Macrothink Institute™

Journal of Agricultural Studies
ISSN 2166-0379
2015, Vol. 3, No. 2

Cuba's Agricultural Transformations

Armando Nova González, *Ph.D.*

Universidad de La Habana

Centro de Investigaciones de la Economía Internacional (CIEI)

Avenida 7ma, Entre 6 y 10, 609 Avenida 7

La Habana, Cuba

E-Mail: armando@rect.uh.cu

Mario A. González Corzo, *Ph.D.* (CorrespondingAuthor)

City University of New York (CUNY)

Lehman College

Department of Economics and Business

Carman Hall, 382

250 Bedford Park Boulevard West

Bronx, NY 10468

Email: mario.gonzalez-corzo@lehman.cuny.edu

Received: May 6, 2015 Accepted: June 3, 2015

doi:10.5296/jas.v3i2.7547 URL: http://dx.doi.org/10.5296/jas.v3i2.7547

Abstract

The Cuban government has implemented a series of agricultural transformations since 2007 to increase the country's agricultural self-sufficiency and reduce its dependency on food imports. These include the transfer (in usufruct) of State-owned land to non-State producers (e.g. cooperatives and private farmers), moderate price reforms, the decentralization of decision making, and the gradual relaxation of existing forms of agricultural commercialization. As a result of these measures, the area planted, as well as physical output and agricultural yields (in selected non-sugar crop categories) have shown mixed results, but still remain below desired levels. There are three (3) fundamental unresolved aspects that have prevented Cuba's agricultural sector from achieving the desired outcomes: (1) the need to achieve the "realization of property," (2) the recognition and acceptance of the market as a complementary economic coordination mechanism, and (3) the absence of a systemic focus to achieve the successful completion of the agricultural production cycle. These unresolved aspects should be addressed through: (1) the consolidation of input markets, where producers can obtain essential inputs at prices that correspond to the prices they can

obtain for their output, (2) greater autonomy to allow agricultural producers to freely decide when, where, and to whom they could sell their output, after social contracts have been fulfilled, (3) the diversification of the forms of agricultural commercialization to permit greater participation by non-State economic actors, (4) allowing agricultural producers to freely hire the labor necessary to sustain and increase production, and (5) providing agricultural producers with the financing and technical assistance necessary.

Keywords: Agricultural transformations, Cuba, Cuban agriculture.

JEL Classifications: P15, P20, Q15, Q18.

1. Introduction

In its recent efforts to transform (or "update") its economic model, Cuba has understandably focused on its agricultural sector. Even though it only accounts for approximately 5% of gross domestic product (GDP), agriculture represents a relatively large share of the Cuban economy (some 20%) due to its direct linkages with other sectors and multiplier effect (Nova González, 2006, 2013a, 2013b). Despite of the expansion of tourism and services, Cuba still remains an agricultural country, and agriculture touches every aspect of the country's economic and social life.

The agricultural sector plays an important role in the Cuban economy due to various factors. First, an important group of industries or sectors, such as sugar (including derivative products), food, tobacco and beverages, which account for approximately 6.5% of the country's GDP, depend heavily on the raw materials or inputs supplied by the agricultural sector. Second, related activities, such as the transportation and commercialization of agricultural products, and food processing, which account for about 10% of GDP, are also dependent on the agricultural sector (Nova González, 2008). In total, close to 20% of Cuba's GDP is directly or indirectly related to the agricultural sector (Nova González, 2013b).

Cuba's agricultural sector also plays an important role as a source of employment; approximately 21% of the country's economically active population works in agriculture. If related activities, such the transportation, storage, and commercialization of agricultural products, are included, the agricultural sector's share of total employment increases significantly (Nova González, 2014). Close to 4 million Cubans, or 80% of the labor force, is either directly or indirectly related to agriculture (in terms of employment and economic activities) (Nova González, 2008).

The agricultural sector also plays an important role as a supplier of renewable energy (Nova González, 2008). This is primarily accomplished through generation of electricity, biofuels, and biogas produced by the sugar agro-industry. Sugarcane plantations can absorb carbon dioxide (CO2) and emit oxygen (O2). It is estimated that over the course of one year a hectare planted with sugarcane can absorb about 60 tons of carbon dioxide (CO2) and emit approximately 40 tons of oxygen (O2), resulting in the so-called "forest effect" (Nova González, 2008).

Finally, as a consumer of raw materials, intermediate capital goods, and finished products, Cuba's agricultural sector has strong linkages with almost every sector of the economy. These linkages, and high levels of coordination and integration, contribute to the aforementioned multiplier effect (of the agricultural sector) and to its positive spillovers, magnifying the economic and strategic importance of agriculture in the Cuban economy.

Since the collapse of the Socialist Bloc and the disintegration of the Soviet Union in the early 1990s, Cuba's agricultural sector has been affected by declining output levels, low labor productivity, worker absenteeism, insufficient administrative coordination, excessive bureaucratic controls, and increasing de-capitalization caused by shortages of investment and foreign exchange receipts (Hagelberg, 2010; Spadoni, 2014). Cuban agriculture has also been impacted by adverse weather conditions, particularly several devastating hurricanes and a severe drought (2006-2008) and the effects of the U.S. trade embargo (González-Corzo, Mesa-Lago, 2012; 2013; Nova González, 2013; Spadoni, 2014).

After Raul Castro's official ascent to power on February 24, 2008, a series of policy measures have been implemented to prioritize and reactivate this vital sector of the Cuban economy. The most significant include: the approval of Decree Law No. 259 in 2008, which facilitates the transfers of idle State-owned lands to private producers and agricultural cooperatives, the transfer of some of the functions performed by the Ministry of Agriculture (MINAGRI) to the Ministry of Interior Trade (MINCIN), the creation of a limited number of State-operated establishments to sell basic agricultural inputs (e.g., seeds, fertilizer, work gloves, machetes, axes, etc.) to small agricultural producers, experiments with "suburban agriculture" to connect local producers and consumers and reduce fuel, transportation and storage costs, and increases in the prices paid by *Acopio*, the State-run agricultural procurement agency, to private farmers and cooperatives producing milk, beans, rice, and other products.

This paper analyzes Cuba's agricultural transformations since the process of "updating" its socialist economic model was initiated in 2007. The first section presents a detailed account of the principal agricultural reform measures implemented from the inception of the "economic updating" process. This is followed by a comprehensive analysis of the structure and performance of Cuba's non-sugar agricultural sector, with a particular emphasis on key metrics such as planted areas and areas under production, physical output, and agricultural yields. Finally, the last section explores the principal elements of Cuba's emerging agricultural model and its prospects for the future.

2. Agricultural Transformations (2007 – Present)

Falling agricultural output, low yields, declining labor productivity, high levels of waste and inefficiency, the rising costs of food imports, and the deterioration of the trade balance, have placed food production at the forefront of the economic challenges confronting Cuba at the present time (Hagelberg, 2010). According to official statistics, Cuba spent $2.0 billion on imported food and agricultural products in 2013, representing 13.6% of the country's total merchandise imports for that year (Oficina Nacional de Estadísticas e Información, 2014). As it experienced the worst economic crisis since the collapse of the Eastern European Socialist Bloc and the disintegration of the Soviet Union in the early 1990s, and confronted with a more favorable international environment, mainly as the result of its close economic ties with Venezuela, China, and Canada, and its extended diplomatic relations with virtually every country in the Western Hemisphere and other regions of the world, Cuba has implemented a series of policy measures to transform its agricultural sector.

One of the first steps taken in this direction consisted of paying higher prices to producers of certain agricultural products. This process was initiated in 2007, when the State procurement agency, *Acopio*, increased the prices it paid milk producers as well as the percentage paid in convertible pesos (CUC) per liter produced and delivered. In 2007, the State increased the prices that its procurement agency, *Acopio*, paid to agricultural producers

for a selected group of products. Rice prices, for example, increased from 1,931 Cuban pesos (CUP) per ton in 2007 to 6,304 CUP by the end of 2013 (Spadoni, 2014). Similarly, the price paid by *Acopio* to agricultural producers for potatoes rose from 544 pesos per ton to 652 pesos per ton between 2007 and 2013 (Spadoni, 2014); and the prices paid to milk and beef producers increased from 900 pesos per ton to 5,218 pesos per ton, and from 2,450 pesos per ton to 8,900 pesos per ton, respectively, during the same period (Spadoni, 2014). Higher prices have incentivized agricultural producers to improved their output deliveries (or sales) to *Acopio*, resulting in notable fuel savings and improved distribution to the State-operated retail store network (Nova Gonz ález, 2010).

The resulting increase in producers' incomes resulting from this measure increased producers' capacity to obtain essential inputs to further increase production. (Nova González, 2010). These price increases allowed *Acopio* to recover a part of this production, which previously had other destinations and producers have been encouraged to sell their product to *Acopio*. This measure constitutes a direct stimulus to producers, and incentivizes them to indirectly contribute to certain savings in fuel and loss reductions because of timely deliveries made to *Acopio*. This procedure has been implemented in 89 municipalities, of which 66 are fully self-sufficient. However, it has resulted in certain unintended consequences, which have contributed to reductions in deliveries to industry, resulting in the under-utilization of the country's industrial capacity (Nova González, 2010)

Acopio also increased the prices it pays to meat and poultry producers. Payments in convertible pesos (CUC) to meat and poultry producers have increased their purchasing power, allowing many of them to obtain essential agricultural inputs in recently-created hard currency stores for this purpose (there are stores in 70 of the 168 existing municipalities). Unfortunately, these stores tend to offer a limited variety of inputs of about 64 products, supply has been unpredictable and unreliable, and prices tend to be relatively high.

The second significant policy measure implemented to transform Cuba's non-sugar agricultural sector was the transfer of idle State-owned land to cooperatives and individual producers after the approval of Decree-Law 259 in July 2008. The implementation of this measure is somewhat paradoxical since there is a significant amount of idle lands (1,758, 962 hectares), a valuable human capital, a significant number of research centers and experimental stations, with proven results, and available technology, but since the collapse of the Soviet Union and the disintegration of the Socialist Camp in the early 1990s, the Cuban economy has been forced to import significant volumes of food, many of which can be produced domestically under more favorable conditions.

Decree-Law 259 clarifies important aspects of Cuba's most recent "agrarian reform," the conditions of *usufruct* under which idle State-owned lands will be transferred to cooperatives and individual producers, the terms of economic ownership related to this property form, and its relation to legal ownership (Nova Gonz ález, 2010). It also helps to clarify important aspects, which until recently, remained unclear or undefined such as the period of time for which the *usufruct* is established, which helps define its economic ownership and legal ownership, and the collection of taxes and rents by the State.

In addition, the Decree-Law 259 incorporates some elements that were not taken into consideration in previous agricultural reform measures, such as the duration of transfers to natural persons (10 years, renewable leases, regardless of the type of crop harvested), and the transfers of land to legal entities such as cooperatives (Nova Gonz ález, 2010). One interesting feature that distinguishes Decree Law 259 from previous legislation is that the

terms of the *usufruct*, or lease agreements, are standardized for specific periods regardless of the types of crops produced, the modes of production used to generate this output, and whether or not the crops are considered short-cycle or long-cycle, and the type of livestock raised by producers (Nova González, 2010).

The degree of investment intensity related to agricultural production varies according to the type of crop produced, or the type of livestock raised. Some products and forms of livestock are more labor and capital intensive than others, and due to their seasonal nature require different quantities of labor and physical and financial capital Pursuant to Article 15 (of Decree Law 259), once finalized, the terms of the *usufruct* allow producers to receive payment or compensation from the State for *bienhechurias*, or infrastructure or physical improvements to the land and facilities used for production, with the exception of housing built by individual producers or cooperatives. This constraint or limit provides a distorted incentive to make the minimum investment required, prevents the agricultural producers permanently settling in their newly acquired lands (leased from the State), and explains why most of them despite the positive advances made by Decree Law 259, consider themselves as transient (non-permanent) producers. In reality, as Nova González (2009, 2010) indicates, the successful transformation of Cuba's agricultural sector requires the *recampesinización*, or the re-population of the countryside; without significant and long-lasting increases in the quantity of farmers, technicians, and administrative and managerial personnel dedicated to agriculture, there is no guarantee and stability of a sustainable agricultural production (Nova González, 2009, 2010).

Cuba's newly decentralized agricultural model must recognize that agricultural producers require certain facilities to store and preserve the essential inputs, animals, seeds, supplies, and equipment, among others. To stimulate the migration of labor from other areas of the economy into agriculture, policies that provide economic incentives for investment in physical infrastructure and promote long-term commitments to agriculture are being contemplated. To ensure the success of this decentralized model of agricultural production, where regional and local producers are expected to develop strong linkages with the land in which they work, and consumers and suppliers in their respective "markets," producers and administrative and managerial personnel need to live near or on the locations where production takes, a sense of permanence and consistency must be encouraged and developed, and the linkages between producers and the lands in which production takes place must be strengthened over time (Nova González, 2010).

By the end of 2009, some 920,000 hectares of idle State-owned lands had been transferred to more than 100,000 applicants, representing 52% of the total (Nova González, 2010). Until January 2010, there had been 121,711 applications, of which 98% are natural persons, of which approximately 79% were previously landless (Nova González, 2010). At the present time, it is estimated that 35% of the land delivered has been planted or cultivated (Nova González, 2010). Considering the original conditions of the majority of this land, and the wide range of challenges, constraints, and difficulties that non-State agricultural producers still face, this is indeed a remarkable accomplishment.

Yet, despite the notable increases in the number of applications from both cooperatives and individual producers, the transfer of idle State-owned lands to non-State producers has been characterized by a series of bureaucratic hurdles and impediments, which still present serious difficulties. According to the provisions of Decree Law 282, nine (9) documents are required for processing of application for the transfer of land in *usufruct* (Nova González, 2010). To file a complaint or appeal, applicants are required to complete and submit

thirteen (13) documents, and from the time the applicant files the application for the transfer of land with the municipal director of the *Centro Nacional del Control de la Tierra* (National Center for Land Control), the office has thirty (30) days to review the application, and draft or prepare the required documentation, and up to sixty (60) days to conduct the necessary surveys and medical examinations of the livestock to be transferred from State ownership to the non-State sector (Nova González, 2010).Once the necessary documents are drawn, the municipal director of the National Center for Land Control presents them to the municipal delegate of agriculture in the term of three (3) days, and the latter has thirty (30) days to review and approval of grant of the requested transfer in *usufruct* or requested (Nova González, 2010).

Theoretically, it can take at least sixty-three (63) days, from the beginning of the application to lease idle lands or livestock from the State for a predetermined period of time, under the conditions previously described, until the formal documents are approved and issued, assuming that process transpires normally and does not require additional field surveys or measurements, and other bureaucratic steps or procedures. In such cases, the time needed to clear existing bureaucratic hurdles and effectively transfer the land or livestock from the State to the cooperative or private sectors can theoretically take ninety-three (93) days or even longer.

Another important measure in Cuba's road towards a more flexible and decentralized agricultural model was the transfer of the collection activities, assigned to the State-owned procurement agency, *Acopio*, to the Ministry of Domestic Trade (*Ministerio del Comercio Interior*, MINCIN). For many experts in Cuban agriculture, this is considered as a road already traveled. In 1976, procurement was transferred from the Ministry of Agriculture (*Ministerio de la Agricultura*, MINAGRI), but then returned to it after the "Rectification Process" (RP) in 1986. Transferring *Acopio's* functions to the MINAGRI would be a more logical and appropriate step to improve the operational and administrative efficiency of Cuba's cumbersome system of agricultural procurement (Nova González, 2010).

At the present time, Cuba's agricultural procurement and marketing system is hindered by a highly regulated market, the distortions related to monetary dualism, and insufficient output, particularly by the cooperative sector (which includes the *Unidades Básicas de Producción Cooperativa*, UBPCs, and the *Cooperativas de Producción Agropecuaria*, CPAs). Despite recent efforts, the marketing function, which includes the distribution and exchange of agricultural products, is characterized by delayed payments, insufficient collection capacity on the part of *Acopio*, and the lack of material incentives and credit financing to stimulate and incentivize production (Nova González, 2010).

Another key measure in the transformation of Cuba's non-sugar agricultural sector has been the decentralization and the restructuring of the functions of the ministries responsible for the administration, implementation, and oversight of the country's agricultural policies. The municipality as an increasingly autonomous economic unit is as the center of this new strategy. The newly-considered model of decentralized decision making identifies the municipality as the principal actor responsible for making rational economic decisions and implementing the required strategies within its territorial boundaries. At the present time, each municipality has established a Municipal Delegation of agriculture (169 in total), which is primarily responsible for managing the transfers of idle State-owned lands and State-owned livestock to the non-State sector, to promote and stimulate the development of three (3) "core" modalities of production: (1) urban agriculture, (2) suburban agriculture, which covers a span of about 10 km from the periphery of cities and urban centers, and (3) and

productive or conventional poles (Nova González, 2010). During the testing phase of this model in 2010, the MINAG selected 16 municipalities plus the special municipality of *Isla de la Juventud*, a total of 17, to carry across the combination of these three scenarios. Participation was extended to all the entities that produce food in the municipality, whether or not under the responsibility of the Ministry of Agriculture (UBPCs, CCS, CPAs, State-owned farms, etc.) (Nova González, 2010).

In addition, the Ministry of the Economy and Planning (MEP) has also selected five (5) municipalities that are supporting financially and decentralized forms of economic management, for investigation on solutions on the substitution of imports, export generated funds, on the food and employment problem (Nova González, 2010). The MEP also implemented a series of internal reforms to simply the State apparatus and structures that deal or are in some ways related with the production, distribution, and consumption of agricultural products. The first step in this direction was the unification of the Ministry of the Food Industry (*Ministerio de la Industria Alimenticia*, MINAL) with the former Ministry of Fisheries after the approval of Decree-Law 287 and Decree-Law 294 in 2011.

Decree-287 also transferred some of the functions of the Sugar Ministry (MINAZ) to the Ministry of Agriculture (MINAG) and to the Ministry of the Economy and Planning (MEP). MINAG was assigned regulatory and supervisory functions such as managing land dedicated to sugar production, enforcing industrial and environmental regulations, and overseeing the commercialization of refined sugar and sugar derivatives. The MEP is now responsible for managing State investments in the sugar sector, and the Ministry of Trade and Foreign Investment (MINCEX) is responsible for implementing export policies and managing foreign investment in agriculture.Decree-law 294 replaced the Ministry of Sugar (MINAZ) with a holding company, *Grupo Azucarero AZCUBA*, responsible for managing all economic and investment activities relates to the sugar Agro-Industry. *AZCUBA* is a diversified holding company, comprised of twenty-five specialized subsidiaries, organized to manage sugar production and exports.

The approval of Agreement 6853 on June 24, 2010 represented another important step in the transformation of Cuba's non-sugar agriculture sector. This policy measure authorizes the commercialization (or trade) of agricultural products in roadside kiosks (or "points of sale") operated by agricultural cooperatives or state enterprises. Producers or their representatives are authorized to sell their excess output, after their quotas to the state have been delivered (or met) (Gaceta Oficial de Cuba, 2010). Agricultural producers or their representatives are required to pay taxes and/or fees for the use of these kiosks (or "points of sale) as stipulated by Resolution 206 issued by the Ministry of Prices and Finance. According to Resolution 206, sellers in the kiosks (or "points of sale") established by Agreement 6853 are required to pay a sales tax of 5%, based on their daily gross sales, plus a fee of 2% of the value of their reported gross sales for the use of the kiosks and related facilities, and self-employed workers (who work on these kiosks) are required to make social security contributions (González-Corzo, 2013)

The approval of Agreement 6853 (2010) represents a step in the right direction. However, certain provisions limit its potential. First, the entities or administrative units that administer the kiosks (or "points of sale") are a State-owned entity, which implies that the State will continue to play a significant role in the administration of the important sales venues. Second, producers that use these venues to commercialize their agricultural products must first fulfill their delivery quotas to the State at prices and amounts established by the latter. These conditions limit the autonomy of participants in the kiosks (or "points

of sale") in terms of determining output prices and quantity, and are likely to contribute to imbalances between supply and demand.

The decentralization of Cuban agriculture was further expanded with the approval of Resolution 90 by the Central Bank of Cuba (BCC), Resolution 122 by the Ministry of Agriculture (MINAG), Resolution 369 by the Ministry of Finance and Prices, and Resolution 121 by the Ministry of Tourism (MINTOUR) in 2011. These policy measures facilitated the decentralized commercialization of a selected group of agricultural products and Tourism Enterprises; authorized non-state producers such as cooperatives and private farmers to sell part of their output directly to such enterprises; and created a new entity, FINTOUR, S.A., to provide credit financing to tourism enterprises engaged in direct commercialization with participating agricultural producers (González-Corzo, 2013).

The approval of Decree-law 289 and Resolution 99 in 2011 formalized the extension of agricultural credits (from state-owned Banks) to non-state agricultural producers, representing another step towards a more flexible agricultural model. Decree 289 establishes the legal framework for the provision of agricultural credits to non-state production units, including self-employed workers, as well as for individuals wishing to obtain credit finance for home improvements and repairs. Decree-law 289 allows self-employed workers and private farmers earning more than 50,000 pesos (CUP) to open a business account; it also lifted existing ceiling of 3,000 pesos (CUP) on bank loans to natural persons, and eliminated the 100 convertible peso (CUC) limits on payments by State Owned Enterprises (SOES) to self-employed workers, who provided goods and services to SOES, on a contractual basis (González-Corzo, 2013).

Resolution 99, approved by the Central Bank of Cuba (BCC) in November 2011, authorized the extension of bank-based credit financing (up to 500 pesos-cup) to non-state agricultural producers (e.g. cooperatives and private farmers). Resolution 99 allows non-state agricultural producers to obtain credit financing to purchase and repair equipment, procure inventory, and obtain other essential inputs, including the costs of replanting and reconditioning previously-planted fields (González-Corzo, 2013). Depending on the borrower's circumstances and the nature (or purpose) of the loan, it can be amortized using any source of income, for periods of 18 to 60 months (González-Corzo, 2013).

The economic transformation of Cuba's agricultural sector was accelerated after the ratification of the "Guidelines" ("Lineamientos de la Política del Partido y la Revolución") after the 6th party Congress of the Communist Party (PPC) on April, 2011. As Nova González (2013) indicates, Cuba's Agricultural Sector confronts three (3) principal unresolved issues: (1) the need to achieve the "Realization of Property,"[1] the need to recognize (and accept) the existence and role of the market, and the inexistence of a systemic strategy through the productive cycle that would reflect its complex microeconomic and macroeconomic interrelations.

Several policies responses have been recommended and discussed to address or resolve these issues. These include: (1) the creation and development of input markets where agricultural producers can obtain essential inputs and supplies, (2) granting greater autonomy to agricultural producers, allowing them to decide how much output to produce, where to sell it

[1] The concept of the "realization of property" refers to the right of producers to have complete autonomy in determining output levels, choosing the final destination of their output, and determining its price; and having the ability to directly access input markets to obtain the essential inputs to close the productive cycle (Nova González, 2013).

and whom to sell it to, based on market conditions and social requirements, (3) facilitating diverse forms of agricultural commercialization as an alternative to the State monopoly, (4) allowing agricultural producers to freely hire labor, and (5) providing new and existing agricultural producers with adequate financial and technical support (Nova González, 2013). The Guidelines offer several proposals to address the aforementioned unresolved issues confronted by Cuba's agricultural sector. With regards to the creation of input markets where agricultural producers will be able to obtain essential inputs, the "Guidelines" indicate that such wholesale markets will be able to purchase or lease equipment, machinery, and other essential inputs, with the objective of increasing producer autonomy, limiting State intervention, and recognizing the participation of non-state forms of production (Nova González, 2013).

With regards to prices, the "Guidelines" explicitly state that the State will retain full discretion over price regulations, and prices will be established according to the plan (i.e. prices will be centrally-determined), taking into account the social and economic functions of the products and services for which prices will be centrally-determined by the State (Nova González, 2013). At the same time, mechanisms that allow the creation other prices by the Enterprise Sector will be approved, taking into account the interests of the nation, rather than those of the enterprise, as well as sectoral and territorial considerations (Nova González, 2013). The Guidelines state that prices will be centrally-established in accordance with efforts to "update" the country's economic model (Nova González, 2013).

The Guidelines contain several contradictory provisions that hinder the development of a more flexible system for the commercialization of agricultural products. Article 27, under "Economic Procurement Model," states that surplus agricultural production (i.e. production above the State established quotas) cannot be sold directly to the population through intermediaries; this provision hinders producer autonomy and limits their ability to achieve "The Realization of Property" (Nova González, 2013). Conversely, Article 183 proposes the transformation of the system of agricultural commercialization by simplifying the supply chain between producers and consumers, including the possibility of allowing producers to reach consumers through their own means (or resources) (i.e. via direct sales or commercialization) (Nova González, 2013). Along similar lines, Article 304 aims to restructure retail and wholesale agricultural commerce through more flexible arrangements in order to simplify the linkages between producers and consumers, taking into account economic conditions and the diversification of production and property forms (Nova González, 2013).

The Guidelines also provide for greater producer autonomy with regards to hiring labour by considering the expansion of employment in the non-state sector, as an alternative modality closely aligned with emerging production and property forms. In that respect, the Guidelines are closely synchronized with Resolution 32 and Resolution 33 of the Ministry of Labor and Social Security (MTSS), which authorized a new form of self-employed agricultural worker and regulate labor hiring practices by cooperatives and self-employed workers (Nova González, 2013).

Finally, with regards to providing new and existing agricultural producers with adequate financial support and training, Article 50 of the Guidelines identifies the implementation of policies to support those activities that stimulate national production and the provision of bank loans (or credit) to facilitate the expansion of the non-state sector as its principal goals (Nova González, 2013). Other policy objectives include applying a differentiated tax regime to stimulate agricultural production, the expansion of insurance programs to cover

agricultural producers, and the development of specialized banking and financial services to meet their needs, including non-state producers who received land in usufruct after the approval of Decree-law 259 in 2008 (Nova González, 2013).

The approval of Decree-Law 300 on October 2012 expanded the principal provisions of Decree-Law 259 (2008) with regards to the transfers of idle State-owned lands to non-State producers (e.g., cooperatives and private farmers) in usufruct. Decree-Law 300 expanded the maximum number of hectares that could be transferred to non-State producers (in usufruct) to 67.1; it also permitted individual (or private) agricultural producers operating under this new modality to become affiliated with cooperatives other than the Credit and Services Cooperatives (CCS). Under Decree-Law 300 (2012), private farmers can also associate themselves with Cooperatives of Agricultural Production (CPA) or Basic Units of Cooperative Production (UBPCs); in addition, they are allowed to use alternative channels to procure essential inputs and distribute their output, once delivery quotas with the State have been fulfilled (González-Corzo, 2012).

In 2013, the Cuban government introduced several regulatory updates to further transform the agricultural sector. These primarily consist of policy measures to expand the sales of agricultural products to tourism enterprises, facilitate the direct commercialization of agricultural products (on an experimental basis) in the provinces of Havana, Mayabeque, and Artemisa, and restructure the Ministry of Agriculture (MINAG). The approval of Resolution 58 by the Ministry of Agriculture (*MINAG*), Resolution 352 by the Ministry of Finance and Prices, and Resolution 37 by the Ministry of Tourism (*MINTUR*) on September 2013 represent another step towards the transformation of the regulations governing the direct sales of agricultural products to tourism enterprises in Cuba. These measures supplement Resolution 122, which was approved in 2011. Their principal provisions include the authorization of direct sales of agricultural products in Cuban pesos (CUP) to tourism enterprises, without State intermediation, by all types of agricultural producers, including individual (private) farmers, and the expansion of authorized products to include: fresh cut flowers, gardening services, floral arrangements, dry spices, and eggs. According to Resolution 9 (June 2013), prices can be directly determined by buyers and sellers. Resolution 9 also establishes the implementation of a "transaction fee" of 9 Cuban pesos (CUP) for every convertible peso (CUC) generated from the direct sale of agricultural products to tourism enterprises (by ALL types of agricultural producers). In accordance with Decree-Law 112 (2012), *Casa Financiera, S.A.* and other financial and banking institutions will collect a 5% (sales) tax payment from tourism enterprises.

The approval of Decree-Law 318 and Resolution 673 by the Ministry of Agriculture (*MINAG*) on October 2013 authorized the creation, on an experimental basis, of non-agricultural cooperatives in some of the previous locations of the *Mercados Agropecuarios Estatales* (MAEs) [State Agricultural Markets] in Havana, Artemisa, and Mayabeque provinces. Nationwide expansion is planned by 2015. Their principal objective is to decentralize the commercialization of agricultural products by facilitating the creation of "*mercados de abastos*" (wholesale markets) where agricultural producers and or authorized intermediaries can offer their products at wholesale prices. The approval of Decree-Law 318 and Resolution 673 represents the implementation of *Lineamiento 181* (which basically proposed the calibration between supply and demand in agricultural markets), and *Lineamiento 183* (which focused on steps to improve the commercialization of agricultural products).[2] These

[2] The term "Lineamientos" refers to the "*Lineamientos de la Política Económica y Social del Partido y la Revolución*" – or the "Social and Economic Guidelines of the Party and the Revolution" (commonly referred to as the "Guidelines") –

measures are applicable to ALL types of agricultural producers in the State and Non-State sectors, including a new category of intermediary officially labeled as "*carretilleros*" (street cart vendors). The principal provisions of Decree-Law 318 and Resolution 673 include:

- The creation of Provincial Administration Councils responsible for implementing, and overseeing policies, determining the location of retail outlets and zones of operation for the "*carretilleros*," and regulating direct sales of agricultural products to Centers of Social Consumption such as hospitals, schools, daycare centers, dinning commons (*comedores*), etc.
- Beef, fresh milk, coffee, selected honey products, tobacco, and cocoa are excluded. Potatoes are subject to "social consumption requirements" (defined by the State).
- State producers (e.g., State farms, enterprises, etc.) are authorized to participate; the same applies to Non-State producers such as UBPCs, CPAs, CCSs, private farmers, and self-employed worker (a newly-authorized producer category).
- Authorized agricultural products may be distributed in the following outlets: *Mercados Agropecuarios Estatales (MAEs)*, *Mercados de Oferta y Demanda (MOD)*, *Mercados Arrendados (*a newly-created outlet type leased by the State to Non-State producers), *Puntos de Ventas (*stalls, or kiosks located in neighborhoods, rest stops on the highway, etc.).[3]
- Retail prices will be set by the Ministry of Finance and Prices for fixed price products; producers that operate in MAEs that have been converted to non-agricultural cooperatives can set their own prices, but these must be approved by the Ministry of Finance and Prices.
- As an initial part of the experiment, some MAEs will be converted into "*mercados de abastos*" – located in Havana City only- which would allow enterprises and other entities to buy agricultural products directly from State and Non-State producers.
- Cooperatives that participate in these markets will be exempt from taxes for the first three months; self-employed workers can also participate, but will receive a different tax treatment (as part of the efforts to prioritized cooperatives, which are considered a superior, and more socialized, property form).

The efforts to restructure the Ministry of Agriculture (MINAG) announced in early 2014 represent another key element of Cuba's agricultural transformations. These efforts are divided into three (3) phases. The first phase consists of updating the MINAG budget system. Phase two considers the creation of Provincial Enterprises (*Empresas Provinciales*) and during phase three it is expected that the Provincial and Municipal Administrative Councils will be phased out. The following measures are also planned: (1) transferring Provincial Enterprises to Provincial Administration, (2), the consolidation of 15 existing Agricultural Research Stations with similar institutions in the Ministry of Science, Technology, and the Environment (CITMA).

3. Recent Performance (2007 - Present)

approved by the 6th Congress of the Communist Party of Cuba (PCC) on April 18, 2011. The "Guidelines" are the framework that broadly delineates Cuba's economic policies since the 6th Party Congress.

[3] The retail agricultural outlets operated by the Youth Work Army (EJT) are excluded from Decree-Law 318, and will continue to operate as in the past.

Table 1 presents the distribution of land in Cuba at the end of 2013.

Table 1. Cuba: Land distribution based on tenure form, 2013 (thousand hectares)

			Non-State Sector			
	Total	State Sector	Total	UBPC	CPA	CCS and Private Farmers
Total	10,988.4	5,932.1	5,056.3	1,952.0	614.3	2,490.0
Agricultural Surface	6,342.4	1,851.7	4,490.7	1,677.5	521.5	2,291.7
Cultivated (or harvested) Surface	2,645.8	471.8	2,174.0	851.3	264.9	1,057.8
Non-agricultural Surface	4,646.0	4,080.4	565.5	274.5	92.8	198.3

Source: Oficina Nacional de Estadísticas e Información (2014).

As Table 1 indicates, Cuba's arable land (or total agricultural surface) (6.3 million hectares [ha]), represented 57.7% of the country's total land (10.9 million ha). Approximately 41.7% of the arable land was harvested (or under cultivation) in 2013. While the State sector holds 54% of Cuba's total land (5.9 million ha), only 29.2% of arable land is held by the State (1.9 million ha), out of which 25.4% (472,000 ha) were harvested (or under cultivation) at the end of 2013 (Table 1).

The non-State sector, which includes the Basic Units of Cooperative Production (*Unidades Básicas de Producción Cooperativa*, UBPC), Cooperatives of Agricultural Production (*Cooperativas de Producción Agropecuaria*, CPA), Credit and Services Cooperatives (*Cooperativas de Créditos y Servicios*, CCS) and private farmers (*privados)*, has seen its share of total land, arable land (or agricultural surface), and land under cultivation increase significantly since 2008 (Table 1). At the end of 2013, 46% of Cuba's total land (5 million ha), and 70.8% of the country's arable land (4.5 million ha) were held by the non-State sector. Close to half (48.4%) of the arable land (2.2 million ha) held by the non-State sector were harvested (or under cultivation), representing 84.6% of the country's area under cultivation (2.6 million ha) (Table 1).

Table 2 shows the areas planted and under production for selected crops in Cuba's non-sugar agricultural sector during the 2008-2013 period.

Table 2. Cuba: Areas planted and under production, selected crops, hectares.

CROPS	2008	2009	2010	2011	2012	2013	Chg.	% Chg.
Viandas[(a)]	279,752	352,452	363,041	295,844	271,957	297,326	17,574	6.3%
Roots and tubers	196,122	246,033	243,834	200,993	190,725	228,507	32,385	16.5%
Potato	9,789	12,480	8,671	7,365	6,375	4,941	-4,848	-49.5%
Boniato	58,934	78,496	79,792	45,638	47,522	48,273	-10,661	-18.1%
Malanga	26,581	27,027	19,795	16,242	15,305	16,400	-10,181	-38.3%
Plantains	83,630	106,419	119,207	94,851	81,232	68,819	-14,811	-17.7%
Bananas	23,413	33,034	27,152	28,474	18,135	13,638	-9,775	-41.7%
Plantains	60,217	73,385	92,055	66,377	63,097	55,181	-5,036	-8.4%
Vegetables	259,073	278,561	236,569	211,610	202,897	214,026	-45,047	-17.4%
Tomato	62,124	69,170	49,057	54,955	49,009	54,286	-7,838	-12.6%
Onions	11,056	11,586	9,766	10,713	9,175	11,620	564	5.1%
Pepper	6,969	7,227	5,797	5,618	6,311	7,825	856	12.3%
Cereals	284,736	419,732	402,037	351,364	356,261	375,996	91,260	32.1%
Rice	155,514	215,751	176,429	208,046	202,708	197,824	42,309	27.2%
Corn	129,222	203,981	225,608	143,318	153,553	178,172	48,950	37.9%
Legumes	95,306	150,584	112,712	123,914	123,434	119,775	24,469	25.7%
Beans	95,306	150,584	112,712	123,914	123,434	119,775	24,469	25.7%
Tobacco	23,048	24,861	20,256	13,631	16,130	12,906	-10,142	-44.0%
Citrus Fruits	45,635	47,921	43,149	33,391	26,155	20,290	-25,345	-55.5%
Oranges	30,628	31,907	26,046	18,988	13,500	11,222	-19,406	-63.4%
Grapefruit	13,207	12,424	13,075	11,093	9,895	7,605	-5,603	-42.4%
Lemon	898	1,116	879	836	754	656	-242	-26.9%
Other Fruits	83,058	91,662	96,890	80,781	79,439	83,472	414	0.5%
Mangoes	24,972	37,276	30,790	29,531	29,961	30,585	5,613	22.5%
Guava	10,116	13,035	11,660	8,525	8,704	10,093	-23	-0.2%
Papaya	4,406	5,427	7,979	5,800	5,824	6,186	1,781	40.4%
Cocoa	3,800	5,089	5,114	5,153	4,203	4,303	503	13.2%

[(a)] Includes Roots and Tubers and Plantains.

Source: Oficina Nacional de Estadísticas e Información (2014).

As Table 2 indicates, between 2008 and 2013, the areas planted and under production increased in five (5) out of the nine (9) categories of non-sugar agricultural crops reported by the National Statistics Office as follows: *viandas* (6.3%), cereals (32.1%), legumes (25.7%), other fruits (0.5%), and cocoa (13.2%). Conversely, during the same period, the areas planted and under production declined in the following crop categories: plantains (-17.7%), vegetables (-17.4%), tobacco (-44%), and citrus fruits (-55.5%) (Table 2).

Table 3 shows physical output levels for selected (non-sugar) crops in Cuba during the 2008-2013 period.

Table 3. Cuba: Non-sugar agricultural production, selected crops, tons.

CROPS	2008	2009	2010	2011	2012	2013	Chg.	% Chg.
Viandas[(a)]	2,150,700	2,236,000	2,250,000	2,280,000	2,337,000	2,239,000	88,300	4.1%
Roots and tubers	1,392,500	1,565,600	1,515,000	1,445,000	1,452,000	1,580,500	188,000	13.5%
Potato	196,100	278,600	191,500	165,600	130,933	106,700	-89,400	-45.6%
Boniato	375,000	437,100	384,743	311,900	335,319	396,347	21,347	5.7%
Malanga	240,000	199,400	137,400	132,100	153,782	185,922	-54,078	-22.5%
Plantains	758,200	670,400	735,000	835,000	885,000	658,500	-99,700	-13.1%
Bananas	280,800	245,400	249,200	250,000	195,496	150,336	-130,464	-46.5%
Plantains	477,400	425,000	485,800	585,000	689,504	508,164	30,764	6.4%
Vegetables	2,439,300	2,548,800	2,141,035	2,200,000	2,112,000	2,406,500	-32,800	-1.3%
Tomato	575,900	750,000	517,040	601,000	557,100	678,000	102,100	17.7%
Onions	128,100	131,300	111,737	143,500	118,244	126,876	-1,224	-1.0%
Pepper	63,677	56,672	44,545	55,057	62,202	73,336	9,659	15.2%
Cereals	761,700	868,400	778,863	920,400	1,002,000	1,098,800	337,100	44.3%
Rice	436,000	563,600	454,400	566,400	641,600	672,600	236,600	54.3%
Corn	325,700	304,800	324,463	354,000	360,400	426,200	100,500	30.9%
Legumes	97,200	110,800	80,439	133,000	127,100	129,800	32,600	33.5%
Beans	97,200	110,800	80,439	133,000	127,100	129,800	32,600	33.5%
Tobacco	21,500	25,200	20,500	19,900	19,500	24,000	2,500	11.6%
Citrus Fruits	391,800	418,000	345,000	264,500	203,700	166,900	-224,900	-57.4%
Oranges	200,400	261,000	178,263	122,900	93,837	85,110	-115,290	-57.5%
Grapefruit	166,100	121,500	137,660	112,000	84,741	63,979	-102,121	-61.5%
Lemon	5,400	8,300	6,060	6,600	6,475	5,025	-375	-7.0%
Other Fruits	738,500	748,000	762,045	817,000	964,900	925,000	186,500	25.3%
Mangoes	228,700	269,300	203,595	185,000	286,385	285,526	56,826	24.8%
Guava	126,500	84,900	71,581	85,000	103,191	124,964	-1,536	-1.2%
Papaya	89,400	95,700	135,707	135,000	178,558	197,842	108,442	121.3%
Cocoa	1,100	1,387	1,709	1,510	2,027	1,425	325	29.5%

[(a)] Includes Roots and Tubers and Plantains.

Source: Oficina Nacional de Estadísticas e Información (2014).

Production in six (6) of the nine (9) reported categories of (non-sugar) crops increased as follows during the 2008-2013 period: *viandas* (4.1%), cereals (44.3%), legumes (33.5%), tobacco (11.6%), other fruits (25.3%), and cocoa (29.5%). These output levels, however, were significantly lower than in 1989, the last year before the onset of the "economic crisis of the 1990s" and the disintegration of the Socialist Camp and the Soviet Union in the early 1990s. By contrast, output declined in the following three (3) crop categories during the same period: plantains (-13.1%), vegetables (-1.3%), and citrus fruits (-57.4%) (Table 3). The variability of physical output in Cuba's non-sugar agricultural sector between 2008 and 2013 was attributed to several factors such as adverse weather conditions (e.g. drought, hurricanes), difficulties in obtaining essential agricultural inputs, existing limitations with regards to the "realization of property" (as discussed earlier), price controls, problems an inefficiencies related to the commercialization of agricultural products, insufficient warehousing and storage capacity, logistical difficulties associated with the transportation and cold storage of agricultural products, soil erosion and degradation, insufficient irrigation capabilities, and other

administrative, organizational, and structural problems (Mesa-Lago, 2012; Nova González, 2013a; Spadoni, 2014).

Agricultural yields for selected (non-sugar) crops during the 2008-2013 period are shown on Table 4.

Table 4. Cuba: Agricultural yields, selected crops, tons per hectare

CROPS	2008	2009	2010	2011	2012	2013
Viandas[(a)]	7.69	6.34	6.20	7.71	8.59	7.53
Roots and tubers	7.10	6.36	6.21	7.19	7.61	6.92
Potato	20.03	22.32	22.09	22.48	20.54	21.59
Boniato	6.36	5.57	4.82	6.83	7.06	8.21
Malanga	9.03	7.38	6.94	8.13	10.05	11.34
Plantains	9.07	6.30	6.17	8.80	10.89	9.57
Bananas	11.99	7.43	9.18	8.78	10.78	11.02
Plantains	7.93	5.79	5.28	8.81	10.93	9.21
Vegetables	9.42	9.15	9.05	10.40	10.41	11.24
Tomato	9.27	10.84	10.54	10.94	11.37	12.49
Onions	11.59	11.33	11.44	13.39	12.89	10.92
Pepper	9.14	7.84	7.68	9.80	9.86	9.37
Cereals	2.68	2.07	1.94	2.62	2.81	2.92
Rice	2.80	2.61	2.58	2.72	3.17	3.40
Corn	2.52	1.49	1.44	2.47	2.35	2.39
Legumes	1.02	0.74	0.71	1.07	1.03	1.08
Beans	1.02	0.74	0.71	1.07	1.03	1.08
Tobacco	0.93	1.01	1.01	1.46	1.21	1.86
Citrus Fruits	8.59	8.72	8.00	7.92	7.79	8.23
Oranges	6.54	8.18	6.84	6.47	6.95	7.58
Grapefruit	12.58	9.78	10.53	10.10	8.56	8.41
Lemon	6.02	7.44	6.89	7.89	8.59	7.66
Other Fruits	8.89	8.16	7.87	10.11	12.15	11.08
Mangoes	9.16	7.22	6.61	6.26	9.56	9.34
Guava	12.51	6.51	6.14	9.97	11.86	12.38
Papaya	20.29	17.63	17.01	23.28	30.66	31.98
Cocoa	0.29	0.27	0.33	0.29	0.48	0.33

[(a)] Includes Roots and Tubers and Plantains.

Source: Oficina Nacional de Estadísticas e Información (2014).

Between 2008 and 2013, agricultural yields increased in seven (7) out of the nine (9) crop categories shown on Table 4. These were: plantains, vegetables, cereals, legumes, tobacco, other fruits, and cocoa. However, yields for *viandas* and citrus fruits decreased slightly during the same period.

4. Towards a New Agricultural Model

Despite representing only about 5% of GDP, due to its indirect economic contributions,

positive externalities (or "spillover effects"), and strong linkages with the rest of the economy, agriculture plays a key role in the Cuban economy (Nova González, 2013a). Cuba's agricultural sector is also an important source of employment, a significant consumer of raw materials, intermediate, and finished goods, and one of the country's principal generators of renewable energy (Nova González, 2008).

Since the onset of the "economic crisis of the 1990s," following the disappearance of the Eastern European Socialist Bloc and the former Soviet Union, Cuban agriculture has been affected by declining production levels, higher external sector dependency, and increased hard currency expenditures to finance growing agricultural imports (Nova González, 2013a;González-Corzo & Nova González, 2013). Starting in 2007, the Cuban government has implemented a series of economic transformations to increase domestic agricultural production and reduced the country's dependency on agricultural imports and is food and agricultural vulnerability. These include structural and administrative transformations such as the transfers of idle State-owned lands (in usufruct) to non-State producers, moderate price reforms, the decentralization of decision-making and administrative functions, the consolidation of several Ministries responsible to agricultural policies and regulation, and gradual (experimental) transformations with regards to the commercialization of agricultural products (Mesa-Lago, 2012; Spadoni, 2014). So far, the most significant of these reform measures has been the transfer (in usufruct) of fallow State-owned lands to cooperatives and private farmers after the approval of Decree-Law 259 in 2008 and Decree-Law 300 in 2012 (Nova González, 2013a).

Official Cuba agricultural statistics show that there was mixed results in terms of the area planted and under production, and physical output between 2008 and 2013 (Tables 2 and 3). While both variables increased in some crop categories during this period, they decreased in others, indicating that the policy transformations initiated in 2007 had mixed effects. A simple linear regression conducted by the authors, using 2008-2013 data, to analyze the relationship between agricultural production (the dependent variable) and the area planted and under production (the independent variable) produced a correlation coefficient of 0.774 suggesting a strong (positive) linear relationship between these two variables. Our regression results also showed a coefficient of correlation (R2) of 0.599, indicating that close to 60% of the variation of the dependent variable (i.e. agricultural production) around the mean can be explained by the variation in independent variable (i.e. the area planted and under production). We believe that one of the key takeaways from these findings, which were statistically-significant at the 5% level, is that one of the palpable effects of Cuba's recent agricultural transformations seems to be the reallocation of land to the production of selected crop categories, as the country advances towards a new agricultural model.

Cuba's agricultural sector is comprised of State and non-State producers. The latter category includes the UBPCs, CPA, CCS, and private farmers. Under Cuba's new agricultural model, non-State producers account for a growing share of the country's agricultural output. While CCS and private farmers hold about 36% of the country's agricultural surface (or arable land), the produce close to 60% of its total agricultural output. According to Nova González (2013a), these non-State producers account for 56% of total cow milk production, compared to just 15% in the case of the State sector. Combined, the CCS and private farmers own more than 50% of the total cattle herd and 56% of the milk-producing cattle, and 59% of the total pork live stock in Cuba (Nova González, 2013a).

The importance of the non-State sector in Cuban agriculture has also grown in terms of its share of total employment, and overall contributions to and participation in the Cuban

economy (Nova González, 2013a; Spadoni, 2014). Approximately 20% of Cuba's economy is directly or indirectly related to agriculture; an estimated 80% of the economically-active population is directly or indirectly involved in economic activities related to agriculture; and several key sectors of the economy, such as food processing, light industry, and transportation are strongly-connected to the agricultural sector (Nova González, 2013a).

There are three (3) fundamental unresolved aspects that need to be addressed, which have significantly limited the impact of the agricultural transformations initiated in 2007. These are: (1) the need to achieve the complete (or full) "realization of property," (2) the necessity to recognize and accept the existence of the market and its complementary role in the coordination of economic activities, and (3) the absence of a systematic approach across the entire agricultural production-consumption cycle to strengthen micro and macroeconomic linkages (Nova González, 2013a).

These unresolved aspects should be addressed or resolved through the gradual implementation of policies that facilitate the consolidation of input markets, where agricultural producers can obtain or procure essential inputs at prices that correspond to the prices they can receive for their output. Policies that allow agricultural producers to determine output levels and the final destination of their output, in accordance to market conditions and social requirements, should also be implemented. The diversification of the forms of agricultural commercialization, as an alternative to monopolistic or oligopolistic forms, should also be considered. This can be accomplished through the creation of "second degree cooperatives," created through the voluntary association of a group of production cooperatives to commercialize agricultural products on their behalf, and through the authorization of direct sales by such cooperatives to agricultural markets, the food processing industry, tourism enterprises, exporters, and other entities in the Cuban economy. The diversification of the existing forms of agricultural commercialization can also be achieved through the increased participation of private farmers, the expansion of retail "points of sale," and the inclusion of participants to include commercialization cooperatives and enterprises, individual producers (or private farmers), and the State procurement agency, *Acopio*.

Another step, or policy measure, to address the unresolved aspects that affect Cuban agriculture, is the transformation of labor (or employment) relations to allow producers to freely hire the amount of labor required to maintain and increase output. This requires, of course, greater levels of producer autonomy when it comes to hiring one of the most essential inputs in Cuban agriculture: labor. Finally, agricultural producers should be provided with the financing necessary to support their operations, and periodic technical assistance to improve their results and outcomes. The forms of financing provided to agricultural producers should include short-term and long-term micro-loans, equipment loans, input financing loans, crop revenue anticipation loans, and personal home improvement and construction, and farm improvement loans, (Coffrey, 1998; Morvant-Roux, 2008). Technical assistance to help no-State agricultural producers improve their results and outcomes should include some varied forms of government extension programs, value chain development programs, certification programs, agribusiness support programs, financial services and advisory support programs, and programs to support enabling institutions (The Initiative for Smallholder Finance, 2014).

The implementation of these policy measures will facilitate the "realization of property," under which agricultural producers would enjoy greater levels of administrative and operational autonomy and with respect to their production decisions and outcomes. Their implementation would also allow for the utilization of the market as a complementary, but regulated, economic coordination mechanism to achieve more rational levels of resource utilization, and higher

levels of economic efficiency. Such process would favor the successful completion of the agricultural production cycle, under a systematic focus.

Given its long and successful participation in important clusters of non-sugar agriculture in Cuba, it is not surprising to find that under Cuba's new agricultural model non-State producers are allowed to play a larger role in the recovery and revival of this important sector of the economy. However, the expansion of the non-State sector should be conducted in gradual and regulated manner, particularly with regards to labor practices, the accumulation and transfer of assets, and health and safety standards. In this context, a strong but not antagonistic State, with the capacity to adapt and innovate, particularly on the regulatory front, but not completely malleable by the brutal forces of market capitalism, could play a vital role to ensure and promote agricultural self-sufficiency and national food security in Cuba.

References

Coffrey, E. (1998). *Agricultural finance: Getting the policies right* (Report no. 2). Food and Agriculture Organization of the United Nations (FAO). (1998). New York: United Nations.

Gaceta Oficial de Cuba. (2010). *Acuerdo 6853.* La Habana, Cuba. Gaceta Oficial de Cuba.

González-Corzo, M. (2013). Cuba's agricultural transformations: Moving towards market socialism?. In M. Font & C. Riobó (Eds.), Handbook of contemporary Cuba:

Economy, politics, civil society, and globalization (pp.97-110). Boulder, CO: Paradigm Publishers.

González-Corzo, M, &Nova González, A. (2013). U.S. agricultural exports to Cuba: Composition, trends, and prospects for the future. Choices, 28(4), 1-6.

Hagelberg, G.H. 2010. If it were just the "marabú: Cuba's agriculture 2009-2010." In J. F. Pérez-López (Ed.), Cuba in Transition, 20. Paper presented at the 20th Annual Conference of the Association for the Study of the Cuban Economy (ASCE), Miami, FL, July 29 – August 1 (pp. 32-45). Washington, DC: Association for the Study of the Cuban Economy.

Mesa-Lago, C. (2012). *Cuba en la era de Raúl Castro: Reformas económico-sociales ysus efectos.* Madrid: Editorial Colibrí

Morvant-Roux, S. (2008). *What can microfinance contribute to agriculture in developing Countries?* In S. Morvant-Roux (Ed.). *Proceedings from the International Conference of the Fondation pour l'agriculure et la ruralité dans le monde (FARM)Conference* (pp. 1-20). Paris, France. Fondation pour l'agriculure et la ruralité dansle Monde (FARM).

Nova González, A. (2006). La agricultura en Cuba: Evolución y trayectoria (1959-2005). La Habana, Cuba: Editorial de Ciencias Sociales.

Nova González, A. (2008). El sector agropecuario en Cuba. *Nueva Sociedad, 216*, 77-89.

Nova González, A. (2010). Agricultura. In O. E. Pérez Villanueva (Ed.), *Miradas a la economía cubana: II* (pp. 43-71). La Habana, Cuba: Editorial Caminos.

Nova González, A. (2013). Sector agropecuario y lineamientos. In M. Font & C. Riobó (Eds.), Handbook of contemporary Cuba: Economy, politics, civil society, and globalization

(pp. 81-96). Boulder, CO: Paradigm Publishers.

Nova González, A. (2013a). *El modelo agrícola y los lineamientos de la política económica*

y social en Cuba. La Habana, Cuba: Editorial Ciencias Sociales.

Nova González, A. (2013b). Un nuevo modelo cubano de gestión agrícola. Temas, *77*, 84-91.

Oficina Nacional de Estadísticas e Información (ONEI). (2014). *Anuario Estadístico de Cuba, 2013*. La Habana, Cuba: Oficina Nacional de Estadísticas e Información (ONEI).

Spadoni, P. (2014). *Cuba's socialist economy today: Navigating challenges and change*. Boulder, CO: Lynne Rienner Publishers.

The Initiative for Smallholder Finance. (2014). *Technical assistance for smallholder farmers: An anatomy of the market* (Briefing 07). Washington, DC.