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Assessing Cuba's Early Re-peasantisation during the Special Period and beyond (1990-2008)*

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Abstract

Cuban peasants had a significant role model in the past as they returned to the political agenda after the Revolution, and with particular emphasis during the Special Period, to confront the lack of food imports. The fall of Communism in the wider world forced Cuba to implement an alternative agriculture model that revolutionised production patterns and decentralised land structures and commercialisation. Did these changes create opportunities for small farmers during the 1990s and early 2000s? And if so, what kinds of opportunity were created? This article assesses the initial effects of re-peasantisation in terms of increasing small farmers' incomes and significance in numbers, and their contribution to national food production (considering production and productivity levels), from 1990 to the end of Fidel Castro's administration.

***Keywords*:** Cuba, small farmers, re-peasantisation, Special Period, agriculture.

Evaluando la Recampesinización Temprana en Cuba desde el Período Especial (1990-2008)

Resumen

Los campesinos cubanos tuvieron un importante rol en el pasado volviendo a la agenda política después de la Revolución, y con particular énfasis durante el Período Especial, para enfrentar la falta de importaciones de alimentos. La caída del comunismo obligó a Cuba a poner en práctica un modelo agrícola alternativo que revolucionó los patrones de producción y descentralizó las estructuras agrarias y la comercialización. ¿Crearon estos cambios oportunidades para los pequeños productores durante la década de 1990 y principios de los años 2000? Y si es así, ¿Qué tipo de oportunidades generaron? Este artículo evalúa los efectos iniciales de la recampesinización en términos de aumento de los ingresos e importancia numérica de los pequeños agricultores, así como su contribución a la producción nacional de alimentos (considerando los niveles de producción y productividad), desde 1990 hasta el final del gobierno de Fidel Castro.

Palabras clave: Cuba, pequeños agricultores, recampesinización, Período Especial, agricultura.

Introduction

Cuba seems to be a paradigmatic case where the peasantry is not an anachronism or part of the past. Cuban peasants played a significant role in the past (until the early 1900s they were the main food producers) as they returned to the political agenda after the Revolution, with particular emphasis during the Special Period, and thereafter under Raul Castro's administration, to confront the lack of food imports. The latest ONEI (2018) data available show that small farms represent 40.1% of Cuba's land structures while state farms, which in 1988 held 82% of cultivated land, now comprise 19.9% (Nova 2013; ONEI 2017). This extensive process of land reform (1959-present) and the latest Decree-Law on usufruct land delivery, enacted by Diaz Canel in 2018, motivates research into exactly why and how the 'peasants' emerged in contemporary Cuba.

Extensive empirical literature demonstrates that, for poorer countries, the importance of small farmers lies in their economic efficiency relative to larger farms and the greater amounts of productive employment they can create. Small farmers also play a significant role in reducing rural poverty and food insecurity, since they substantially contribute to supporting a more vibrant rural non-farm economy and help to limit rural-urban migration (Hazell *et al.*, 2007). When small farmers have the right incentives, they obtain higher productivity levels and apply more sustainable practices than large-scale monocultures (see for example Altieri, 2008; Ellis, 2005; Hazell *et al.*, 2007; Kay, 2006; Lipton, 2005; Nagayets, 2005). Ellis and Biggs (2001) show that small farmers generate more employment per production unit, make efficient decisions, and use family labour intensively, thereby satisfying both growth and equity objectives. Other scholars contend that the greater efficiency of small farms rests on the higher degree of (family) labour employed per hectare (Cornia, 1985; Hazell *et al.*, 2007; Heltberg, 1998; Nagayets, 2005). Ultimately, small farmers are less dependent on external inputs, agrochemicals, and expensive technologies imported from developed countries (Hazell, 2011; Holt-Gimenez, 2006; IFPRI, 2005). In the event of an external shock, such as the Special Period in Cuba, they can still produce food to feed the national population. The Cuban experience specifically represents an ideal laboratory in which to understand some of these opportunities for small farmers.

The fall of Communism in the wider world forced Cuba to implement an alternative agriculture model that revolutionised production patterns and decentralised land structures and commercialisation. Cuba became the only country in the world that was forced to reject neoliberal agrarian policies (given the socialist system adopted in 1959) and embarked instead on a nation-wide and perhaps 'temporary' agricultural experiment based on internal liberalisation, food import substitution, and sustainable small farming in order to respond to the collapse of trading relations with the Soviet Bloc. However, the opportunities of these producers have not been significantly explored or described in the early stages of Cuba's re-peasantisation -after the Special Period and before Raul Castro's real institutionalisation of food sovereignty.[1]

[1] Only Enriquez (2003) on Cuba's agricultural policy reshaping in ways that fortified small farmers, Page (2010) on the Venezuela-Cuba comparison of state-society relations within the process of re-peasantisation, and Kay (1988) before the Special Period on Peasant Collectivisation.

Although the new model significantly transformed production patterns and decentralised land structures and commercialisation, did these changes create opportunities for small farmers during the 1990s and early 2000s? And if so, what kinds of opportunity were created?

This paper is based on extensive field research in Cuba (carried out in 2006, 2008 and 2019), including semi-structured interviews. It also draws on a range of primary and secondary sources, as well as the broader academic literature on Cuba's agriculture. The paper assesses (with an empirical method) the initial outcomes of re-peasantisation in terms of increasing small farmers' incomes and significance in numbers, and their contribution to national food production (considering production and productivity levels) from 1990 to the end of Fidel Castro's administration. This method also gathers a range of qualitative and quantitative data (not previously connected to Cuba's agriculture literature) contributing to the conversation about Cuba's unique path of agriculture development since it began to address the deep economic crisis it faced in 1990. Finally, understanding the roots of Cuba's re-peasantisation can clearly add to more recent research on the scope of this process on the island's agriculture, and on recent transformations in Cuban agricultural policy and impacts on markets and production.[2]

Alternatives and Re-Peasantisation under Neoliberal Globalisation

The early 2000s witnessed significant global progress towards recognising alternatives. With the emergence of the anti-globalisation movement, and the World Social Forum in Porto Alegre (since 2001), in which rural movements through *Via Campesina* played a crucial role, academics and activists stopped talking about 'resistance to neoliberalism' and started speaking about 'alternatives to neoliberalism'. As Vergara-Camus (2017: 426) points out, 'considering the diversity and fragmented nature of the subaltern classes, we must recognise that there are all kinds of 'alternatives' to neoliberalism. They can be nationalist, populist, anti-neoliberal, anti-capitalist, anti-modernist or modernist and developmentalist, or a complex mixture of them.' Farmers' groups and NGOs, particularly in Latin America and Asia, demanded greater opportunities to discuss the implementation of these strategies (Bebbington, 2004; Giarracca, 2001; IFAD, 2011; Pretty, 2002).

Altieri and Funes-Monzote, 2012; Machín et al. 2010; Rosset and Benjamin, 1994, Rosset, 1996; Thiemann and Spoor, 2019; Wright, 2005 do not strictly or only focus on the period 1990-2008, nor on the early process of re-peasantisation per se.

[2] The author realises that the paper focusses on a very specific period, thirteen years ago, and the Cuban agricultural sector has undergone further modifications since then. The author has significantly analysed these recent developments in Botella-Rodríguez (2019, 2020) and shows that the positive trends within the peasant sector that this paper documents have continued since that time. For further developments on Cuba's agriculture, see also Mesa-Lago & González-Corzo (2020) and Mesa-Nova González & Figueroa Alfonso (2018) on recent transformations in Cuban agricultural policy and impacts on markets and production; Gürcan's (2014) analysis of Cuban agriculture restructuring shows that food sovereignty policies are built on a multidimensional strategy emerging out of a state/civil-society partnership at the local, national, and regional levels. For comparative studies, see also Enríquez (2010) on Reactions to the Market and small farmers responses/alternatives in the Economic reshaping of Nicaragua, Cuba, Russia, and China.

Furthermore, in the era of neoliberal globalisation the agrarian question has added to the historical problem of land access the question of its sustainable management.[3] Industrial agriculture is vulnerable and unable to cope with global restructuring, accelerating business deactivation processes as a reaction 'to low prices and eroded prospects' (van der Ploeg 2010: 215; see also Carter, 2015; Kay, 2019; Veltmeyer & Delgado Wise, 2018). The niche left by industrial agriculture, where it is deactivated, can be retaken by re-peasantisation, as shown by several examples in both developed and developing countries.[4] Sustainable small-scale production is more resistant to external shocks, because it is based on peasant knowledge and local ecological conditions accumulated over centuries (Dewalt, 1994). Many farmers can recognise more than 500 plant species and have inherited complex cultivation systems highly adapted to local conditions. These practices allow them to manage production sustainably in adverse environments and conditions, while managing to meet their subsistence needs without relying on mechanisation, chemical fertilisers, or pesticides (Altieri, 1995; Netting, 1993). Many of these producers are prepared for climate change, minimising crop damage and increasing the use of agroforestry and other traditional practices.[5]

Although most of these alternatives vary according to different countries and regions, many are rooted in the ecological foundations of traditional agriculture not reliant on agrochemicals and developing year-round polycropping to produce food for local markets (Denevan, 1995; Holt-Gimenez, 2006). These traditional systems have ensured food security worldwide for centuries, conserving ecological integrity through application of indigenous knowledge (Holt-Gimenez, 2001, 2006). After 4,000 years, examples of traditional agriculture can still be found in the Andes, Mesoamerica, South-East Asia, and parts of Africa, demonstrating the success of indigenous experiences of adaptability and resilience (Holt-Gimenez, 2006; Wilken, 1987). The problem is that most alternatives remain local. In other cases, they have been forced by external shocks, such as the Special period in Cuba or the global food crisis (2007-2008).

Cuba's agricultural development may be further discussed within this literature on autonomy and peasant alternatives as it provides an ideal case to examine these claims. Cuba is the only country in the world where inward-looking agricultural development has been institutionalised on a national scale. Alternative strategies are based on three pillars: 1) low-input and sustainable technologies based on small farming, with little reliance on external inputs, machinery, and imported technology; 2) food import substitution; and 3) improved access to land

[3] While 91% of the 1.5 billion hectares of cropland is devoted to agro-exports, biofuels, and transgenic soybeans, 10-15% of the 960 million hectares of cropland in Africa, Asia, and Latin America is managed by small farmers who produce about 40-60% of the total food for national consumption (Altieri 2008; Hazell *et al.* 2007).

[4] See for example Botella-Rodríguez, (2015); González de Molina et al., (2014) and van der Ploeg (2010).

[5] After Hurricane Mitch in Central America, farmers who employed sustainable practices suffered fewer losses than their neighbours who were dependent on conventional practices (Holt-Gimenez, 2006)
Among leading scholars and global policy makers there is an increasing acknowledgement of "the kernels of ecological wisdom found among the alleged 'backward people' and 'historical residues' of modernity—the peasants, indigenous communities, forest gatherers, artisanal fisher-folk and nomadic pastoralists" (Carter, 2015: 425; in Kay, 2019).

and domestic markets (via redistributive agrarian reform). Did alternative development enhance a process of re-peasantisation during the Special period? Despite persistent centralised market structures and mechanisms, early Cuban developments in food production and small farming represent a unique, working, and contemporary laboratory that requires further research and understanding.

The Forced Shift during the Special Period: Towards Re-Peasantisation

In the mid-1980s, Cuba's capital-intensive patterns of agriculture (based on large state *latifundia* engaged in sugar production) became extremely dependent on The Council of Mutual Economic Assistance (CMEA/COMECON) subsidies and trade (González, 2004). With the collapse of the Soviet Union in the early 1990s, Cuba lost the basis of its general economic policy (Canler, 2000).[6] To make matters worse, the US economic sanctions became more restrictive in the early 1990s.[7] Cuba had to reintegrate into the capitalist world with a generally non-competitive economy. The worst moment of the crisis occurred during the 1993 food crisis when average daily calorific intake declined from 2,908 to 1,863 kilocalories per person per day (Alvarez, 2004; Kost, 1998; Mesa-Lago, 2005; Nova, 2006). Within this context, the Cuban government (under Fidel Castro) was forced to declare the 'Special Period in Peacetime': a dramatic shift from dependent development (on Soviet Bloc trade relations) towards (inward-looking) domestic options.[8] De-monopolisation, deregulation, and decentralisation policies were applied to improve the country's desperate foreign exchange position, diversify the economy (strongly based on export agriculture), and attract investment in different economic sectors (e.g. tourism) (Alvarez, 2004; Nova, 2006).

Three pillars guided the new agricultural agenda during the years of the crisis: food import substitution (e.g. the National Programme of Action for Nutrition, urban agriculture); decentralisation of production and land management (based on two distinct elements: in 1993 Law Decree No. 142 established a new form of cooperative, the Basic Unit of Cooperative Production, or UBPC, on previously state-owned farms; Law Decree No. 142 also distributed in usufruct small plots of land, '*parcelas*'); and internal market liberalisation (Law Decree No. 191/94 to authorise free agricultural markets where farmers and cooperatives could sell their surplus production at free-market prices, after fulfilling their commitments to *Acopio*) (Álvarez, 2004; Fernández-Domínguez, 2005; Nova, 2006; Sinclair and Thompson, 2001).

[6] Cuban foreign trade fell by 75% during the period 1990-93, GDP dropped 30% and the fiscal deficit ballooned by 158% (Canler, 2000; ONE 1996).
By 1989 100% of cereals, 90% of beans, and 49% of rice were imported from socialist countries (Pastor 1992; Rosset and Benjamin, 1994).

[7] In 1992 the Cuban Democracy Act (CDA) prohibited sales to Cuba by foreign subsidiaries of US companies, which during the period 1980-1992 alone exported US$2.6 billion and imported US$1.9 billion from Cuba (USCTEC, 1998). In 1996 the Cuban Liberty and Democratic Solidarity Act restricted foreign direct investment flows into Cuba (Canler, 2000).

[8] The article focusses on Cuba's agriculture model. The export-led drive to massive investment in tourism, and the export of labour, remittances, and nickel should be noted.

These agricultural policies further introduced new production patterns less reliant on external inputs, and with improved techniques for soil management. From 1990 to the early 2000s, an increasing number of small farmers moved to a model based on input substitution with local alternatives (that presented lower costs than imported technologies) and a return to animal traction (Botella-Rodriguez, 2011; Funes, 2008; Rosset and Benjamin, 1994; Wright, 2005)[9]. Inward-looking policies also diversified Cuba's land tenure matrix in the early 1990s; a mixed agriculture sector was based on the state sector, the non-state sector, and the mixed sector (Alvarez, 2004; Figueroa Albelo, 1995, 2005; Martín, 2002). Within the non-state sector emerged a clear distinction between collective forms of production (UBPCs and CPAs) and private farms (CCS and small dispersed producers) (see Table 1).

Table 1. Non-State sector in Cuba (1993-2018)

	Type	**Characteristics**	**Type of holding**
Large, medium or small collective farms depending on the sectors/activities.	UBPCs	Former State farms Much smaller than State farms They mimic the family size and production patterns of CPAs in the 1990s. They buy tools, animals, etc.	Collective use of land
Collective family farms	CPAs	Voluntary associations of small producers in cooperatives to share production and technology	Voluntary partnership and handing over of land to the cooperative

[9] In 1995 *Rhizobium* substituted 75-80% of the nitrogenous fertiliser used on beans, and *Bradyrhizobium* replaced 80% of the nitrogenous fertilisers used on soya and leguminous forages. Other biological fertilizers were applied to vegetables, yucca, sweet potato, citrus, and coffee, substituting between 50% and 100% of phosphorus fertilisers in the same year (Martínez-Viera and Hernández, 1995; Funes-Monzote, 2008).
Oxen teams were cheaper to operate, did not compact the soils, could be used in the wet season much sooner than tractors, and their digestion of fodder provided required organic fertiliser. During the period 1989-1997 the use of oxen increased from 163,000 to 400,000 (Funes *et al.*, 2002; Ríos and Aguerrebere, 1998; Ríos, 2008).

Private family farms	CCSs, small individual/dispersed producers and usufructuaries (since 2008)	Tenants, agricultural employees, sharecroppers, owners who form a cooperative to organise agricultural work and obtain credits and services from the State. Plots for growing coffee, cocoa and tobacco, for example. After 2008: land under usufruct (Decree-laws 259, 300 and 358)	Own the land (private land) in usufruct under certain periods and specific conditions (at least 20 years with the implementation of Decree-Law 358 that specifies much more these conditions).

Source: based on Funes, 2008; Martin, 2002 and updated from ONEI, 2018.

As a result, Cuba's land structure underwent significant transformations. While the state sector dropped from 75% in 1992 to 35.8% in 2007, the non-state sector (made up of UBPCs, CPAs and CCSs) increased from 25% to 64.2% by 50% during the same period (ONE, 2007b). The essential change in Cuba's agrarian structure was not only the creation of UBPCs but also the gradual expansion of land (mainly in usufruct) into the hands of individual smallholders. In this context, the relationship between the peasant movement and the state is crucial in understanding the degree of success or failure of Cuba's agrarian reform and the manoeuvrability of the peasant movement (its degree of autonomy, its capacity to acquire and maintain its demands for land over time). This has special interest since the food crisis of 1993.

The creation of UBPCs in 1993 was a substantial improvement over large state-owned farms. However, these entities still faced many problems, such as the lack of further market decentralisation and access to basic inputs. [10] The gradual expansion of '*parcelas*' owned or leased by small private farmers that took place between 1989 and 2007 was crucial (Hagelberg & Alvarez, 2009; Hagelberg, 2010). They were the original steps toward Cuba's subsequent re-peasantisation under the so-called Law Decree 259 implemented by Raúl Castro in 2008, to distribute idle lands under long-term usufruct contracts, to 'anyone who wants to produce' (especially individuals, cooperatives, small farmers, and even some UBPCs) (Granma, 18 July 2008).[11] Although in 2008 51% of the land was idle, insufficiently exploited, and covered by the invasive marabou weed, this decision was directed at revitalising food production.[12] These transfers were hedged about with conditions but the mass grant in usufruct of idle state land, mainly to small farmers and the landless, was highly revisionist in concept. The Law acknowledged the greater efficiency of small-scale food production under Cuba's special

[10] UBPCs were basically former state farms divided into smaller units after the implementation of the Third Land Reform Law in 1993. Although they imitated the size and patterns of production developed in CPAs, they were large, medium, or small farms, depending on the sector.

[11] Further replaced by Law-Decrees 300 in 2012 and 358 in 2018.

[12] *Marabou* (*Dichrostachys cinerea*) is a difficult to eradicate, deep root variety of acacia, not usable for any productive purpose.

conditions. It also represented the abandonment of the long-held Cuban doctrine of the superiority of the state or parastatal, large-scale, mechanised agriculture reliant on hired labour and imported inputs (Hagelberg, 2010).

For Orlando Lugo Fonte, president of the National Association for Small Farmers (ANAP) until 2013: 'necessity made us aware' (in Machin et al., 2010). The interaction between the peasant and organic agricultural movements and the state should be highlighted as fundamental factors within Cuba's early re-peasantisation. The National Association of Small Farmers (ANAP) took advantage of and influenced the policies and programmes promoted 'from above' by the state, placing the peasantry at the forefront of Cuba's alternative. Academia also played a leading role in this process. Young researchers and officials from the Ministry of Economy and other agricultural research institutions, concerned about the limitations of the Green Revolution model in Cuba, began developing alternative practices in the 1980s. This interaction allowed them to be somewhat prepared to support the peasant movement from the early 1990s onwards (Botella-Rodríguez, 2015).

Assessing the Early Effects of Cuba's Re-Peasantisation (1990-2008)

Small farmers' capacity to respond to the challenging environment better than other actors during the Special Period, coupled with the government's decision to expand the amount of land for small holders, prompted significant changes in the structure of employment in Cuba's agriculture during the period under review. As shown by Table 1, small Cuban farmers are grouped in two distinct types of cooperatives within the non-State sector: Cooperatives of Agriculture Production (CPAs) and Cooperatives of Credit and Service (CCSs). In CPAs, small farmers own the land collectively, while in CCSs small farmers own the land individually. Usufructuaries (mainly since 2008) and individual/private farmers are also engaged in small-scale production on an individual basis, with much smaller plots than CPAs and CCSs (named as private/individual small farmers in following sections).[13] Considering cooperatives (CPAs) and private small holders (CCSs and disperse peasants), ONE data (1998) show that employment growth on CPAs stagnated between 1988 and 1998. During the same period, new agricultural developments/policies had a significant impact on the number of private small farmers (CCSs members and individual farmers). This group increased from 3% to 8.2% (Dominguez *et al.*, 2004; ONE, 1998).

More recent data on the number of small-holders who belonged to CPAs and CCSs show that members of CPAs (collective small farmers) declined from 61,963 in 1990 to 57,652 in 2008. By contrast, during the period 1994-2008, members of CCSs (private small farmers) increased from 90,000 to 273,404. Accordingly, private small-holders experienced a significantly higher

[13] There is no universally accepted definition of small-holders. Several sources define small farms as those with less than 2 hectares of cropland, with a low asset base (World Bank, 2003). Others describe small farms as those with limited resources such as land, capital, skills, and labour (Nagayets, 2005, Hazell *et al.*, 2007). Lipton (2005) defines family farms as those in which most labour and enterprise come from the family. See Table1 on Cuba's non-state sector.

compound annual rate of growth (CARG) than CPAs members during the 1990s and 2000s (see Table 2) (ANAP, 2008a, 2008b; Figueroa Albelo, 2005).

Table 2. Number of CPAs and CCSs members in different years 1990-2008

Period	Compound Annual Rates of Growth (CARG) CPAs & CCSs members (%)
1994-2008	CCSs: 8.26%
1990-2008	CPAs: -0.4%

Source: ONE, 1990, 1997, 2004, 2008b.

Data presented by Espinosa-Burquet (2004) exhibit similar trends (see Table 3). Calculating the percentage variation between 1993 and 2001, Espinosa-Burquet (2004) shows that total CCSs members rose by 155% and women engaged in CCSs increased by 129%. Young farmers (119%), technicians (719%) and professionals (1,271%) working on CCSs also increased. As Tables 2 and 3 show, increasing employment opportunities were created for different groups in private farming, mainly young farmers, women, technicians, and skilled-workers.

Table 3. The expansion of the private sector in CCSs (1993-2001)

Selected indicators	Growth rate (in percentage terms)*
Total members	155% (1993-2001)
Area (Ha)	135% (1993-2001)
Young farmers	119% (1994-2001)
Women	129% (1993-2001)
Technicians	719% (1995-2001)
Skilled workers	1,271% (1995-2001)

Source: Espinosa Burquet, 2004*

**Espinosa's calculations based on figures for 2001/ figures for 1993 are in percentage terms.*

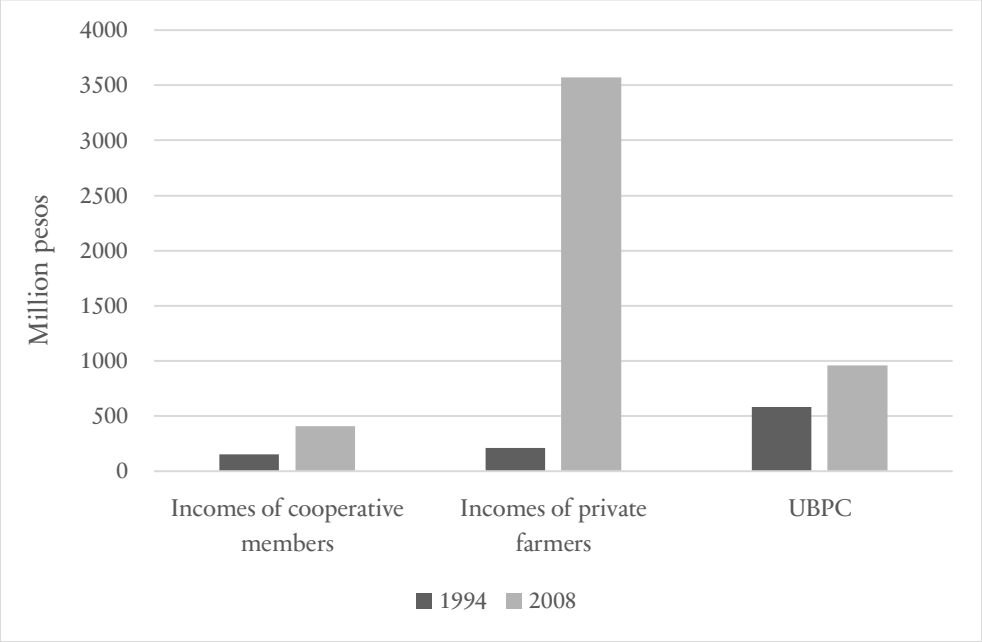
In short, small, private farmers' better capacity to respond to tightening circumstances with sustainable technologies during the Special Period, coupled with the process of land distribution, resulted in a growing number of individuals employed in agriculture. During the 1990s and early 2000s, the number of small collective farmers grouped in CPAs declined while employment opportunities for small private farmers in CCSs significantly increased. The following sections

further analyse these opportunities in terms of income, contribution to national food production, and productivity.

Income opportunities for small farmers.

Data released by ONE (2007b, 2010) on the overall monetary incomes of various types of farms, point to sharp differences between cooperative and private forms of production throughout the 1990s and early 2000s (see Graph 1). The recorded overall incomes of small private farmers (CCSs) and cooperative members (CPAs) increased by an accumulated 42% and 32%, respectively, between 2001 and 2008. The overall income of much larger cooperative producers grouped in UBPCs totalled 688 million pesos in 2006. This amount did not quite reach the 2000 figure (692.2 million pesos) (Hagelberg & Álvarez, 2007; ONE, 2007a).

Graph 1. Overall Monetary incomes per sector 1994-2008



Source: Author's calculations from ONE, 2000, 2009.

Data presented in Table 4 provides much deeper insight into the income opportunities created for small farmers during the 1990s and early 2000s. The analysis of compound annual rates of growth and incomes per capita, presented in Table 4, clarifies the trends in overall incomes shown in Graph 1. From 1994 to 2008, the group of private farmers (CCSs and individual producers) experienced a much higher compound annual rate of growth (22.5%) in terms of monetary incomes than did UBPCs and CPAs (ONE, 2009). While in 1997 small private farmers and CPA members achieved similar income levels, in 2008 the former experienced much higher levels of income per member (13,052.1) than CPAs (7,127.24 pesos). In the case of much larger

units, UBPCs, which included many more farmers and workers than CPAs and CCSs, income per capita reached much lower levels (2,865 pesos in 2000).[14]

Table 4. Incomes per capita in UBPCs, cooperatives and CCS (pesos)

Concept	Compound Annual Rate of Growth per sector (1994-2008) (%)	Income per capita in 1997	Income per person in the early 2000s
Incomes of cooperative members (CPAs)	7.43%	3,196.30	7,127.24
Incomes of private farmers	22.50%	3,683.50	13,052.10
UBPC	3.66%	n.a.	2,865**

Source: Author's calculations from ONE, 2000, 2009 **
*** CPA and CCS data for 2008. UBPC data for 2000.*

These trends reflected the fact that, during the 1990s and early 2000s, private ownership decentralised production decisions and enabled producers to partially adapt to market trends. Market liberalisation generated opportunities for small private farmers to sell much larger percentages of their crops in farmers' markets at higher prices. Also, specialisation in vegetables, basic grains, and tropical fruits in suburban and rural areas, which was encouraged by the process of land decentralisation, created greater income opportunities for this group of private farmers throughout the island. By contrast, large state farms stagnated and were less able to adapt to low-input agriculture and sustainable techniques (Funes-Monzote, 2010).

Qualitative analyses show similar trends in the income streams for small private farmers. Mesa-Lago's (1998, 2009) estimation of the incomes obtained by the state and private sectors illustrates the substantial increase experienced by CCS members and individual farmers during the 1990s. According to Mesa-Lago's (2009) interviews, the monthly incomes for private farmers in 1998 were between US$187 and US$311 (based on Cuban Exchange Houses, CADECA, rates of $ and Cuban Convertible Pesos) (Mesa-Lago, 1998). Compared to salaries in the state sector (e.g. doctors earned US$12-22 per month in 2002), the income levels of small private farmers were substantial. Mesa-Lago (2009) updated private sector incomes for March-April 2002 based on the CADECA exchange rate for those months (26 pesos for US$1). As shown by Table 5, private farmers with monthly earnings between 2,000 (US$77) and 50,000 pesos (or US$1,923) were among those with the highest incomes in Havana city province in 2002 (Mesa-Lago, 2009).

[14] In the case of UBPCs there was no data available for 2008.

Table 5. Monthly incomes in Havana, Cuba (pesos and US$): March-April 2002

Occupations	Pesos	U.S. Dollars (26 pesos = $ 1)
State Sector		
Lowest pension	100	4
Lowest salary	100	4
Teacher (primary &secondary)	200-400	8-12
University research/professor	300-560	12-22
Engineer, Doctor	300-650[b]	12-25
Refuse collector	300-500	12-19
Police (regular)	200-500	8-19
Police (tourist security)	700-800	27-31
Army Official	350-700	13-23
Minister	450-600	17-23
Private Sector		
Housework	520-1,040	20-40
Private farmers	**2,000-50,000**	77-1,923
Bus/ transport driver (20-60 seats)	10,000-20,000	385-770
Prostitute (*Jinetera*)	n.a.	240-1,400d
Landlord (room, apartment or house)	n.a	250-4,000
Artist & Musicians (Internationally well-known)	n.a.	600-6000c
Paladar owner		12,500-50,000

Source: Mesa-Lago, 2009. Interviews undertaken by Mesa-Lago in Miami and Madrid, with recent visitors and migrants. Much of this information is also supported by direct observation and informal interviews undertaken during the author's fieldwork trips to Cuba.[15]

Forced by the scarce food conditions in Cuba during the Special Period, land decentralisation, market liberalisation and sustainable technologies at least opened opportunities for small

[15] [a] Rounded-up numbers

[b] Expert and experienced doctors were able to sign agreements with the state to set up private clinics. This way they earned 10-fold/20-fold their salary in the public sector.

[c] Unknown artists earned US$10-13 per month. In contrast, Compay Segundo (Buena Vista Social Club) earned US$6,000 net per one night performance; Silvio Rodríguez, Jorge Perugorría and Van-Van had contracts of US$200,000, with a percentage of incomes destined for the government.

[d] Monthly estimations based on US$10-US$50 per night, US$70-$350 on a weekly basis.

farmers to achieve new levels of income in agriculture. These income levels were particularly significant for those producers engaged in CCSs and other private forms of tenancy. These farmers benefited from their ability to bring output to the market, and their capacity to diversify production and adopt sustainable technologies. Specifically, greater opportunities in agriculture also implied the increasing engagement of this group of small farmers in domestic food production. These trends will be partially described in the following section.

The contribution of small farmers to domestic production

Small farmers have a long tradition in Cuba. They were the main agricultural producers until the early 20th century, when sugar monocrop and US investment displaced them socially and economically. Before the Cuban Revolution of 1959, the '*campesino*' sector practised diversified agriculture and traditional mixed farming (Funes-Monzote, 2008a, 2008b). According to the agricultural census of 1946, up to 90% of land holdings in Cuba were diversified small/medium farms (between 5ha and 75ha). These small and medium units practised mixed crop-livestock patterns and obtained better organisational efficiency than large estates (CAN, 1951).

Before the nationwide emphasis on low-input agriculture in the 1990s, small farmers had proven their efficiency: working only 20% of the total agricultural land surface they produced more than 40% of the domestic food (Rosset, 1996). These factors, to some extent, enabled small farmers to face shocks during the Special Period. Whereas large state agricultural companies were dramatically affected by the loss in inputs, funding, and material resources, small farmers were at least able to buffer scarcity and engage in food production for national consumption (Funes *et al.*, 2002; Funes-Monzote, 2008). In 1997, 70.7% of total food sales to the state were made by private small-holders, surpassing any other farm structure in Cuba. In the same year, state farms produced 25.7% of food for national consumption (ONE, 1997).

However, the diversified strategies developed by small farmers before the 1990s were not the only factor that placed them at the forefront of the recovery from the food crisis of 1993. State policy during the 1990s introduced production incentives for this group of producers. The reopening of the free farmers' markets in 1994, coupled with the decentralisation of land structures, stimulated higher small-farming production levels and food availability, relative to 1993-1994 levels (Gonzalez, 2003). In 2000, more than 50% of total agricultural direct sales to the state were made by small private and cooperative farmers (CCSs, CPAs, and dispersed *campesinos*) (Lugo-Fonte, 2000; Martín, 2002). The most significant contributions small farmers made to total sales to the state in 2000 were equivalent to 60% or more, in products like beans, corn, and tobacco (Lugo-Fonte, 2000). The private sector does relatively better in certain types of crops.

Considering the non-state sector as a whole (UBPCs, imitating the size of CPAs, CPAs and private small farms), total production levels in 2000 ranged from 77.8% (or more in the case of rice, maize, and beans) to 45.7% and 24.2% for citrus fruit and eggs, respectively. The non-state sector, therefore, made substantial contributions to the increase in food availability during the early 2000s (ONE, 2000). The problem is that the non-state sector includes various types of farms and producers. Within the non-state sector, the group formed by small private farmers during

the 1990s were widely engaged in national food production. In 2008, Cuba's private smallholders alone (CCSs and individual farmers) produced 64-70% of national food production, from 26.80% of the farmland (ONE, 2007a, 2007b). Focussing on this sector, data released by ONE for January-May 2008 show that CCSs and dispersed peasants produced 50% of total national production of roots and vegetables, 64.1% of vegetables, and 74% of tropical fruits. In the same year, their contribution to basic grains production was very high, especially in the case of maize (82%) and beans (81%) (ONE, 2010).

Livestock was one of the best examples of the relative success of small private farming in Cuba during and after the Special period. Despite inconsistent trends during the 1990s, from 1995 to 2000 the number of livestock under private management increased, as did the production of livestock products. During the same period, state and UBPCs livestock production stagnated (González, 2000). By 2006, the small private farming sector (with only 12.9% of the grazing land) owned 43.5% of Cuba's livestock with an average of 7.3 head per owner. This was almost double UBPCs' proportion of the national herd (24.4%) and significantly higher than state enterprises (27.3%) and CPAs (4.8%) (MINAGRI, 2007).

Productivity levels: state versus non-state farms.

Alvarez (2000) and Puerta and Alvarez (1993) compare productivity per hectare of state farms versus non-state farms during the early 1990s. The authors use yields (metric tonnes per hectare) as the measure of productivity[16] and select four major groups of crops: *viandas* (roots and tuber crops), vegetables (tomatoes, peppers, onions), basic grains (rice, corn, beans), and the main Cuban export crops, sugar cane and tobacco. They also account for the degree of access to agricultural inputs, farm-related services and credit being the two primary factors. Regarding access to inputs, from the Revolution on, state farms received well-organised technical and capital inputs and significant quantities of modern fertilizers, irrigation systems, and mechanisation (Alvarez, 2000; Forster, 1989; Puerta & Alvarez, 1993; World Food Program, 1989). By contrast, the authors show that until 1993 private farmers had the most limited access to scarce agricultural inputs, such as fertilizers, irrigation equipment, farm machinery and vehicles. During their visits to the countryside, the authors found farmers unable to obtain basic tools, such as hoses for irrigation of vegetable crops (Benjamin *et al.*, 1986; Puerta & Alvarez, 1993). These conditions worsened significantly during the years of the crisis. In the case of access to credit, data released by the Cuban National Bank's Credit Division for Cooperatives and Peasants on 21 February 1991, for the period 1979-90, reveal large inequalities between the state and non-state sectors (Deere, 1992). Whereas CPAs received 47 million pesos in 1990, individual farmers obtained only 4 million pesos in the same year (25 Cuban pesos equals 1$ /1CUC) (Puerta & Alvarez, 1993). Alvarez (2000) and Puerta and Alvarez (1993) conclude that despite declining access to factors of production and other resources, Cuba's non-state sector (UBPCs, CPAs, CCSs

[16] This section employs yields (output per unit of land), the only available data on Cuba's agriculture productivity (FAO, 2001).

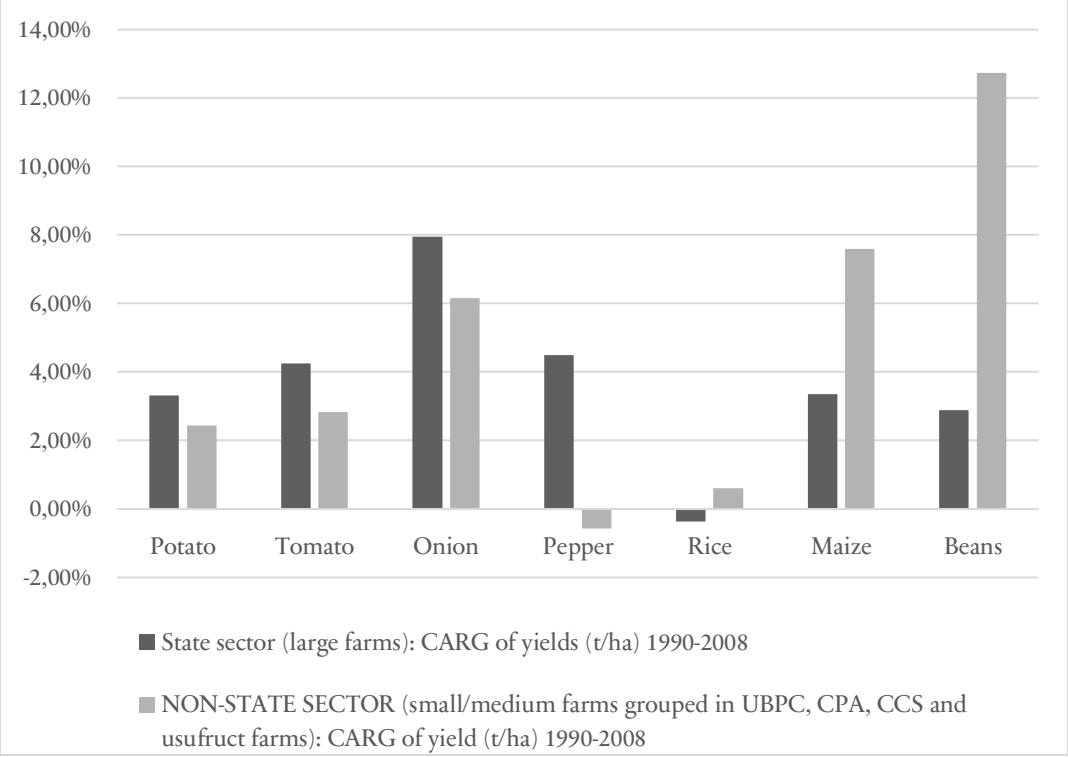
and dispersed *campesinos*) produced more efficiently than did the state sector (see also Ricardo, 2003).

The abovementioned studies do not offer recent and disaggregated evidence on yields at the non-state sector level.[17] The analysis of data for 1990 by Alvarez (2000) and more recent data released by ONE (2008) on productivity levels per hectare of various crops, overcomes some of these limitations but with mixed results. Whereas state farms surpassed non-state productivity for potato, tomato, onion, and pepper crops, the non-state sector significantly outperformed state growers for maize, rice, beans, tobacco, and certain vegetables during the period 1990-2008 (Alvarez, 2000; ONE, 2007a, 2007b, 2008). Compound annual rates of growth differences between state and non-state sectors during the period 1990-2008 were significant for basic crops, such as maize (-4.25) and beans (-9.86). Considering that in 2008 small private farmers produced 82% of the maize and 81% of the beans (and 36% of the rice), differences between the state and non-state sectors in terms of yields may be largely explained (as a proxy variable) by this group of producers within the non-state sector.

Although *malanga* (*Xanthosoma sagittifolium* –a root vegetable), sweet potato, and rice experienced differences between state and non-state sectors in terms of yields, the compound annual rate of growth on yields for other crops (e.g. potato, tomato, pepper, and onion) precludes reaching definitive conclusions concerning the performance of non-state farms (see Graph 2) (ONE, 2008; Puerta & Alvarez, 1993).

[17] Official statistics do not desegregate productivity per crop within the non-state sector. To overcome the lack of specific data on productivity, the author considered different proxy variables.

Graph 2. Agricultural yield per selected crops, 1990-2008



Source: Alvarez, 2000; ONE, 1990, 1997, 2009.

In short, evidence on average yields in state and non-state farms per crop is rather mixed. This may be partly due to the lack of further decentralisation and liberalisation in Cuba's land structures, commercialisation, and also distribution channels. Another reason could be the inclusion of UBPCs (though they imitate the size and patterns of CPAs) in the non-state sector, with the high degree of inefficiencies these units continued to exhibit.[18] These drawbacks may have biased the returns for different crops achieved by small private farms. Another explanation could be that there were no clear productivity differences between sectors. However, in the case of basic grains and vegetables, a key to meeting Cubans' food requirements, the evidence (presented in Graph 2) demonstrates noteworthy differences between the state and non-state sectors. Within the assessment of Cuba's early re-peasantisation, the relationship between the significant contributions of small private farmers to national food production, with compound annual rates of growth of yields (t/ha) per crop, is key to understanding the potential of these farmers to reach higher productivity levels per hectare than state farms, and reduce food imports throughout the island.

[18] Decreasing labour force availability and high debts to the Central Bank after the initial purchase of machinery and equipment from the state (Nova, 2006; Pérez-Villanueva *et al.*, 2004). Their average size still remained large for several agricultural activities; with 19% of idle lands in 2008 (e.g. livestock) (Alvarez, 2004; Nova, 2006, 2008; ONE, 2008).

Conclusions: Towards further Re-Peasantisation?

After the fall of the Soviet Union, Cuba found itself struggling to understand its place in a new geopolitical arena. Given the lack of subsidised machinery and imported food and agricultural chemicals, agricultural policy promoted domestic food production by small farmers. This article has focused on this particular period (1990-2008) that has often been overlooked in the literature of Cuba's agriculture. The study of early re-peasantisation reveals that private farmers increased significantly in numbers, they became more productive in basic crops, and may have significantly contributed to food security from the early 1990s to the end of Fidel Castro's administration. Whereas an increasing number of individuals were engaged in agriculture during the 1990s and early 2000s, compared to other economic activities (apart from tourism), a decreasing number of agricultural workers were employed in large forms of production (state farms) and CPAs. During the same period, Cuba experienced a significant expansion in the proportion of small private producers engaged in agriculture. This was clear in three areas: 1) the number of small private producers; 2) the amount of land they controlled; and, 3) and the incomes they received. These developments demonstrate the higher efficiency of small-scale food production under Cuba's special conditions. They also rejected Cuba's superiority of state or parastatal, large-scale, mechanised agriculture that was reliant on hired labour and imported inputs as the dominant doctrine before the 1990s.

Despite the problems of Cuban agriculture today (see Nova and González Corzo, 2015; Thiemann and Spoor, 2019)[19], in the face of the declining global trend in the peasant sector, the island has experienced an increase in small farming and peasant food activities over the past three decades (e.g. in 2018, 31.1% of Cuba's agrarian surface was in the hands of usufructuaries) (ONEI, 2018). Although this article particularly demonstrates these advances from 1990 to 2008, more recent developments suggest that these trends have been maintained significantly under Raul Castro's administration, with land delivery in usufruct (Law-Decrees 259 and 300), and they continue with Diaz Canel (Law-Decree 358). Without idealising the Cuban experience, the early steps of re-peasantisation in response to the food crisis of 1993 at least reveals some areas in which small-scale farmers have been able to engage in food production and obtain new income and employment sources. Understanding this process and period (1990-2008) as a response to the unprecedented agricultural and food crisis might trigger a reassessment of small farmers and peasant opportunities to reduce food dependency, a challenge that many developing countries across the globe currently confront, or are likely to face in the future (Premat, 2012). This paper

[19] Nova and González Corzo (2015) identified three fundamental problems to increasing production and productivity in Cuba: a) the need to better define the ownership of usufructuaries (partially dealt with by the new Decree-Law 358 of 2018); b) the recognition and acceptance of the market as a complementary mechanism of economic coordination; and c) the absence of a systematic approach to the successful completion of agricultural production cycles. According to Thiemann and Spoor (2019) Cuba's developments in peasant food production have not yet constituted a viable way to feed the population, since peasant-led production is limited by isolation and constrained access to appropriate technologies, by land-tenure insecurity, by deficient markets, and by competition from import-based supermarket chains.

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complements more recent research on the scope of this process, as well as recent transformations in Cuban agricultural policy and state-society interactions.

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