to Tourism Facilities*, ON CUBA (Sept. 8, 2013) [hereinafter *Cuban Farmers*], <http://oncubamagazine.com/latest/cuban-farmers-will-be-able-to-sell-their-products-direct-to-tourism-facilities/>.

116. See Marc Frank, *Cuba Experiments with Wholesale Market for Farmers*, REUTERS (June 1, 2014, 1:17 PM), <http://www.reuters.com/article/us-cuba-reform-agriculture-idUSKBN0EC1NW20140601>.

However, these experimental markets have been limited,¹¹⁷ and many complain that farming is still in “agony,” as “[w]holesale markets have not yet materialized, making it hard for farmers to keep up with rising demand from the new middle class and private sector restaurants.”¹¹⁸

The surplus incentive becomes even more important to farmers as restrictions on wholesale and direct internal sales continue to loosen because, in theory, the price paid to farmers for their products outside of the government quota system reflects true market demand, and is thus higher. Furthermore, agricultural products of premium quality could receive an even higher price. It appears that Cuba is making some strides toward freeing up more private enterprise in this regard.¹¹⁹

iii. Land Grant Incentives

Another important incentive available to Cuban farmers are land grants. On July 10, 2008, Cuba’s Council of State created Decree-Law No. 259, which set out “the terms for the transfer in usufruct of idle lands to individuals and corporate bodies.”¹²⁰ Decree-Law No. 259 was enacted because, as its *whereas* clause states, “[there exists] a considerable percentage of idle state lands which makes it necessary to grant lands in usufruct to individuals and corporate bodies in order to increase the production of food and reduce its importation.”¹²¹ Thus,

117. *See id.*

118. Marc Frank, *Cuban Farmers in “Agony” Waiting for Promised Reforms*, REUTERS (Apr. 14, 2016, 11:06 AM) [hereinafter Frank, *Cuban Farmers in “Agony”*], <http://www.reuters.com/article/us-cuba-congress-reforms-idUSKCN0XB16Z>.

119. PETERS, *supra* note 94, at 5 (stating “The union of Cuba’s private farmers and CCS cooperative members, ANAP (*Asociacion Nacional de Agricultores Pequeños*) would prefer substantial change. About 30 percent of these producers’ output goes to farmers markets, where prices move according to supply and demand, and the rest is contracted by the state. In May 2010 ANAP called for several changes: expanding direct sales to consumer outlets, allowing cooperatives to contract directly with state enterprises, and allowing cooperatives to sell directly to hotels and restaurants in the tourism sector. ANAP’s president at the time, Orlando Lugo, advocated allowing all producers to sell directly to the market without any state intermediary. ‘I think that sales have to be broken up a lot,’ he said in an interview during ANAP’s annual meeting. ‘If in Cuba there is private and diversified production, one cannot have monopolized sales. We have to seek many forms of purchase and sale. If I were asked, I would say it has to be direct. If a cooperative wants to sell products and have a point of sale, let it have one. If a hotel wants to buy a product from a cooperative, why can’t it do so? Why does it have to be through an enterprise? We have to continue insisting on direct sales by producers to the retail network. There are provinces that have some experiences. I know that it is being studied, but it is true, this is something that is still not resolved.’”).

120. Hagelberg & Alvarez, *supra* note 80, at 230.

121. *Id.* at 236.

the decree allowed landless individuals to “obtain up to 13.42 hectares and existing landholders could bring their total area up to 40.26 hectares under licenses valid for up to 10 years and successively renewable for the same period.”¹²² Existing farming entities were allowed to “apply for the usufruct of an unlimited area for 25 years, renewable for another 25 years.”¹²³

Decree-Law No. 259’s land grants come with a string of conditions. These include limitations on transferability of the usufruct right, exposure to special taxes, requirements to join local cooperatives, and, more nebulously, potential revocation “for reasons of public utility or social interest.”¹²⁴ Indeed, grantees are subject to product delivery contracts that require them “to abide by a moral and social conduct in accordance with the ethical principles of our society.”¹²⁵ Despite these conditions, close to one hundred thousand applications were received after only a few months of program operation.¹²⁶ Indeed, the program appears to have achieved the level of interest it set out to achieve.¹²⁷ However, ultimate long-term success of the program is yet to be determined.¹²⁸

The program has also drawn some criticism for failing to properly support its farmers. Namely, there have been complaints about lack of tools, machinery, fuel, financial support, technical training, and unnecessary bureaucratic obstacles.¹²⁹ The program has also had potentially important social and political impacts.¹³⁰ For one, the program has led to a population resurgence in the Cuban rural sector.¹³¹ Secondly, the program has reinforced the notion that individual farmers can be effective contributors to solving large national problems. Indeed, one scholar calls the program yet another representation of “the abandonment of the long-held doctrine of the superiority of large-scale state or parastatal farming, of which Fidel Castro had been the foremost exponent in Cuba.”¹³² The program seems to be another indicator of the growing organizational divide between the Cuban government and the Cuban farming sector. Similarly, it seems to be another obvious indicator of the Cuban government’s increased willingness to relinquish some control of state-held lands for farming purposes.

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.* at 230.

127. *Id.* at 238.

128. *Id.* at 239.

129. *Id.* at 238.

130. *Id.*

131. *Id.*

132. *Id.* at 231.

While Decree-Law No. 259 deals exclusively with usufruct land grants, one can imagine the possibility of future Cuban land grant incentives offering more extensive forms of land tenure. Indeed, many Cuban farmers currently hold land interests that go beyond mere usufruct rights. For example, “[m]embers of CPAs are the owners of their land while UBPCs lease state lands for an indefinite period of time.”¹³³ Further, in CCSs, individual cooperative members actually hold title to their specific piece of land and, in some instances, associated equipment.

F. Existing Certified Organic Operations

Certified organic farming has occurred in Cuba, albeit at relatively small scale and with largely undocumented results. These efforts may have arisen, in part, out of the Ministry of Agriculture’s “Organic Production Strategy” policy, which dates back to 2003.¹³⁴ Information on these operations is generally limited. Nevertheless, their example can provide helpful logistical, biological, and economic lessons that could inform the build-out of Cuba’s certified organic sector today.

Cuban certified organic export products have included coffee, cacao, honey, citrus, and sugar.¹³⁵ Of those, fruit juice products destined for European markets and honey appear to have made the most headway.¹³⁶ One study found that these “exports of Cuban organic fruit juice are profitable despite high certification costs.”¹³⁷ In the case of at least some of these products, many Cuban stakeholders—from state farms to small cooperatives—were involved in production.¹³⁸ Certification was largely handled by the German company *BCS ÖKOGarantie* and the Swiss company *bio.inspecta*, with local routine inspections conducted by a Cuban research institute.¹³⁹

One researcher suggests that in 2001, 8,495 hectares of Cuban land were

133. ALVAREZ, *supra* note 87, at 80.

134. MAY LING CHAN & EDUARDO FRANCISCO FREYRE ROACH, UNFINISHED PUZZLE: CUBAN AGRICULTURE: THE CHALLENGES, LESSONS & OPPORTUNITIES § 2.7 (Eric Holt-Giménez, ed., Tanya Kerksen, trans., 2012).

135. *Id.*

136. Vossenaar & Angel, *supra* note 2, at 232 (“Cuba has been successful in increasing its exports of organic citrus fruit juices to the Swiss market; their value was amounted to around \$1 million in 2004.”); *see also* Chris Arsenault, *Cuba’s Organic Honey Exports Create Buzz as Bees Die Off Elsewhere*, REUTERS (Feb. 9, 2016, 8:03 AM), <http://www.reuters.com/article/us-cuba-farming-honey-idUSKCN0VI172>.

137. Vossenaar & Angel, *supra* note 2, at 230.

138. *Id.* at 228.

139. CHAN & ROACH, *supra* note 134, at § 2.7.

planted with certified organic crops, representing 0.12 percent of Cuba’s total agricultural area. That same researcher also suggests that the figure rose to 15,443 hectares by 2007.¹⁴⁰ Another researcher claims that “[b]y the end of 2008, there were 2,954 certified organic farms in Cuba.”¹⁴¹ However, it is unclear to what standard those farms were certified.

IV. POTENTIAL CONSTRAINTS

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.¹⁴² 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 pro-

140. *Id.*

141. Kilcher, *supra* note 101, at 199.

142. See Eliza Barclay, *Cuba’s Security in Fresh Produce*, GLOBAL EXCHANGE, <http://globalexchange.org/news/cubas-security-fresh-produce> (last visited Feb. 13, 2017).

duce 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.¹⁴³ Indeed, "several disastrous storms caused the loss of complete harvests and destroyed plantations, as well as packing and processing facilities."¹⁴⁴ 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.¹⁴⁵ Indeed, the Coffee Berry Borer has caused recent problems, and Citrus Greening (Huanglongbing, or HLB) threatens the very future of Cuba's citrus industry.¹⁴⁶ 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.

iii. Quality Control

Many international certified organic markets will import only the best looking products.¹⁴⁷ These high aesthetic standards are in addition to organic certification requirements.¹⁴⁸ Indeed, the Dominican Republic's example reveals situations in which crop aesthetics became a problem.¹⁴⁹ It appears that smaller

143. Kilcher, *supra* note 101, at 200.

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148. *See id.*

149. Reynolds, *supra* note 21, at 176 ("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 oth-

groups of farmers were most susceptible to wavering product consistency.¹⁵⁰ It is therefore imperative that any certified organic exporter maintain the quality and the consistency of production. Controls should thus be implemented to maintain these standards throughout the production, post-harvest, and transportation processes.

V. 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.¹⁵¹ In order to fill the financing gap, Cuba will need to attract foreign investors.¹⁵² 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 in the following paragraphs.

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.

er words, they must be of a uniform specified size, color, shape, and blemish-free appearance.”).

150. *Id.* at 181 (“[C]ertified organic food exports are becoming more ‘buyer driven,’ as the commodity chain literature would suggest. Current market trends 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.”).

151. *See Cuba: Current Issues and What the World Food Programme is Doing*, *supra* note 6; *see also* Altieri & Funes-Monzote, *supra* note 6, at 23-24; Foreign Investment Act (Law No. 118/2014) (Cuba); Alcalde, *supra* note 10.

152. *See generally* MINISRTY OF FOREIGN TRADE & INV., *supra* note 11; *Timeline: U.S.-Cuba Relations*, *supra* note 13.

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 Jardín de Cuba (garden of Cuba) for the famous fertility of its [red] soil, which still yields a rich annual harvest of sugarcane, tobacco and bananas.”¹⁵³ Further, the Mariel Special Development Zone is within Artemisa.¹⁵⁴ Thus, Artemisa falls within proximity of extensive internal distribution infrastructure and Cuba’s largest and most important international shipping port.¹⁵⁵ Indeed, the Special Development Zone has reserved land specifically for agriculturally related facilities and operations.¹⁵⁶

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.¹⁵⁷ That leaves 131.9 thousand uncultivated, of which 22.6 thousand is considered idle.¹⁵⁸

C. Participants

Farmers would obviously be a key participant in a pilot program. Artemisa provides a well-balanced mix of farmer profiles.¹⁵⁹ 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),¹⁶⁰ 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

153. ZONA ESPECIAL DE DESARROLLO MARIEL, *supra* note 51, at 33.

154. *Id.*

155. *Id.*

156. *Id.*

157. NAT’L OFF. OF STATS & INFO., *supra* note 83, at 11.

158. *Id.*

159. *See id.*

160. *See Cuban Partners, supra* note 77.

of any pilot program, as they control the vast majority of Cuban farming practices.¹⁶¹

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 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.¹⁶²

F. Certification

While Cuba does have its own internal certification standards to work from,¹⁶³ any pilot program should ultimately receive certification from an internationally recognized certification agency as Cuba has already done with selected crops.

VI. 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 2015.¹⁶⁴ Many products, including fruits and vegeta-

161. See Vossenaar & Angel, *supra* note 2, at 230.

162. Reynolds, *supra* note 21, at 174.

163. See *supra* Part III.

164. *Organic Food Market – Global Industry Size, Share, Trends, Analysis and Forecasts 2016 – 2024*, TRANSPARENCY MKT. RES., <http://www.transparencymarketresearch.com/organic-food-market.html> (last visited Feb. 13, 2017).

bles, are in demand.¹⁶⁵

Certification of organic food products for the export market is a complex, 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 will not simply avoid the purchase of 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.

As mentioned previously in this paper, Cuban certified organic export products are reported to include citrus products, coffee, cacao, honey, and sugar.¹⁶⁶ 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 is lifted.¹⁶⁷ 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 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.

165. *Id.*

166. CHAN & ROACH, *supra* note 134, at § 2.7.

167. See Ivet González, *Thaw with United States Will Put Cuba's Agroecology to the Test*, INTER PRESS SERV. (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/>.