# Agricultural Cooperatives and Food Sovereignty in Socialist Cuba

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# Abstract

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This thesis focuses on the food sovereignty approach to food security, emphasizing the role of agricultural cooperatives and drawing on the case study of Cuba. As the Cuban state relinquishes top-down controls to achieve increased productivity and innovation, agricultural cooperatives are viewed as a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives while maintaining a socialized form or production. This thesis focuses on if, and how, agricultural cooperatives utilize the food sovereignty approach to food security in Cuba. Specifically, it examines if, and how, agricultural cooperatives are able to increase domestic production for local consumption and provide food access to its citizens. Furthermore, this thesis explores the changing dynamic between the Cuban State and agricultural cooperatives – one that is both supportive as well as challenging – and how it can affect the application of food sovereignty in Cuba.

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Thank you to all that strive to make this world a better place.

# Abbreviations

ANAP - National Association of Small Farmers

AoA - Agreement on Agriculture

CLP - Caja Laboral Popular

CMEA - Council for Mutual Economic Assistance

CPA - Agricultural Production Cooperatives

CCS - Credit and Service Cooperatives

CREES - Centre for the Production of Entomophages and Entomopathogens

FAO - Food and Agricultural Organization

GDP - Gross Domestic Product

GNP - Gross National Product

ICA - International Cooperative Alliance

IFI - International Financial Institution

INIFAT - National Institute for Research on Tropical Agriculture

ILO - International Labour Organizaation

IMF - International Monetary Fund

LISA - Low Input Sustainable Agriculture

MCC - Mondragón Corporación Cooperativa

NGO - Non-Governmental Organization

ONE - Cuba's National Statistics Office

SACCO - Savings and Credit cooperatives

UBPC - Unidades Básicas de Producción Cooperativa

UN - United Nations

UNDP - United Nations Development Program

US - United States

WB - World Bank

WTO - World Trade Organization

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Chart 4.1. Comparison of Land Between State and Non-State – 1992 and 2010. Source: Fernández in Holm, 2011, p. 29

# Chapter 1

# Introduction

## Overview

The most effective approach to achieving food security continues to be debated. This thesis argues that the food sovereignty approach is the best for achieving and maintaining food security as policies and strategies implemented under the neoliberal paradigm have done little to curb global hunger and malnutrition. The food sovereignty approach challenges the existing paradigm and seeks alternatives to address the root causes of food insecurity, through a grass-roots, democratic system that puts people at the centre. This thesis focuses on the food sovereignty approach to food security, emphasizing the role of agricultural cooperatives to meet local needs. Focusing on the case study of Cuba, it is argued that agricultural cooperatives as people centered, democratic enterprises, are a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives and social benefits while maintaining a socialized form or production.

This thesis focuses on if, and how, agricultural cooperatives utilize the food sovereignty approach to food security in Cuba. Specifically, it examines if, and how, agricultural cooperatives are able to increase domestic production for local consumption and provide food access to its citizens. Furthermore, this thesis explores the changing dynamic between the Cuban State and agricultural cooperatives – one that is both supportive as well as challenging – and how it can affect the application of food sovereignty in Cuba.

## Background

Food security can be said to exist when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2008, para. 1). However, an unacceptable number of people still lack adequate food supplies. In 2014-2016 nearly one billion in the world were undernourished with the vast majority of those people living in the Global South (FAO, 2015). All aspects of a society are affected without food security. Human development is severely limited, health and education outcomes are reduced, and productivity and incomes decrease.

The most effective approach to achieving food security continues to be debated. As outlined in this thesis, there are three overarching approaches to its achievement: i) productivist; ii) neoliberal; and iii) food sovereignty. This thesis argues that the food sovereignty approach is the best for achieving and maintaining food security.

The productivist approach focuses on raising production via better resource management and the application of new technologies. Increases in production through extensification and, more recently, intensification, has meant that more than enough food is produced per capita to feed the global population. However, while some consumers are provided with an abundant selection of relatively cheap food, approximately one billion people do not have enough to eat, and a further billion lack adequate nutrition (FAO, 2015). Furthermore, "billions of dollars each year [are] spent addressing the problems associated with soil depletion, salinization, water

pollution and a host of other ecological problems" (Lawrence, Richards, Gray et al., 2012, p. 144). Increasing food production alone is not adequate to ensuring food security for all.

Proponents of the neoliberal approach to food security assert that trade liberalization, the removal of production subsidies, and the promotion of export led production will lead to food security. However, the results have not matched the theory. The elimination of subsidies for local producers facilitates the takeover by industrialized corporate farming practices (Shiva, 2003). A stable food system requires that local national resources are preserved and that traditional knowledge of food production is maintained. When the sector is dominated by large-scale, highly mechanized monoculture and corporate agricultural policies whose interests are maximizing profit and global markets rather than national policies set by democratically elected officials, the risk of vulnerability and food insecurity is severely increased. Asserting that each country should only produce a few export commodities will decimate local food production and small family farms, greatly compromising the food security of developing nations across the globe (James 2011).

While it is important to recognize the critiques of food security as it is embedded in a neoliberal discourse that privileges access to food rather than local control over production and consumption, it is also necessary to emphasize that food security is a defensible goal but the approach to achieving it must be critically analyzed. Policies and strategies implemented under the neoliberal paradigm have done little to curb global hunger and malnutrition. However, the food sovereignty approach to food security, challenges the existing paradigm and seeks

alternatives to address the root causes of food insecurity, through a grass-roots, democratic system that puts people at the centre.

This thesis focuses on the food sovereignty approach to food security, emphasizing the role of agricultural cooperatives to meet local needs. The food sovereignty approach to food security understands that it cannot simply be reduced to global supply or a commodity as this does not automatically equate to fair terms for farmers or access for the poor. According to La Via Campesina (2003), the international peasant movement, food sovereignty is:

> The right of peoples to define their own agriculture and food policies, to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives, to determine the extent to which they want to be self-reliant, and to restrict the dumping of products in their markets. Food sovereignty does not negate trade, but rather it promotes the formulation of trade policies and practices that serve the rights of peoples to safe, healthy and ecologically sustainable production (para 2).

Based on this, national governments should help facilitate sustainable local agricultural practices that put the power back in local hands. In the case of Cuba, food security has been part of its social policy for more than 50 years; it is a priority as evidenced by the first agrarian reform law passed by the revolutionary state in 1959 and at the height of Soviet socialism food security was ensured through a combination of subsidized imports and state distribution. However, with the collapse of the Soviet Union and the onset of the *Special Period in Time of Peace*, food

products became scarce and those that did exist were difficult for average Cubans to access because of their increased prices. Between 1990 and 1996 caloric intake fell by 27% (Garth, 2009). Out of the crisis, however, Cuba reoriented its agriculture to depend less on imported chemical inputs and decentralized production forming a new type of agricultural cooperative - Basic Units of Cooperative Production (UBPC) – to increase the availability of food for the local population.

Today, Cubans are meeting their recommended caloric intake through, in large part, a reliance on imports. While Cuba can be said to be food secure, their food sovereignty is limited. Relying on imports leaves the nation vulnerable to fluctuating international markets and if food prices increase, as they did during the food price crisis of 2007-2008, their ability to buy food on the market decreases. Being susceptible to market fluctuations decreases a nation's food sovereignty. But building local production and maintaining a domestic food supply mitigates this vulnerability. To this end, the Cuban government is implementing measures to attain greater food sovereignty through agricultural cooperatives.

As part of a broader effort to reform the Cuban economy, the state is relinquishing top-down controls in order to achieve increased productivity and innovation. Cooperative-based farming is a central part of these reforms. As specified in *los Lineamientos* (2011), agricultural cooperatives are viewed as a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives while maintaining a socialized form or production. As people-centered and sustainable enterprises guided by a set of principles and values rooted in democracy, equality, equity, and

solidarity, cooperatives are well placed to engage in the local production and distribution of foods for the mutual benefit of the Cuban population (Brennan, 2005; Wittman, 2011 King, Adler and Grieves, 2012).

Based on the literature as well as semi-structured interviews with government officials, academics, and members from agricultural cooperatives across Cuba, the research findings suggest that the state is committed to a food sovereign approach to food security and supporting agricultural cooperatives through reforms to increase production by creating and bolstering economic incentives and social benefits, while at the same time, ensuring the gains from the revolution are not lost. The cooperative model provides for sustainable livelihoods through decent salaries and a share in surplus among members, while at the same time, enabling farmers to pool their resources and enter into contracts for selling and distribution. In addition to economic benefits, the cooperative model provides for human development through decent work, food security for members and their families, and its participatory, democratic governance structure. Though not without its challenges, this research concludes that agricultural cooperatives, with supportive agricultural policy, can attain greater food sovereignty through increased local production for domestic consumption, becoming less reliable on imports and less vulnerable to international market fluctuations.

## Central and Secondary Research Questions

My central research question focuses on whether (and if so, how) agricultural cooperatives contribute to the food sovereignty approach in Cuba. Secondly, what, if any, are the characteristics of the cooperative enterprise that make it a more productive model for increasing

food sovereignty? Lastly, how does the Cuban state support agricultural cooperatives and food sovereignty and also what challenges does the state present to agricultural cooperatives?

## Methodology

I followed a qualitative approach to answer my research questions. This research was divided into two stages. The first stage involved participation in an experiential distance education course, entitled LFS 302A (3 cr): International Field Studies in Sustainable Agriculture – Cuba, through the University of British Columbia. Under the supervision of Wendy Holm, P.Ag., the course spanned three weeks – April 30-May 22, 2013 and involved travel to the following locations in Cuba: Havana, Pinar del Rio, Vinales, Cienfuegos, Trinidad, Ciego de Avila, Camaguey, and Varadero. Furthermore, it involved meetings with representatives from the Ministry of Agriculture, Ministry of Sugar, National Institute for Research on Tropical Agriculture (INIFAT), National Association of Small Farmers (ANAP), Cuban Association of Crop/Forestry Professionals, Committees for the Defense of the Revolution, Canadian International Development Agency (CIDA), the United Nations Development Programme (UNDP) Palma Project, Ciego de Avila Agricultural University, Credit and Services Cooperatives (CCS), Agricultural Production Cooperatives (CPA), and Basic Units of Cooperative Production (UBPC). This stage of the research process was exploratory and all meetings were public in nature.

Based on the connections made during the exploratory stage of research, the second stage involved two weeks of independent research – May 22-June 1, 2013. To achieve my research objectives, I followed a qualitative approach to produce an in-depth account of the research participants' understandings and experiences of agricultural cooperatives, food

sovereignty and food security as they relate to my research questions. I also employed a case study approach to understand the unique situation of agricultural cooperatives in Cuba. Following these approaches, I sought out multiple sources of data using interconnected and complimentary techniques. The three primary techniques are: documentary research, focus group discussion, and key informant interviews. These techniques provided a diversity of perspectives to strengthen my research.

The 'documentary research' technique involved examining public material including such government publications as the Economic and Social Policy Guidelines for the Party and the Revolution, and media statements on food security and agricultural cooperatives. I also involved public material made available from international and multilateral organizations (e.g. United Nations Development Programme, Food and Agricultural Organization), the Canadian International Development Agency, and international and local non-governmental organizations (NGOs). I examined programme reports, meeting documents, working papers, statistics, evaluations and field visit notes.

Central to my research are key informant interviews and focus group discussions. I conducted seven person-to-person interviews with government officials, academics, and agricultural cooperative members. I followed a 'purposeful' based sample design allowing for a selection of interviews based on their knowledge and experiences as they relate to my research question. These interviews were semi-structured and followed an informal interview guide rather than a rigid questionnaire. The interview guide did not generate highly standardized data but helped the interview remain on theme while also providing the opportunity to probe, prompt,

and follow-up. As a result, additional questions emerged throughout the interview process that could not have been specified in advance. Each interview was audio recorded using a digital device and written notes. The time for each interview varied from 30 minutes to 2 hours.

At the beginning of each interview verbal consent was obtained. Informed consent was sought through an explanatory letter that was read aloud to each participant before the interview. This letter was also translated into Spanish with the aid of a translator.

## Theoretical framework

My theoretical framework was derived from conclusions reached by my literature review (see Chapter 2). While proponents of neoliberalism assert that trade liberalization, the removal of production subsidies, and the promotion of export led production will lead to a food secure state, the results have not matched the theory. The current global food system characterized by large-scale, highly mechanized monoculture oriented toward global markets undermines local agriculture, often creating a situation of food insecurity. Food sovereignty, on the other hand, emphasizes localized control over agricultural policies to meet local needs. While the neoliberal approach views export agriculture as economic necessity, food sovereignty asserts that agriculture should not be subordinate to trade and capital accumulation and instead focuses on the relationship between agriculture, social and ecological sustainability. It focuses on the recreation of local cycles of production and consumption (Rosset, 2009; McMichael and Schneider, 2011). The food sovereignty approach to food security, challenges the existing paradigm and seeks alternatives to address the root causes of food insecurity, through a grass-roots, democratic system that puts people at the centre. Food sovereignty goes beyond the

concept of food security emphasizing where food comes from and how it is produced (Lang and Barling, 2012). This thesis argues that the food sovereignty approach is the best for achieving and maintaining food security.

Similarly, the cooperative model and the larger cooperative movement provide a viable alternative within and to the dominant economic order by maintaining values which oppose the fundamental premises of neoliberalism. These values are economic democracy, member ownership, subordination of capital, and solidarity (McMurtry, 2009; King, Adler, Grieves, 2012). Cooperatives as an organizational form "provide for bottom-up decision making structures and local ownership through their commitment to a clear alternative value system and through organization structures based on democratic [control] and decision making" (Mukherjee Reed and Reed, 2009, p. 257). As enterprises which prioritize both social and economic objectives as defined by the members, and governed by internationally accepted values and principles (which oppose the dominant economic praxis), cooperatives pursue a people-centred development and favour sustainable economic and social added value over financial profit.

As enterprises governed by values of self-help, self-responsibility, democracy, equality, and equity they are well suited to apply the food sovereignty approach. Cooperatives allow for the pooling of resources and promote local economic development in rural areas through the recreation of local cycles of production and consumption. Agricultural cooperatives, operating under principles that imply a strong concern for sustainability and equity, have a major role to play in providing farmers with access to the resources they need for production and also markets where they can move their products. Cooperatives give farmers the opportunity to

participate in the decision-making process, giving them greater negotiating powers and ability to achieve their aims. As a result, agricultural cooperatives ultimately help to reduce food insecurity in communities across the globe.

Food sovereignty resists market-driven globalization, hierarchical, corporate control, in favour of an approach that puts decision making to farmers and food producers, as well as citizens and local consumers. By changing the focus of development and food production from export-led, free trade, industrial production in favour of democratic cooperatives, food sovereignty and sustainable food security will result (Brennan, 2005; McMurtry and Reed, 2009; Rosset, 2011).

## Thesis Statement

This thesis argues that the food sovereignty approach is the best for achieving and maintaining food security. Agricultural cooperatives contribute to food sovereignty by increasing local production for domestic consumption, thereby reducing the country's reliance on food imports and making it less vulnerable to international market fluctuations. Agricultural cooperatives achieve this as a people-centered, democratic, model that is more productive by incentivizing production though market incentives while maintaining a socialized form of production. The cooperative model provides for sustainable livelihoods through decent salaries and share in surplus, while at the same time, enabling farmers to pool their resources and enter into contracts for selling. In addition to economic benefits, the cooperative model provides for human development through decent work, food security for members and their families, and is participatory through its democratic governance structure. In sum, the people centered

cooperative model applies the food sovereignty approach and increases production for local consumption resulting in a more sustainable food secure state.

## Structure of the Thesis Argument

This first chapter of this thesis provides an introduction to the topic as well as an explanation of the methodology used to carry out this study. Chapter 2 consists of a literature review which highlights the academic debates surrounding approaches to food security – productivist, neoliberal and food sovereignty – asserting that food sovereignty is the best approach to achieving food security. This chapter then provides an overview of the cooperative model and the cooperative advantage, and demonstrates how cooperatives contribute to food security through the food sovereignty approach. Chapter 3 provides a historical overview of agricultural production in Cuba, the problems that arise when food security is dependent on external forces, and the development of agricultural cooperatives. Chapter 4 summarizes research findings from interviews with academics, government officials, and members of agricultural cooperatives demonstrating the food security situation in Cuba and how agricultural cooperatives are contributing to the food sovereignty approach as people-centered, democratic, enterprises that incentivize production though market incentives and social benefits while maintaining a socialized form of production. Chapter 5 provides a general conclusion of the results found in my research. Together, these chapters show how agricultural cooperatives contribute to food sovereignty in Socialist Cuba.

# Chapter 2

# Cooperativism and Food Security:

# A Review of the Literature

## Understanding Food Security

In 1974, the concept of *Food Security* was introduced to the international community by the United Nations under the auspices of the UN Food and Agriculture Organization (FAO) during the World Food Conference. Subsequently, more than two hundred definitions have been developed and the most effective approach to *Food Security* continues to be debated (González, 2010). The following literature review will provide a summary understanding of the current trends and main approaches to achieving food security and how cooperatives fit into this debate.

During the World Food Conference of 1974 food security was defined as the: "availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices" (FAO, 2006, para 1). However, the most widely cited definition of *Food Security* was developed during the 1996 World Food Summit adding *demand* and *access* to the definition. In a document entitled *World Food Summit*, the FAO proposed the following definition:

> FS [food security], at the individual, household, national, regional and global levels is achieved when all people at all times have physical, social

> and economic access to sufficient, safe and nutritious food to meet dietary needs and food preferences for an active and healthy life (FAO, 1996).

In 2009 the World Food Summit stated that food security is a combination of four pillars: food *availability*, food *accessibility*, food *utilization* and *stability* of these dimensions over time (FAO, 2009). Food availability tends to be applied to the availability at a regional or national level; it addresses the supply side of food security and is determined by the level of domestic production, stock levels, and imports - including food aid (Riely et al.,1995; FAO, 2006; WFP, 2009). However, an adequate supply of food at the national or international level does not always guarantee sufficient access to food at the household level (FAO, 2008).

As identified in the food security definition, there are different dimensions to food access – physical, economic or financial, and socio-cultural. While food may be available it may not be *physically accessible* because of infrastructure or transportation issues. From the *economic* perspective, food may be available but people are unable to afford it – this access depends on whether a household has enough income to purchase food at prevailing prices. Alternatively, households may have direct access in that they produce enough food using human and material resources. Households with sufficient resources can mitigate unstable harvests and local food shortages by maintaining their direct access to food. From this perspective, the assets of a household, including land, products of labour, inheritances and gifts can determine a household's access to food (FAO 1997).

There is also the sociocultural element – food may be available and the household may have the economic means to purchase it, but are prevented from doing so because of their

gender or affiliation with a certain social group. Conflict may also disrupt production and affect a household's direct access to food (Riely et al., 1999).

The third pillar is utilization. While food may be available and people have access to it, this is not sufficient for food security. Food has to be safe and nutritious and provide adequate energy for an active and healthy life. This aspect also includes potable water and sufficient sanitation to prevent the spread of disease.

Lastly, for food security to occur, the availability, accessibility and utilization of food must be stable – meaning, it must be present at all times. If a person's food intake is disrupted periodically because of economic factors – unemployment, rise in food prices – they are not food secure. Similarly, a country may be able to import enough food to feed its population but it is then also vulnerable to rising food prices and market fluctuations, which can severely impact the food security of its citizens. In recent history, the Global South experienced this as the 2007-2008 world food price crisis. As will be explained, the *stability* dimension of food security is important for exploring the food sovereignty approach to its achievement. The pillars of food sovereignty focus on democratic, localized food systems that treat food and its production as more than just a commodity. Without negating trade, the food sovereignty approach to global food security understands that it cannot simply be reduced to global supply as this does not automatically equate to fair terms for farmers or access for the poor.

## Approaches to Food Security

To better understand food security, the fundamental schools of thought on the most relevant approach and working ideas will be discussed. These alternative overarching approaches can be placed into three categories i) productivist ii) neo-liberal/market-centric iii) food sovereignty.

## Productivist Approach

At the time the FAO was established in 1943, discourse on food security focused primarily on production. The core focus was under-production and it was reasoned that food security could be achieved simply by producing more food through its expansion (Lang and Barling, 2012). This approach was first championed at the global level in the 1930s and became the dominant paradigm in post-World War II reconstruction (Lang and Barling, 2012). Almås and Campbell (2012) argue that this approach came to dominate because a "powerful coalition of forces" sought to create a stable agricultural policy that would "appease farmers and consumers" in the West and curtail the influence of the Communist Bloc (p. 2).

According to Lang and Barling (2012), the productivist approach has been promoted by the FAO since its inception. At this time the FAO asserted that food security "would be delivered by raising production via an incremental combination of better management of land, agriculture, technology, requisite investment and aids to efficiency" (p. 316). Similarly, as González (2010) explains, it was argued that using new technologies to increase food production would ease the effect of population growth on food security (p. 1346).

Almås and Campbell (2012) claim that the "post-war [food] regime" was aligned around a strong political commitment to stimulate agricultural production in the industrial countries through direct state investment in agriculture (i.e. subsidies) and in agricultural science (i.e. R&D). It should also be noted that the resulting food surpluses were then deployed as an adjunct to the wider political alliances of the Cold War. The "Developed World" provided cheap subsidized food enabling the "massive reconfiguration of Developing Countries...away from peasant agriculture and towards cash cropping for export, and...towards massive urbanization and industrialization" (Almås and Campbell, 2012, p. 2- 3). This is consistent with McMichael (2009) who explains that from the 1950s to 1970s, the US transported subsidized, surplus food from the US "via food aid" to "postcolonial development states" to encourage industrialization and stem the threat of communism". At the same time, "an international division of specialized agricultural supply chains and commodity complexes was developed by agribusiness" (as cited in Almås and Campbell, 2012, p. 2).

Continuing into the 1970s, Mechlem (2004) claims that food security was understood "in relation to the need to guarantee a permanent supply of foodstuffs for the world's growing population, and make it possible to address annual fluctuations in production and price instabilities in world markets" (cited in González, 2010, p. 1346) As González (2010) explains, it wasn't until the 1980s that the understanding of food security, both within and outside the FAO, began to shift radically and, in turn, the production oriented approach began to collapse (Lang and Barling, 2012; Almås and Campbell, 2012). At this time Amartya Sen "centered the problem of food insecurity on access to food[...]" (González, 2012, p. 1346). Sen argued that "famines occurred even when there was no significant shortage of food in stock. A constant supply of food

might exist side-by-side with poverty and hunger if people lacked access to it" (cited in González, 2010, p. 1346). Simultaneously, a new trajectory began to emerge – neoliberalism involving the deregulation and liberalization of food trade (Almås and Campbell, 2012, p. 3). Nevertheless, Almås and Campbell (2012) explain that this new approach did not entirely escape a core productivist method to agriculture.

This is echoed by Lawrence, Richards, Gray and Hansar (2012) who, in highlighting the experience of Australia, explain that neoliberalism has helped to reinforce productivist agriculture which "promotes high volumes of production at the continuing expense of the environment" (p. 145). Lawrence, Richards, Gray and Hansar (2012) state:

> Increasingly exposed to volatile 'free' markets and terms of trade declines, Australian farmers have eagerly embraced productivism as a means of expanding output and improving their competitiveness. They tend to specialize in one product; they intensify their operations, looking to utilize the latest agribusiness inputs that promise greater production efficiencies; and they attempt to gain returns to scale by expanding the size of their operations. The combination of these leads to economic concentration in agriculture – fewer farmers can produce ever-increasing volumes of food and fibre for the domestic market and for export" (p. 134).

This approach has been perceived as highly successful in that it has "provided domestic consumers with abundant and relatively cheap food, and has enabled the nation to export large

volumes of food overseas to consumers"; however, this "success" has also come at the expense of the environment (Lawrence, Richards, Gray et al., 2012, p. 144). As Lawrence, Richards, Gray et al. (2012) explain, "literally billions of dollars each year [are] spent addressing the problems associated with soil depletion, salinization, water pollution and a host of other ecological problems" (p. 144).

Furthermore, the global food crisis of 2006-2008 has brought about renewed calls for investment into "food security" and a return to productivist agriculture which Almås and Campbell (2012) term neo-productivism. Misselhord, Aggarwal, Ericksen, Gregory, Horn-Phathanothai, Ingram and Wiebe (2012) worn against productivism. They argue that more than enough food is currently being produced per capita to feed the global population. Therefore, increased food production alone is inadequate to assuring food security for all. "Increasing production, initially through extensification and more recently through intensification, has assured that in 2009/2010 approximately 325 kg of grain was produced per capita – considerably more than the 219 kg of grain needed annually to meet basic caloric requirements of 2100 calories per day per person" (Misselhord, Aggarwal, Ericksen, et al., 2012, p. 9). However, "despite the fact that global food production over the past half century has kept ahead of demand, today around one billion people do not have enough to eat, and a further billion lack adequate nutrition" (p. 7).

## Neoliberal Approach

In the 1980s, there was a shift in how the FAO and other international institutions (e.g. the World Bank) viewed the role of agriculture in the development of a country as well as the role of

national governments in achieving food security (González, 2010). In the preceding decades, "the prevailing concept [...] was that countries should be self-sufficient and guarantee an internal supply of food that would be independent of price fluctuations in the international market and would depend only marginally on food imports (as cited in González, 2010, p. 1348). However, the neoliberal approach views "the world market [...] as the primary guarantor of FS [food security]" (cited in González, 2010, 1348). As Almås and Campbell (2012) explain:

> After 1985, agriculture was included in global trade negotiations – aiming to harmonize and liberalize world markets – and the global push [to...]neo-liberalize world food trading took full form. By the end of the GATT Uruguay Round and with the formation of the WTO in 1995, it looked very much like a new consensus had emerged between enthusiastic neo-liberalist nations in the Developed World and a bloc of (albeit reluctant) countries in the Developing World (p. 2).

The neo-liberal, or market-centric approach, argues that world trade in agriculture should be "free from impediments like tariffs or price subsidies" and once protected markets "[should] be opened up to food exporters from the Developing and Developed World alike" (Almås and Campbell, 2012, p. 2). This is consistent with Lang and Barling (2012), who state: "with the triumph of neoliberal thinking about markets and strong support for the Washington Consensus constraining public policy, progress began to be defined as that which markets can deliver[.] Unfettered by state intervention [...] agricultural subsidies and tariffs were [seen as] drags upon pure supply-demand dynamics" (Lang and Barling, 2012, p. 320). In other words, "tariff barriers came to be seen as a major impediment to stimulating agricultural productivity and lowering food

prices in world markets, and the concept of 'food self-sufficiency' was replaced by that of 'self-capacity'" (cited in González, 2010, 1348). Following this logic, "a country ought to have enough foreign currency reserves to be able to buy in the world market the foodstuffs needed to assure the feeding of its people" (González, 2010, p. 1348).

Neoliberalism and agricultural policy culminated in the Agreement on Agriculture (AoA) – a treaty of the World Trade Organization (WTO) entered into force in 1995. This document promotes increased trade liberalization through the elimination or reduction of import tariffs; a decrease in domestic support by removing production subsidies or direct payments to farmers; and the promotion of export led production – e.g. cash crops (World Trade Organization, 2003). According to Wittman (2011), "when national governments joined the WTO in 1995, they relinquished their powers to unilaterally set their own food and agricultural policies" (p. 90). "WTO requirements caused a major restructuring of food security and rural livelihood programs in developing countries, but "the main effect of bringing agriculture into the WTO was not to reform global agriculture in line with market rationalities, but to aggravate already-existing uneven opportunities in the world food system" (Wittman, 2011, p. 90).

In reaction to this approach, McMichael (2009) explains that WTO protocols, including the AoA, prohibit price supports in the Global South while allowing developed countries to maintain key agricultural subsidies, leaving small farmers worldwide unable to "compete in markets where the prices for farm products fell substantially through the decade following the implementation of WTO rules" (cited in Wittman, p. 94). As a result, argues Vandana Shiva (2003), the elimination of subsidies for local producers facilitates the takeover by industrialized

corporate farming practices. This is consistent with James (2011) who argues that the AoA advocates for the elimination of quotas, or limits on particular commodity imports, while many nations that rely on agriculture, seek to preserve quotas on staple products – e.g. rice, corn and other basic grains - as they are necessary for food security and the livelihoods of the local population. By eliminating quotas, their source of income and access to local food production is lost (James, 2011). Furthermore, the ability of farmers to provide food for local consumption is lost.

Such policies are incompatible with, and even undermine, local agriculture, creating a situation of food *in*security (Barker, 2003). "A stable food system or food security, requires that local national resources are preserved and that traditional knowledge of how to grow food is maintained" (Barker, 2003, p. 3). This is simply not possible as James (2011) argues - when the sector is dominated by corporate agricultural policies whose interests are maximizing profit rather than creating a food secure country. In this case, market forces, rather than national policies set by democratically elected officials, control agricultural food systems. James (2011) asserts, "each country would only produce a few export commodities, wiping out local food production, small family farms, and greatly compromising global food security" (para. 9). As a result, the human right to food is dependent on multinational corporations and markets, which undoubtedly increases the risk of hunger and famine worldwide (James, 2011).

According to Norberg-Hodge, Merrifield and Gorelick (2002) these policies are part and parcel of the current global food system which is characterized by large-scale, highly mechanized, monocultural, and chemical intensive methods with production oriented toward distant and increasingly global markets. The abundant use of external inputs, large machinery and long-

distance transport make this system extremely capital and energy intensive. While the goal is ever-increasing agricultural efficiency – "defined as maximizing the yield of a narrow range of globally traded commodities, while minimizing human labour" – the results are ecologically unsustainable and socially unjust (Norberg-Hodge, Merrifield and Gorelick, 2002, p. 4).

It is argued by many that the results simply do not match the alleged theory of neoliberalism; however, the "market solution" remains and, more recently, the goal has been slightly reframed "to incorporate small farmers into the World Bank's neoliberal conception of a 'new agriculture'"(McMichael and Schneider, 2011, p. 125). As McMichael and Schneider (2011) explain, "the expectation is that the private sector [will] drive 'the organization of value chains that bring the market to smallholders and commercial farms" (p. 125). This is consistent with the FAO which states "successful cash-crop value chains have effectively overcome the lack of rural credit by providing input credit directly to farmers and farmers' associations, with reimbursement at the time of product sale" (as cited in McMichael and Schneider, 2011, p. 125). This is problematic because it is based on the assumption that:

> Publicly-supplied rural credit for farmers is easily replaced by corporate credit on contract. But the source of credit has substantive implications for the form of agriculture: privatization of credit implies a shift from a publicly supported domestically oriented agriculture producing staple foods for local and national markets, to a value-chain-oriented export agriculture producing for those with purchasing power in world markets (p. 125).

McMichael and Schneider (2011) claim that even the FAO emphasizes a positive relationship between cash-crops and the restraints faced by small-scale farmers. From this line of reasoning, commercial farming is viewed as the most suitable approach to increasing productivity and reducing poverty. However, as McMichael and Schenider (2011) note, an increase in productivity doesn't consider what is produced or what is consumed – "expanding export agriculture via increased productivity may raise rural income...but it also may reduce the availability of local food for local markets or even self-consumption— one of the key determinants of hunger in the food crisis" (p. 126). This is consistent with Rosset (2009) who explains:

> The current emphasis in trade negotiations on market access for exports leads to the dismantling of protection of domestic markets for domestic producers. Liberalized agricultural trade, which gives access to markets on the basis of market power and low, often subsidized prices, denies local producers access to their own markets, forcing farmers to curtail production and undercutting local and regional economic development (p. 116).

## Food Sovereignty

In 1993, the international peasant movement, *La Via Campesina*, was formed in reaction to the increasingly globalized food production system governed by neoliberal policies (La Via Campesina, 2011). This movement introduced the term food sovereignty:

> The right of peoples to define their own agriculture and food policies, to protect

> and regulate domestic agricultural production and trade in order to achieve sustainable development objectives, to determine the extent to which they want to be self-reliant, and to restrict the dumping of products in their markets. Food sovereignty does not negate trade, but rather it promotes the formulation of trade policies and practices that serve the rights of peoples to safe, healthy and ecologically sustainable production (McMichael, 2009, p. 147).

To distinguish the neoliberal approach from food sovereignty, McMichael and Schneider (2011) assert that it is a question of whether agriculture is a servant of economic growth or agriculture is "multifunctional" and should be "organized to express and fulfill its various socio-ecological functions" (p. 120). While the former approach views export agriculture as "economic necessity", the latter argues against the subordination of agriculture to trade and capital accumulation and instead focuses on the relationship between agriculture and social and ecological sustainability (McMichael and Schneider, 2011, p. 128-129).

The food sovereignty movement highlights how problematic the dominant market-centric food system is in its commodification of food. Instead, it "offers a new ethic that would inform a decentered and democratic food regime" (McMichael, 2009, p. 163). According to La Via Campesina, food sovereignty "gives market access to local producers" and promotes local economic development in rural areas through the recreation of local cycles of production and consumption (Rosset, 2009). As Rosset (2009) explains, "a reversal of dominant trade policies hold the promise of change toward a smaller farm, family based or cooperative model, with the potential to feed people, lead to broad-based economic development, and conserve biodiversity

and productive resources" (Rosset, 2009, p. 117).

Food sovereignty goes beyond the concept of food security emphasizing where food comes from and how it is produced (Lang and Barling, 2012). While food security means people "must have the certainty of having enough to eat each day", as Rosset (2009) explains, to apply the food sovereignty approach, "people in rural areas must have access to productive land and receive prices for their crops that allow them to make a decent living, while feeding their nation's people" (p. 116). This is consistent with Wittman's (2011) understanding of food sovereignty. Wittman (2011) explains:

> As critiqued by several authors writing from a food sovereignty perspective...food security treats food as a problem of insufficient trade rather than hunger by privileging *access* to food rather than *control over* systems of production and consumption. In this conception, food is a tradable commodity rather than a right, and hunger simply a problem of distribution" (p. 91).

Wittman (2011) explains that how food security is "framed" has implications for how agricultural policy is developed and put into action. For example, as Mooney and Hunt (2009) suggest, a "community frame" is associated with food sovereignty and "addresses hunger by advocating more localized control over food and agricultural policy" (p. 91). Furthermore, food sovereignty connects food as a human right – "the right to choose how and by whom that food is produced" (Wittman, 2011, p. 91). This is consistent with Rosset (2009) who argues that "food sovereignty starts with the concept of economic and social human rights, which include the right

to food, but it goes further, arguing that there is a corollary right to land a 'right to produce' for rural peoples" (p. 116).

In a report by the United Nations Human Rights Council (UNHRC) on creating a human rights framework for world food and nutrition security (2008), Marcia Ishii-Eitemann argues that "ultimately, the HRCR concludes that the right to food can only be realized where the conditions enabling food sovereignty are guaranteed" (as cited in Wittman, 2011, p. 92). Furthermore, the rights-based approach that is embedded in food sovereignty is "an explicitly moral enterprise that stands in contrast to the economic processes of market-driven globalization," noting that "this implies a radical shift from the existing hierarchical and increasingly corporate-controlled research system to an approach that devolves more responsibility and decision-making power to farmers, indigenous peoples, food workers, consumers and citizens for the production of social and ecological knowledge" (Wittman, 2011, p. 92). However, it should also be noted that the UN-based right-to-food approach has been critiqued "for focusing on the individual human right to food, rather than the structural problems of agricultural development, food production, and consumption within the world economic system" (Wittman, 2011, p. 92).

While it is important to recognize the critiques of food security as it is embedded in a neoliberal discourse that privileges access to food rather than local control over production and consumption, it is also necessary to emphasize that food security is a defensible goal but the approach to achieving it must be critically analyzed. Policies and strategies implemented under the neoliberal paradigm have done little to curb global hunger and malnutrition. The food sovereignty approach, on the other hand, challenges the existing paradigm and seeks alternatives

to address the root causes of food insecurity, through a grassroots, democratic system that puts people at the centre.

Pimbert (2006) argues that Food Sovereignty can be best understood as a "transformative process that seeks to recreate the democratic political realm and regenerate a diversity of autonomous food systems based on equity, social justice and ecological sustainability" (p. 3). This speaks to what Feenstra calls a locally adapted food system - "a collaborative effort to build more locally based, self-reliant food economies – one in which sustainable food production, processing, distribution and consumption is integrated to enhance the economic, environmental and social health of a particular place" (Feenstra, 2002, p. 100). These are typically oriented toward local and regional food production and consumption and aim to be geographically and economically accessible and direct. Locally adapted food systems are relatively smaller in scale and resource conserving. Emphasis is on meeting local needs and more localized control over food and agricultural policies (Norberg-Hodge, Merrifield and Gorelick, 2002). Locally adapted food systems also acknowledge and prioritize local and indigenous knowledge as well as local needs, culture, and conditions (Wittman, 2011). The benefit of a locally adapted food system and the impact on food security is best summarized by Norberg-Hodge, Merrifield and Gorelick (2002):

> Shifting toward the local would promote real diversity at every level [and] food security would be strengthened across the board. Instead of being flooded by cheap imports that make it uneconomical to grow locally distinct varieties, food that best fits local conditions would have a chance to thrive. Rather than

> monocultures highly susceptible to devastation by disease, pests and weeds, farms would be more diverse…and stable. Rather than increasing the rate at which greenhouse gases are being pumped into the atmosphere, the agricultural sector's contribution to those gases would begin to decrease (p. 99-100).

Based on this, national governments should help facilitate sustainable local agricultural practices that put the power back in local hands. One such tool to do this, is through the support of agricultural cooperatives. While agricultural cooperatives come in many forms, it will be argued that agricultural cooperatives are well suited to the food sovereignty approach, and thereby increase a nation's food security. As enterprises that are based on democratic control of production, enable the pooling of resources, greater access to land and negotiating power, and rooted in the local community, they are most likely to reflect the needs and aspirations of the local population and produce effective and sustainable outcomes with regard to food security.

## The Cooperative Model

Before elaborating on the role of agricultural cooperatives in food security, the following section will first provide a more thorough understanding of the cooperative model, provide an analysis of the cooperative advantage in local development, as well as the neoliberal critique of cooperatives. I will then analyze the contribution of cooperatives to development and more specifically, the contribution of agricultural cooperatives to food security through the application of the food sovereignty approach.

### Historical Background of Cooperatives

Cooperation is manifest across cultures and continents as far back as human beings have been organizing for mutual benefit. The modern cooperative form, however, can trace its roots to the Rochdale Pioneers in Lancashire, England as a reaction to the harsh conditions engendered by the industrial revolution (Borzaga and Galera, 2012). Though transformation to the capitalistic market economy began in the seventeenth century, it wasn't until the industrial revolution that it came to dominate (Zamagni and Zamagni, 2010). This transformation saw a complete rupture with the old relations of human interaction. Drawing on Polanyi's seminal piece, *The Great Transformation*, Birchall (2011) explains that "the economic order ceased to be embedded in the social but became free to run under its own logic, with labour, land and money becoming commodities" (p. 41). It was during this time that "the principle...'production at the expense of man' was...established, sanctioning the radical separation between the suppliers of capital and the suppliers of labour..." (Zamagni and Zamagni, 2010, p. 8). In short, productive activity was directed to a single purpose, the maximization of profits for distribution among the investors in proportion to their share of the capital (Zamagni and Zamagni, 2010).

Moreover, the cultural institutions that had once guaranteed some level of survival were demolished and people were left vulnerable to the market like never before. As a consequence:

> They had to invent new methods of protecting themselves, of learning to deal in the market to survive. Not surprisingly, people were disadvantaged under the new system – wage labourers, artisans, farmers – learned that their strength was in numbers. They could only survive and adapt if they invented new ways of cooperating together (Birchall, 2011, p. 41-42).

As such, twenty-eight artisans working in the cotton mills of northern England established the first modern cooperative. This was precipitated by the miserable working conditions and low wages the weavers received which were insufficient to afford the high priced food and household goods. Known as the Rochdale Equitable Pioneers Society, its statute stated, "the objects and plans of this Society are to form arrangement for the pecuniary benefits and the improvement of the social and domestic conditions of the members" (cited in Zamagni and Zamagni, 2010, p. 14). By pooling their limited resources and through cooperation they were able to access basic foods at a more affordable price and on December 1844, a store was opened selling various basic goods (Zamagni and Zamagni, 2010).

Similar to present-day cooperative principles, the cooperative was governed by the following: 1. Sale for cash at fixed prices; 2. End-year rebate proportional to purchases 3. Freedom of purchasing 4. Minimum interest on loans 5. Democratic governance 6. Ideological neutrality and tolerance (Zamagni and Zamagni, 2010). Furthermore, because it was built on trust, children were able to shop for their families without fear of being taken advantage of, families were able to create a small savings from the year-end bonus, and it became a meeting place to discuss issues of the day. In just over a decade a whole store was opened, a library formed, and schools and lectures organized with financing from the operating surplus (Zamagni and Zamagni, 2010). As a result, the successful consumer cooperative model was imitated throughout Britain and by 1877 there were approximately 1661 cooperatives with over one million members in Britain (Zamagni and Zamagni, 2010).

Other cooperative forms began popping up throughout Europe. For example, credit unions in Germany, worker cooperatives in France, and farmers' cooperatives in Scandinavia. National legislative action accompanied and in some cases provided legal recognition of its governance model and even provided tax allowances. Though with varying aims, the cooperative model remained constant – an enterprise that stressed the central role of people, its members (whether workers, consumers, etc.) rather than that of capital (Birchall, 2011; Zamagni and Zamagni, 2010). According to the International Cooperative Alliance (ICA) (2015c):

> The principles that underpinned cooperatives way of doing business are still accepted today as the foundations upon which all cooperatives operate. These principles have been revised and updated, but remain essentially the same as those practiced by the Pioneers in 1844. It is these principles and values that make for the cooperative advantage (para. 7).

## The Cooperative Advantage

Multilateral institutions, regional organizations, and national governments have recognized the cooperative model as an essential tool for social and economic development in countries of the Global South (FAO, 2012; International Labour Organization (ILO), 2002; cited in Curl, 2012).[1] In

[1] For example, the United Nations Food and Agricultural Organization (FAO) has declared cooperatives as key to feeding the world (FAO, 2012). The International Labour Organization (ILO) endorses the contribution of cooperatives to the decent work agenda, and R193 - Promotion of Cooperatives Recommendation, 2002 (No. 193) was voted favorably by government, business and trade unions and representatives from all countries represented (ILO, 2016; ILO, 2002). In 2002 (and reaffirmed in 2007), the United Nations General Assembly recognized that cooperatives "are becoming a major factor of economic and social development," and urged governments to promote their growth by "utilizing and developing fully the potential of cooperatives for the attainment of...development goals, in particular the eradication of poverty, the generation of full and productive employment and the enhancement of social integration;...creating a supportive and enabling environment for the development of cooperatives by, inter alia, developing an effective partnership between governments and the cooperative movement" (cited in Curl, 2012, p. 458).

2012, the United Nations General Assembly declared the International Year of Cooperatives to raise public awareness of the "invaluable contributions of cooperative enterprises to poverty reduction, employment generation and social integration" (United Nations Department of Economic and Social Affairs, 2012, para. 2). That same year, the Food and Agriculture Organization (FAO) announced that the official theme of World Food Day would focus on promoting awareness of agricultural cooperatives and their role in improving food security and the eradication of hunger (FAO, 2012). The literature also links the cooperative model to many development approaches: poverty reduction (Birchall, 2003; Birchall, 2004), sustainable livelihoods approach (King, Adler and Grieves, 2012), community development (Vieta and Lionais, 2015) and alternative development (Mukherjee Reed and Reed, 2009), to name a few. This is because of the cooperative's unique organizational model that is people-centered, flexible, sustainable and based on a set of internationally recognized principles and values that combine social and economic goals identified by its members.

Though the cooperative model emerged alongside capitalism in response to its failures, and, more recently, has served to mitigate the adverse impacts of neoliberalism, it is also much more than this (McMurtry, 2009; King, Adler, Grieves, 2012). The cooperative model and the larger cooperative movement provide a viable alternative within and to the dominant economic order by maintaining values which oppose the fundamental premises of neoliberalism. These values are economic democracy, member ownership, subordination of capital, and solidarity (McMurtry, 2009; King, Adler, Grieves, 2012). The following section will provide an analysis of the

cooperative advantage and the neoliberal critique of cooperatives. Furthermore, it will be argued that the power of cooperatives can be more fully harnessed if the structural conditions in which they operate are conducive to their principles and values.

The cooperative model represents an alternative to the dominant investor ownership model that came to dominate with the onset of the industrial revolution. As defined by the International Cooperative Alliance, the apex organization for cooperatives worldwide, "a cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise" (International Cooperative Alliance (ICA), 2015a, para 1). Currently, there are over one billion cooperative members and 250 million people employed through cooperative enterprises (ICA, 2015b, para 1). The cooperative model has a rich history, occupies a range of sectors, and combines social, economic and cultural goals. Rooted in democracy, equity and solidarity, the cooperative model not only enriches the lives of its members and the community in which it operates, but as part of a broader social movement; it seeks to build a better world.

As people-centered, jointly-owned and democratically controlled enterprises, cooperatives have the ability to foster development at the community, regional, and national level (ICA, 2015a; Zeuli, 2002). Cooperatives are governed by internationally recognized values of self-help, self-responsibility, democracy, equality, and equity. These values are put into practice through the following principles: 'voluntary and open membership', 'democratic member control', 'member economic participation', 'autonomy and independence', 'education, training, and information', 'cooperation among cooperatives' and, finally, 'concern for the community'

(ICA, 2015a). The cooperative principles and values provide a framework to understanding the cooperative advantage.

Cooperatives are owned by the members who rely on the cooperative for their livelihood or for other economic and/or social aims. As people-centered rather than money-centered enterprises (as with investor owned firms), cooperatives channel the value added from the business to themselves rather than to investors or 'middlemen' (Birchall, 2011). The cooperative firm can be organized into three categories depending on the primary stakeholder - consumer, producer, or worker (Birchall, 2011). Consumer cooperatives provide members with quality goods at an affordable price to make incomes go further. Producer cooperatives enable members to pool resources and have greater power in the market. Worker cooperatives provide members with a fair income and also gain control over the conditions in which they work (Birchall, 2011; Zeuli, 2002). While there are different advantages associated with each cooperative category there is also significant overlap.

Agricultural cooperatives, which are the focus of this thesis, can occupy all three categories. For example: supply cooperatives utilize economies of scale and bulk purchasing to obtain farming inputs at a reduced cost; marketing cooperatives enable farmers to join together and capture more return on their product through greater market power bypassing middleman; and production (worker) cooperatives enable members to pool their land and machinery and farm collectively (Spear, 2000). While each cooperative functions differently depending on the members' needs and aspirations, the cooperative model's common feature is the central role of the members realized through a different purpose, profit allocation, and control structure

compared to other forms of ownership – i.e. investor owned firms (Birchall, 2011; Zamagni and Zamagni, 2010).

The objectives, as set by the members, focus on providing services rather than, as with capitalist firms, maximizing profit for shareholders (Birchall, 2011; Zeuli, 2002). As Zamagni and Zamagni (2010) explain, "the central objective of a cooperative is to maximize the remuneration of the member's contribution – whether it is labour, asset conferrals or patronage of the coop's goods and services..." (p. 26). The coop member exercises democratic control, is the owner and user, and maintains a direct interest in the enterprise with defined rights based on their continued "mutualistic relationship with the coop" (Zamagni and Zamagni, 2010, p. 27). Simply put, the members who rely on the firm are also those that benefit from the profit (Birchall, 2011).[2]

Furthermore, the members can pursue other aims instead of, or in addition to, profit – e.g. consumers valuing quality products; employees valuing decent working conditions. In a capitalist firm, however, a shareholder, despite being the "owner", is not likely to depend on the firm for their livelihood and is concerned primarily with capital growth and dividends. While the investors will benefit when the company performs well as its share price increases, they are not liable for the company's debts or other obligations (Zamagni and Zamagni, 2010, p. 27; Birchall, 2011). This marked difference between member-owned cooperatives and investor-owned firms is pointedly summarized by George J. Holyoake, an ardent advocate of the cooperative

[2] Members take the profits, though they do not benefit from share value as usually shares are not traded (Birchall, 2011, p. 8-9).

movement during the nineteenth century: “Capitalists hired wage labourers, paid the market price of labour, and appropriated all the gain. Cooperative labour proposes to hire capital, pay the market price for it, and appropriate all the gains’” (as cited in Zamagni and Zamagni, 2010 p. 27). Birchall (2004) explains:

> The most familiar [models] are joint stock companies, owned by people who invest in them and who take the profits, and public sector organizations, owned by government...that specify what public purposes they will pursue. These two types are so prevalent in modern society that we...tend to overlook the others and to engage in simplistic debates about the relative merits of ‘public versus private’ (p. 5).

Finally, cooperatives grow out of an identified community need or common interest. It follows that the coop members are therefore more interested in growing their community than an investor owned firmed whose shareholders typically live elsewhere and maintain no roots with the community in which the enterprise operates (Zeuli, 2002; Novkovic, 2006, 2008). Similarly, as Novkovic (2006, 2008) explains cooperatives demonstrate their care for community and mitigate market failures by internalizing externalities. Because cooperatives are not driven by profit maximization, cooperatives may operate in locations that would not appeal to investor-owned firms, hire “less productive” workers from marginalized communities, and procure locally produced goods instead of the cheapest available import (Novkovic, 2006, 2008). The community and the members are prioritized over short term gain. As Lionais and Johnstone (2009) explain,

cooperatives are place-based businesses and as such choose to locate their business operations in places for social purposes rather than strictly financial reasons.

Spear (2002) highlights additional social and economic features of the cooperative advantage – social capital, participatory, value driven, social efficiency, resiliency.[3] The social capital or relational advantage – coops build on community solidarity, strengthening relationships among members and the community improving economic performance. The participatory advantage – coops are participatory by definition and empower people, thereby making a more effective use of the resources those members bring. The value driven advantage - ethical values of cooperatives can bring intrinsic rewards for members of enterprise. This is echoed by Rodriquez-Garavito (2006) referring to "social profits" which entail a "series of individual and collective benefits – some tangible, some intangible – that, albeit seemingly minor, entail profound changes in the lives of [members of the] cooperatives" (p. 57). The social efficiency advantage where coops "have a greater social efficiency by generating positive externalities, and through their social benefits of empowerment, community links, etc." (Spear, 2002, p. 522). Finally, cooperatives are flexible and resilient and can have a positive macroeconomic effect - e.g. flexible wages and working conditions in worker cooperatives makes for less inflation and less unemployment in downturns (Spear, 2002). By recognizing their distinctive potential, and strengthening their entrepreneurial and growth strategies they can more fully reassert the cooperative advantage (Spear, 2002).

[3] It's important to note that cooperatives are not free from problems and tensions. As Spear (2002) rightly points out: "this approach is based on a perspective about potential and theoretical advantages; the real condition of cooperatives may differ for a variety of reasons and their potential may not be fulfilled, but it is important to debate and clarify the basis of their advantages, not least because the strategies of cooperatives are more likely to be successful if informed by a clearer understanding of the key features of the cooperative advantage" (p. 520-521).

From this, it is clear that cooperatives as an organizational form "best provide for bottom-up decision making structures and local ownership through their commitment to a clear alternative value system and through organization structures based on democratic [control] and decision making" (Mukherjee Reed and Reed, 2009, p. 257).

## Neoliberalism and Cooperatives

Emerging as the dominant economic form in the 1980s, Neoliberalism is set of concepts derived from neoclassical economic theory and policy prescriptions including privatization, deregulation, and liberalization (Petras and Veltmeyer, 2001). At the international level it promotes the freedom of trade in goods and services, freer circulation of capital and strengthened investor rights through powerful financial institutions such as the World Trade Organization (WTO), the International Monetary Fund (IMF) and the World Bank (WB) (Mukherjee Reed and Reed, 2009). The assumption is that an unregulated market is the best way to increase economic growth, which will ultimately benefit everyone as wealth "trickles down" from the richest to poorest. However, what has actually emerged are "huge disparities in the distribution of production resources, wealth and income" (Parpart and Veltmeyer, 2011, p. 7). While neoliberal economics is rooted in competition, self-interest, efficiency, and the maximization of profit, cooperative enterprises stress participatory democracy, income distribution equity, communal asset ownership, and solidarity. As such, cooperatives not only stand investor owned firms on their head, but they also fundamentally contradict neoliberalism (King, Adler and Grieves, 2012; Mukherjee Reed and Reed, 2009).

Not surprisingly, then, there is no significant role envisioned for cooperatives within the neoliberal economic order (Mukherjee Reed and Reed, 2009). As Mukherjee Reed and Reed (2009) explain: "cooperatives are seen as inherently inferior business models which suffer from a variety of inherent disadvantages. These include problems raising capital, risk aversion, and...inefficiencies"(p. 255). Mukherjee Reed and Reed (2009) continue that within Neoliberalism, cooperatives are only useful where there are market failures. In keeping with Neoliberal doctrine, however, by increasingly liberalizing reforms, market failures will be eliminated, and cooperatives rendered unnecessary. Accordingly, with market reforms, there will be "increasingly fewer incentives to organize in cooperatives (apart from convictions about cooperative values) and producers will increasingly convert their business first to new, hybrid cooperative forms and eventually to plcs" (cited in Mukherjee Reed and Reed, p. 247).

This understanding of why cooperatives are established is referred to by Zamagni and Zamagni (2010) as the "demand-side approach". As rational economic agents only organize cooperatively in "response to the inability of private corporations and public enterprises to meet certain social needs or resolve certain crisis situations" (Zamagni and Zamagni, 2010, p. 28). That is, cooperatives exist to alleviate market or government failures – they are viewed as the *remedy* only. As Zamagni and Zamagni (2010) point out, a closer examination of the economic literature uncovers the assumption that:

> If [society] managed to eliminate or greatly attenuate the negative effects of externalities, asymmetrical information, incomplete contracts and so on, there would be no need for cooperation. That is to say, the more closely the market

> comes to the ideal-type of perfect competition and the more the state manages to rid itself of bureaucratic excesses, internalities and rent seeking, the less need there is for coops (p. 28).

Alternatively, the "supply-side approach" asserts that cooperatives are formed because people value 'freedom to' – meaning freedom to control the enterprise one is part of. Zamagni and Zamagni (2010) subscribe to the supply-side approach arguing that:

> The cooperative form is the most advanced mode, today, of imagining our labour as an opportunity for self-realization and not just simply a factor of production. [T]he abundant economic literature comparing capitalist and cooperative enterprise never considers this aspect. Labour is never treated as anything but an 'input', an argument of the production function (p. 28-29).

Furthermore, many of the criticisms of cooperatives are based on methodological error and/or embedded in a neoclassical approach – Ward (1958), Furubotn and Pejovich (1970) and so on. McMurtry (2009) explains:

> The confusion...occurs, simply through the fact that most commentators and actors unreflectively apply dominant capitalist economic theory [i.e. "maximization of profit and utility, and individual rational agents"] to both the practice and understanding of cooperatives, an application that leans to an explicit prioritization of the "economic" (e.g. profit maximization), over "social"

> (democracy, quality of life, work, community well being)...even if the social is seen by actors and academics as important it is own right, it is relegated by this application to a second-order phenomenon premised on assumed capitalist economic activity (p. 58).

While there is no denying the importance of capital flows and surpluses as critical to organizations involved in market activity, which cooperatives are, "but just as critical is the economic difference between a cooperative structure that formally embeds values such as member ownership and control in the corporate structure and an organization where there is a prioritization of profit" (McMurtry, 2009, p. 66). As enterprises which prioritize both social and economic objectives as defined by the members, and governed by internationally accepted values and principles (which oppose the dominant economic praxis) it is unfair to judge the coop model's performance based on the neoclassical principles which the cooperative principles and values inherently contradict (McMurtry 2009; Mukherjee Reed and Reed, 2009; Zamagni and Zamagni, 2010).

Cooperatives pursue a people-centred development and favour sustainable economic and social added value over financial profit. As such, they have the capacity to act as agents of change in building a more equitable world. Though there are difficulties in managing democratic ownership, and maintaining socially driven objectives in a global economy dominated by investor-owned enterprises and the ideals of neoliberalism, enterprises where members are controlling and benefitting from their own assets serve as places of possibility.

> The formal principles of international cooperation, as well as individual cooperative by-laws, structurally imbed the economic activity of cooperatives in a social framework that is clearly distinct from "normal" capitalist economic practice in both priority and content. Importantly, these values are derived from a historical and democratic process that ensures that the principles reflect (and are open to reflecting) the social, political, and economic concerns of members as these develop in response to dominant conditions" (McMurty, 2009, p. 57).[4]

## Cooperatives & Development

There are many historical successes and current examples that demonstrate the value and effectiveness of cooperatives to development. Various international actors including the United Nations, the International Labour Organization, and the International Cooperative Alliance, agree that the cooperative model addresses poverty reduction and exclusion (ILO, 2014). For example, the ILO (2014) states that cooperatives reduce poverty by "identify[ing] economic opportunities for their members; empower[ing] the disadvantaged to defend their interests; provid[ing] security to the poor by allowing them to convert individual risks into collective risks; and mediat[ing] member access to assets that they utilize to earn a living" (p. 3). Cooperatives not only facilitate the pooling of resources among members but also contribute to local and regional development through the interlinkages among cooperatives, making for stronger, more resilient networks and communities (Bateman and Novkovic, 2015). Furthermore, as will be demonstrated

[4] Nokovic and Golja (2015) acknowledge the "dual potential of cooperatives as tools for progressive community development rooted in social justice issues or, equally, of the neo-liberal status quo. In other words, coops may also be employed within a redistributionist economic model that ultimately upholds the capitalistic framework rather than one connected to an alternative social-economic project" (as cited in Vieta and Lionais, 2015).

by the experience of *Emilia Romagna* in Italy, a supportive public policy environment can further strengthen the cooperative contribution to broad-based economic and human development (Adeler, 2009).

*Cooperatives, Income Generation & Poverty Reduction*

Much of the literature on cooperatives in the African context focuses on the cooperative contribution to poverty reduction (Birchall and Simmons, 2008, 2009; Wanyama, Pollet, Develtere, 2008a; Wanyama, Pollet, Develtere, 2008b; Kwapong and Korugyendo, 2010). Wanyama, Pollet, and Develtere (2008a) conducted in-depth case studies of eleven African countries to assess the cooperative sector's value in resolving some of the continent's major challenges. The study shows that cooperatives contribute to poverty alleviation through employment creation and income-earning opportunities by increasing market share and providing financial services that enable members to send family to school, build houses, invest in small business and agriculture, and meet other family expenses (Birchall and Simmons, 2008, 2009; Wanyama, Pollet, Develtere, 2008a; Wanyama, Pollet, Develtere, 2008b; Kwapong and Korugyendo, 2010). Cooperatives employ people directly, and indirectly they promote employment through "creating marketing opportunities and improving marketing conditions" (ILO, 2014, p. 8). Cooperatives also indirectly create employment through the spillover effect in which non-members' economic activities are related to, and made possible by, transactions with the cooperative – for example, tradespeople or input suppliers (ILO, 2014).

Cooperatives in Africa are primarily involved in the agricultural sector or are savings and

credit cooperatives (SACCOs) (cited in Hartley and Johnson, 2014). SACCOs as user-owned financial institutions that offer both savings and credit services to their members are participatory and responsive to local needs. By facilitating their members' access to financial services and capital, providing loans at reasonable rates of interest, and providing members a safe place to save to their income, SACCOs are a major source of the "productive resources that are invested by members to create employment opportunities and increase income to the household" (Wanyama et al., 2008b). This is possible due to the growing ability of these cooperatives to mobilize substantial savings from which members can borrow. For instance, in Kenya, SACCOs are a major player in the financial sectors. "In 2004, their turnover almost doubled the combined income of all agricultural cooperatives" (Wanyama et al., 2008b). As Wanyama et al. (2008b) explains:

> At Maseno University SACCO in Kenya, members have obtained loans to invest in businesses and farming, not just to supplement their incomes, but also to create employment for their spouses. In Rwanda, members of Assetamorwa (Association de l'Espérance des Taxi Motos au Rwanda), a cooperative and trade union for motorcycle taxi drivers, have got loans from their cooperative to buy their own motorcycles to enhance their incomes. They previously paid extortionate daily rental fees to owners of the hired motorcycles. In Ethiopia, SACCOs generate self-employment for about 400,000 people all over the country by extending small loans to microentrepreneurs in handicrafts and service sectors. The list of similar examples can be long (p. 7).

On the other hand, agricultural cooperatives help farmers access the inputs required to grow crops and keep livestock (ILO, 2014). Cooperatives enable members to process, transport and market their produce to earn and increase their income (Wanyama et al., 2008b). In Tanzania, improved cooperative marketing of agricultural products like milk and coffee has meant that cooperative members can afford fees for education of their children; in Egypt, 4 million farmers derive income from selling agricultural produce through agricultural marketing cooperatives; and in Ethiopia, 900,000 people in the agricultural sector are estimated to generate most of their income through their cooperatives (Wanyama et al., 2008a). In addition, some authors insist on the cooperatives' "potential to reduce transaction costs for the members who face incomplete markets, imperfect information and little government-provided institutional and physical infrastructure" (Wanyama et al., 2008a, p. 76).

Furthermore, "even more significant for income-generation is the fact that these cooperatives "…also try to increase their income margins by negotiating for better prices" (Wanyama et al. 2008b, p. 6). In Ethiopia, grain producers' cooperatives play an important role in securing better prices for farmers throughout the year. This effort reduces the seasonal price fluctuation and stabilizes the local grain markets in favour of the coop members. As a result, farmers have not been harshly impacted by price fluctuations. Some cooperatives "also help members confronted with the vagaries of world markets" (Wanyama et al., 2008a, p. 76). Studying Ethiopian coffee farmers' cooperatives it was concluded that they successfully position the small-holders in the unpredictable international coffee market by penetrating alternative markets that offer better prices in North America and Europe through fair trade linkages (Wanyama 2008a, 2008b).

As mentioned, Birchall (2003) argues that cooperatives have the potential to reduce poverty and – "provided their values and principles are respected – will do this more effectively than other forms of economic organization" (p. 4). It is argued that cooperatives "change the institutional setting in which people work and live to the advantage of those who have fewer resources at their disposal" (Wanyama et al., 2008a). "They pool the risks and enhance the risk-mitigating capacity of the members by bringing together their capital and capacities in a synergetic way" (Wanyama et al., 2008a, p. 75). While the members are the beneficiaries it can also be argued that cooperatives have a positive effect on non-members and the broader community. Wanyama, et al. (2008a) assert that "the group which is empowered by the cooperative and which is less poor or at least less vulnerable, thanks to the cooperative, shows the way ahead for people in similar circumstances. These non-members might also benefit from more affordable interest rates, higher wages, better infrastructure or even more equitable power relations that come as a consequence of the cooperative" (p. 75). Cooperatives are often formed in poverty-ridden areas and count a majority of poor people amongst their members. However, "they [also] have the advantage…of not excluding the not so poor and capitalize on the expertise, the social capital and the financial contribution of this group" (Wanyama, Fredrick, et al., 2008, p. 83).

With the members' interests and welfare at the center of their business models, cooperative enterprises play a critical role in achieving greater social inclusion, reduce poverty, generate employment and impact income in many countries throughout Africa and the Global South.

*Cooperatives Networks: Democracy & Resiliency*

The role of cooperatives in local and regional development is demonstrated by the successes in the "localities and regions that flourished thanks to the pooling of local resources and the sustained expansion of significant numbers of inter-linked cooperative networks" (Bateman and Novkovic, 2015, p. 1). Two important examples are the Basque region of northern Spain as well as Emilia Romagna in northern Italy.

*Mondragón Corporación Cooperativa—MCC*

Mondragón Corporación Cooperativa (MCC) originated in 1943 when José María Arizmendiarrieta, a catholic priest, established a technical school in Mondragón in the Basque region of Spain to mitigate the high unemployment rate and widespread poverty resulting from Francisco Franco's reign (Lionais and Johnstone, 2009). Though critical of the capitalist system, José María believed that business most heavily influenced society and therefore, society could be changed if business was based on cooperativism; "He believed that business should operate for the people and not vice versa" (Lionais and Johnstone, 2009, p. 22). Starting with a training school for working class students with few job prospects, students then formed into small workers' cooperatives manufacturing kerosene stoves. New enterprises were then created to supply one another with the needed products and services and a cooperative bank known as the Caja Laboral Popular (CLP), was established to pool the savings of individuals and business members which enabled them to have the cash they needed to expand. This played a playing a crucial role in the rapid development of the network and the region (Smith, 2001).

José María suggested the original guiding principles of the Mondragón cooperatives, which continue to exist today (though in modified form). Mondragón is dedicated to the sovereignty of labour (over capital), participation in management, democratic organization and inter-cooperation (Lizzaralde, 2009). Coop members are co-owners of their workplaces, enjoy job security with individual capital holdings, equal sharing of profits on a proportionate basis with an equal 'one-member one vote' in their governance. Today, Mondragón is "comprised of…75 coops organized into financial, industrial, and distribution groups, administrative services, marketing, research and training bodies, and foreign subsidiaries, which brings the total number of entities in the group to about 120…making it the largest industrial group in the Basque region, and eighth-largest in Spain" (Smith, 2001).

One of the most striking features of Mondragón is the "networking together of large groups of labour coops" (Smith, 2001, p. 17). Smith (2001) argues:

> No explanation for [Mondragón's] continued economic success through times of severe economic dislocations can overlook this obvious…empirical fact. A central hypothesis…is that coops may benefit from being in a region with other coops, or in a sector in which there are many coops, or within a supply chain (that is, having significant forward or backward linkages) in which coops are common. In other words, there are network externalities, or complementarities of organizational type, at least when it comes to the coop organizational form. As a result, networks such as…Mondragón can serve to internalize some key externalities that could otherwise pose significant problems for individual coops

> operating in isolation. Indeed, one of the central points [argued is] that it is the creation of these coop networks themselves that is their most important innovation and adaptation (p. 17).

Another central feature of Mondragón is, as with all coops that follow the ICA internationally recognized principles, is democracy and worker empowerment. Mondragón has developed "adequate mechanisms and channels for participation, transparent information with respect to...the basic management variables of the coop; the use of methods of consultation and negotiation with the worker-members and their social representatives in those economic, organizational and labour decisions which affect them" (Smith, 2001). According to Lizarralde (2009):

> The assumption of management processes that explore new possibilities through experimentation, trials, autonomy, freedom, intuition and working at the edge of knowledge and experience with self-organizing teams is the way to be more innovative and to promote the development of the region in which they operate. In the realm of complex adaptive systems, progress emerges from interaction among actors (teams, organizations). Here, we are talking about the balance between cooperation and competition. This means that innovations are more likely to emerge in a community whose members can feel safe to expose their ideas, experiment and learn together (cooperate with each other) and at the same time compete (p. 37).

In other words, democratic workplaces do not equate with inefficient workplaces and even if there are some inefficiencies the benefits on decentralizing decision making certainly outweigh minor "inefficiencies" (Smith, 2001). "Additional advantages of more democratic decision making include: avoiding opportunism of owners against workers with investments in firm specific human capital; better aggregation of preferences over working conditions; the adding of an additional channel of management monitoring in the face of agency problems; and better incentives for small-scale innovation" (Smith, 2001, p. 31).

Furthermore, according to Davidson (2011), "less than six of the 120 cooperatives have failed over 50 years, and in the most recent economic crisis, no cooperative failed, salary reductions were modest, and the only workers laid off were the trial-period new hires" (p. 6). MCC remains a dominant force in the Basque economy today, has much influence in Spain and in high-tech manufacturing worldwide (Davidson, 2011). In Spain, unemployment climbed to over 25% and 53% among young people. However, unemployment rates in the Basque region remained at less than half the national average because of the resiliency built into the MCC model (Matthews, 2012).

This is partly because "Mondragón provides temporary subsidies during the period of coop distress. To avoid moral hazard, support requires that the pain is shared, with reduced wages, and reduced values of internal capital accounts; it is not uncommon to see some members temporarily transferred to other coops" (Smith, 2001, p. 27). "There have been a handful of failures since 1992, with most resulting in mergers with other coops" (Smith, 2001, p. 28). Some critics have claimed that the organizational changes mean that Mondragón is more like

a corporation rather than a network of cooperatives; however, interview participants in Smith's (2001) study emphasized the 'inverted-pyramid' of Mondragón. "While the official corporate chart of MCC might resemble that of an ordinary holding company, in reality all the authority is held by the individual coops, so that the apparent 'base' of the pyramid [is] really its (functional) apex (Smith, 2001, p. 28). "These changes rather reflect the impressive resilience and organizational innovation made possible by the coop sector when it is organized into effective networks that can help internalize externalities and take advantage of economies of scale and scope" (Smith, p. 30). Risk of job loss is significantly lower in cooperatives firm and in the case of Mondragón, decisions are made to mitigate the risk of closure and layoffs (Smith, 2001). "In fact, [Mondragón] coops have prospered, successfully adapting to significant shocks, notably increased competition from national deregulation and international integration in the EU, and rapid technological change" (Smith, 2001, p. 43). Available information demonstrates that:

> Firm exits are well below comparable industry averages. Moreover, these complexes have maintained the cooperative employee ownership and decision making character of their member coops through decades of dramatic changes in the European economy. Thus, these firms not only stay in business but keep their labour cooperative form over a period of significant shocks (Smith, 2001, p. 43).

*Emilia Romagna*

While coop networks also play a key role in Italy's coops, the supportive public policy environment has been particularly crucial (Adeler, 2009).[5] Italy has over 800,000 cooperative members and almost half are part of worker or social coops (Corcoran and Wilson, 2010). Italian coops are "market leaders in the retail trade, where they cover more than 1/3 of the market, in the agro-industrial business with again about 1/3 of the market, while in personal services, social cooperatives account for more than 50% of the market. They boast substantial companies in credit, insurance (including the second largest Italian insurance company), the construction industry, manufacturing, catering, logistics, transportation, facility management, housing, and the media" (Zamagni and Zamagni, 2015).[6] In the northern region of Emilia Romagna, there are over 7,500 coops, two-thirds of which are worker-owned (Corcoran and Wilson, 2010). These coops tend to be very small scale; however, according to Stefano Zamagni, "worker cooperatives…generate about 30% of the GDP in the region and up to 60% of the GDP in some cities like Imola. In Bologna itself, 15 of the 50 largest businesses are coops, and coops employ 25,000, or 10% of the labour force" (cited in Corcoran and Wilson, 2010, p. 6).

According to Adeler (2009), based on comparative research on enabling policy environments in Italy, Spain and Canada, the findings demonstrate that "the level of cooperative development is directly related to the nature of the supportive environment, the strength of the

[5] "The three main federations — Confederazione Cooperative Italiane, Lega Nazionale delle Cooperative e Mutue, and Associazione Generale — each have their own financial institutions and insurance companies as well as training and research and development centres. They also provide services to their members such as payroll and legal assistance, workplace safety training, skills development, tax preparation, collective bargaining, and more (Logue 2006). These federations also each manage coop development funds that offer below-market-rate loans to finance new coop start-ups, conversions, and expansions" (Adeler, 2009, p. 9).

sector's infrastructure, and government commitment to enabling the growth of this environment and infrastructure through policy, programming, and funding" (p. 19). As Adeler (2009) explains:

> All of the regions under study have an infrastructure that provides technical assistance and coop development services for communities and collective entrepreneurs. These services are complimented by funds to support cooperative development, an important acknowledgement that coop start-ups require both technical support and financial resources. These services are not only reactive to demand but also play an animating function that seeks out new opportunities for cooperative development and brings people and resources together to take advantage of them (p. 19-20).

Italy's public policy has enabled the development of coops. In fact, it is enshrined in the Constitution under Article 45 which states that "the Republic recognizes the social function of cooperation with mutual character and without private speculation purposes. The law promotes and favours its growth with the most appropriate means, and ensures, with appropriate controls, its character and purposes" (as cited in Corcoran and Wilson, 2010). "Strong political and ideological movements (socialist-communist and catholic) have increased the strength of cooperation, leading up to the building of most of the largest Italian cooperatives in Italy" (Zamagni, 2016, para. 5).

By having cooperatives in the constitution, the Italian government was engaged in passing laws that were supportive of cooperative development and maintenance, especially in

terms of capitalization (Zamagni, 2016). Following the introduction of article 45, legislation was quickly introduced that set out the rules for coops[7] and "introduced the compulsory registration into a registry, which allowed coops to be eligible for the subsidies that the national or local governments would introduce..." (Zamagni, 2016, para 3). "Profits in Italian coops are exempt from tax as long as they are re-invested in the cooperative. The requirement under the current Italian law is that at least 30% of the annual net profit must be allocated to an indivisible reserve. John Logue noted that the Basevi Law of 1947 gives this 40% tax advantage because cooperatives are seen as a public good that is available to future workers" (cited in Corcoran and Wilson, 2010, p. 7).

According to Corcoran and Wilson (2010), the Italian government also supported coop development "through the establishment of regional economic development agencies, which provide shared services in "research and development, education and training, workplace safety, technology transfer, marketing and distribution, and exporting," among others. The agencies set up and support business clusters, with a focus on cooperatives, as a way of combining the "economies of scale with the advantages and flexibility of small business" in the so-called flexible manufacturing of the Emilia-Romagna region" (cited in Corcoran and Wilson, 2010, p. 15).

Based on this it is clear that the cooperative model is an effective tool for socio-ecoonmic development, however, the availability of a supportive public policy environment as well as

[7] "One head/one vote, open door, a minimum of nine members, a ban on members who had a private business in the same field, a ban on distribution of indivisible reserves, even in the event of liquidation of coops" (Zamagni, 2016, p. 4)

strong cooperative networks and infrastructure is important. For this reason, the next section will demonstrate the relationship between cooperatives and socialism.

## Cooperatives and Socialism

As mentioned, the cooperative model and the larger cooperative movement provide a viable alternative within and to the dominant economic order by maintaining values which oppose the fundamental premises of neoliberalism. These values are economic democracy, member ownership, subordination of capital, and solidarity (McMurtry, 2009; King, Adler, Grieves, 2012). The power of cooperatives can be more fully harnessed if the structural conditions in which they operate are conducive to their principles and values. For this reason, it is important to briefly explore the relationship between cooperativism and socialism to help inform an understanding of the cooperative experience in Socialist Cuba.

As Sonja Novkovic (2012) explains, "cooperatives…function mostly in capitalist economies [and] [t]hey have developed particular institutional characteristics based on their economic environment and challenges arising from the economic system around them" (Novkovic, 2012, p. 3). Capitalism, as an economic system that necessitates private ownership and accumulation of capital, "the underlying values are…centered on the sovereignty of capital ownership…and [l]abour is a resource in production, separate from a person's social needs" (Novkovic, 2012, p. 7). On the other hand, Socialism is both an economic system and social movement. According to the Marxist tradition, Socialism focuses on the means of production being owned and controlled by workers. According to Novkovic (2012):

> In practice, [socialism] has been understood to mean that the state in the name of its citizens owns and controls the means of production (the centralized Soviet system), or that workers control the socially owned means of production (Yugoslavian decentralized model of self-management). As a social movement, socialism is about ensuring human development, equity, and social justice. With attention to people's needs at its core, the purpose of a socialist society is captured in the subordination of capital, it calls for fair income distribution, and in ensuring general access to social security and the provision of basic necessities, such as food, shelter, healthcare and education, among others. Rooted in the labour theory of value (Ricardo; Marx), work is the main source of income in socialism, with labour (rather than capital) as rightful owner of the residual income, i.e. profit.…financial capital is viewed as a resource in production, rather than a goal in itself; and, in the self-managed variant of socialism, governance is democratic, i.e. on the micro-economic level (p. 5).

As Harnecker (2013) explains cooperatives "can be tools…for making progress in overcoming the capitalist logic of maximizing individual benefits and in establishing the socialist logic of meeting the needs of human development while being respectful of nature…cooperatives and other forms of self-management can serve as invaluable spaces for people to experience…the social relations that should characterize future post-capitalist society, and to reproduce the socialist values they generate" (Harnecker, 2013, p. 15). While history showcases examples of socialist transformation that is top-down and "instead of empowering workers and farmers, empowered its institutions and leaders", and Cuba is not free from this criticism, with

the introduction of the *los Lineamientos* (The Policy Guidelines) – a set of comprehensive social and economic reforms – a socialism for the 21st century may chart a new socialist course based on the cooperative model (Harnecker, 2013, p. 86; Holm, 2014). For this to occur, however, the state needs to adjust its way operating from controlling enterprises to engaging in interventions that make the market work better for all (Killick and Stevens, 1992). In drawing on lessons from the Eastern European experience Killick and Stevens (1992) underline the importance of the state's continued role in providing for 'infrastructural investments' and 'institutional framework' to support and 'stimulate private sector investment and production' (p. 32).

In an era of neo-liberal globalization where the free market is argued by many to guarantee food security, this case study will demonstrate the role the role of agricultural cooperatives in applying the food sovereignty approach to achieve food security as well as the synergistic (though not without its challenges) relationship between cooperatives and socialism to contribute to greater food security for Cuba.

## Agricultural Cooperatives, Food Sovereignty, and Food Security

Agricultural cooperatives not only impact food security, but are well suited to deliver the food sovereignty approach. King, Adler and Grieves (2012) state, "Cooperative enterprises…constitute a model for a people-centered and sustainable form of societal organization…" (p. 1). Unlike other business structures, cooperatives are guided by a set of principles and values. Social responsibility and 'the values of self-help, self-responsibility, democracy, equality, equity, and solidarity" are considered the cornerstone of cooperatives worldwide (ICA, 2012). As Wittman (2011) outlined, food sovereignty resists market-driven globalization, hierarchical, corporate

control, in favour of an approach that puts decision making to farmers and food producers, as well as citizens and local consumers. Cooperatives, as jointly owned, democratic enterprises engaged in the production and distribution of goods, operated by members to ensure the equal distribution of these goods as well as the mutual benefits of their collective efforts, embody the food sovereignty approach (Brennan, 2005; King, Adler and Grieves, 2012).

Reed and McMurtry (2009) explain that the cooperative commitment to local ownership and control of production, involves a more direct and bottom-up approach to economic decision making and, as evidenced by development projects that have failed, those that lack these qualities are unlikely to reflect the needs and aspirations of the local population, resulting in an ineffective and unsustainable project. In addition, cooperatives allow for the pooling of resources to achieve a critical mass as well as an increased ability to draw upon local social capital (Reed and McMurtry, 2009). According to Via Campesina, food sovereignty "gives market access to local producers" and promotes local economic development in rural areas through the recreation of local cycles of production and consumption (Rosset , 2009) – exactly what cooperatives do. As Kimberly Zeuli (2002) notes, "cooperatives combine people, resources, and capital into larger, more viable and economically competitive units" (p. 1). While food security means people "must have the certainty of having enough to eat each day", as Rosset (2009) explains, "to achieve genuine food sovereignty, people in rural areas must have access to productive land and receive prices for their crops that allow them to make a decent living, while feeding their nation's people" (p. 116). Coops enable small farmers to reap economies of scale by networking, i.e. forming cooperatives for particular purposes such as marketing, input purchasing, distribution, joint services, etc.

Agricultural cooperatives, operating under principles that imply a strong concern for sustainability and equity, have a major role to play in providing farmers with access to the resources they need for production and also markets where they can move their products. As Reed and McMurtry (2009) explain, cooperatives facilitate and draw on networks involving a full range of cooperative actors involved in production, distribution, and finance, helping members to overcome the disadvantages they would normally face in the traditional economy. Such networks and the resources they provide facilitate development by strengthening the local economy and reducing the vulnerability of individual enterprises to exogenous shocks (Reed and McMurtry, 2009). Furthermore, they give farmers the opportunity to participate in the decision-making process, giving them greater access to land and greater negotiating powers. As a result, agricultural cooperatives ultimately help to reduce poverty by ensuring greater food security through food sovereignty in communities across the globe. By changing the focus of development and food production from export-led, free trade, industrial production in favour of democratic cooperatives, broad-based community development will result (Brennan, 2005; McMurtry and Reed, 2009; Rosset, 2011).

While there are different approaches to achieving food security, it is argued that the food sovereignty approach is the best as it is people focused, values producers, emphasizes self-sufficiency and protects against disruptions in the global market. While a more thorough understanding of the Cuban context will follow, what is important to note from this literature review is how the cooperative model aligns with the food sovereignty approach. Agricultural cooperatives as enterprises that are based on democratic control of production, and a

commitment to community are most likely to reflect the needs and aspirations of the local population and produce effective and sustainable outcomes with regard to food security.

Chapter 3

# Historical Overview of Agricultural Production in Cuba

## Introduction

In order to understand the current contribution of agricultural cooperatives to food security in Cuba, it is necessary to trace and analyze the development of the nation's agricultural sector. For purposes of this chapter, Cuba's agricultural sector development is divided into three phases: The Republic of Cuba (1902-1958), The Revolutionary Period (1959-1989), and the Special Period in Time of Peace (1990-1996).[8]

The first two periods were marked by debilitating dependency on a primary trading partner, the concentration of landholdings in either private or state hands, and a reliance on imports to meet the nutritional needs of the population. These features resulted in a high vulnerability to external political and economic pressures and the boom and bust of the international market, leading to a food insecure state. However, as will be demonstrated by an analysis of the Special Period in Time of Peace, Cuba's reorganization of agriculture led to an increase in domestic production, the availability of more diversified foods, and an increased income for farmers. This moved the nation towards increased self-sufficiency and thus, a more food secure position (though, as will be discussed, Cuba is presently heavily reliant on imports).

[8] The Special Period was publically declared by the leadership in 1990, and reached its peak in 1993. However, debate still surrounds the end date of this period.

As will be explained, whether part of the neoliberal regime or, in the instance of Cuba, wholly dependent on one trading partner (i.e. the Soviet Union) for its food needs, being heavily reliant on international trade, as well as a highly capital-intensive, export-oriented, agricultural development model that was over-specialized and excessively dependent on external inputs (such as fertilizers and pesticides), created social, economic and ecological harm and did little to promote food security. Cuba has facilitated sustainable local agricultural practices that put the power back in local hands through the support of agricultural cooperatives. As enterprises that are based on democratic control of production, enable the pooling of resources, greater access to land and negotiating power, and rooted in the local community, cooperatives are most likely to reflect the needs and aspirations of the local population and produce effective and sustainable outcomes with regard to food security. Whether this task is achieved also depends on the supporting policies and institutional frameworks set by the state.

## Republic of Cuba (1902-1958)

In the aftermath of the Spanish-American War, Cuba seceded from Spanish rule in 1898 and gained formal independence from the United States on May 20, 1902. However, the newly independent Republic of Cuba remained subject to foreign control as the United States retained the right to intervene in Cuban affairs and to supervise its finances and foreign relations. Through the imposition of the Platt Amendment[9], the Republic of Cuba became a pseudo-republic or neo-colony characterized by "*latifundia* [enormous sugarcane plantations and ranches] dominated by

[9] The Platt Amendment stipulated the conditions for U.S. intervention in Cuban affairs.

U.S. firms; the supremacy of one crop and one export – sugarcane; and one main trading partner - the United States" (Alvarez, 2004, p. 2).

According to Palma et al. (2015), during the first twenty-five years of the Cuban Republic, over one third of the land was controlled by nearly 250 large landowners with 45 percent of these farms devoted to sugar production. Based on figures provided by Cuba's National Statistics Office (ONE), 9.4 percent of landowners owned 73 percent of the country's land[10] and, as Wright (2009) explains, "thirteen of the sugarcane *latifundios* were producing 70 percent of total sugar output" (cited in Chan and Roach, 2012, p. 53). Accordingly, sugarcane accounted for more than 75 percent of Cuba's total value of exports resulting in an economy highly vulnerable to fluctuations in the world market price for sugar (Funes et al., 2002).

By prioritizing sugar production over other sectors, the country became increasingly dependent on the United States. The Cuban sugar industry required substantial injections of foreign capital and machinery and by the 1920s, U.S. investors held a majority interest (60 percent) in the sugar industry and controlled 95 percent of the harvest. In the decade preceding the revolution, the United States continued to dominate Cuba's foreign trade. Gonzalez (2003) explains:

> The United States received 66% of Cuba's exports and supplied 75% of Cuba's imports. Consistent with the pattern established in the late

[10] Put another way, as cited in Chan and Roach (2012), prior to 1959, twenty-five percent of the land was in the hands of foreign capital, mainly American, "while the national bourgeoisie monopolized another twenty percent" (Valdés Paz 2005a, 22). These *latifundios* owned 95% of the farms over 402 hectares (Valdés Paz 2005b, 10).

> eighteenth century, food accounted for nearly 30% of Cuba's imports from the United States and approximately 20% of Cuba's total imports. In 1958, the United States exported more agricultural products to Cuba than to any other Latin American nation, including many items (such as oil, lard, and half of Cuba's consumption of fruits and vegetables) that could easily be produced in Cuba (p. 693).

Furthermore, the number of small, diversified farms decreased by more than 50 percent, from 90,000 in 1895 to 38,130 in 1934 (Wright, 2009). In contrast to the intensively farmed *latifundios*, small farmers typically used traditional farming knowledge and low-input methods. Moreover, small farmers' landholdings were restricted to *minifundios*[11] largely through tenancy, sub-tenancy, share-holding and land administration (Wright, 2009).

The social and economic repercussions of such highly concentrated wealth and unequal distribution of essential productive agricultural resources were great. With the majority of fertile lands under foreign control, over 600,000 Cubans (out of a total population of six million), were unemployed, and more than 500,000 were forced to settle for part-time agricultural labour working four months or less in any given year (Funes et al., 2002). Gonzalez (2003) explains, "sugar monoculture...contributed to rural unemployment, [as] the industry employed one-third of the Cuban labor force...during the four-month sugar harvest, but most of these workers were

[11] The definition of *minifundio* used by the Inter-American Committee for Agricultural Development embodies an economic and social criterion: it is taken to mean a plot of land which is too small to provide full employment for one family (2 man years) and cannot yield an income sufficient to sustain a standard of living considered to be the adequate minimum for the region concerned (Furtado, 1976, p. 75).

unemployed, or underemployed, for the remainder of the year" (p. 692). Moreover, farm gate prices were low, while the difference between these and retail prices ranged between 800 and 3200 per cent (Wright, 2009). Consequently, the rural majority, in addition to high unemployment and low wages, experienced poor living conditions, illiteracy and malnutrition.

> The maximum annual income of agricultural workers was less than 300 Cuban pesos, with subhuman living standards – 60 percent were living in palm huts with dirt floors. There were no sanitary installations,[...]simple latrines or running water. Seventy-nine percent used kerosene for light, while the rest had no nighttime illumination. In terms of food, only 11 percent consumed milk, 4 percent meat, and 20 percent eggs, while the main staples of their diet were rice, beans, roots and tubers. Forty-three percent were illiterate and 44 percent never attended school (Funes et al., 2002, p. 28).

From the 15th to mid-20th century, Cuban agriculture developed in a socioeconomic and political context marked by feudal and semi-feudal colonial regimes, followed by neocolonial capitalism (Chan and Roach, 2012). By the 1950s Cuba was a supplier of raw materials, and a buyer of many goods, especially from the United States. As stated above, a country that relies heavily on a single export crop, is largely dependent on a single market, and is characterized by highly concentrated wealth and control over productive resources at the expense of the rural majority, is considered food insecure.

### The Cuban Revolution to pre-Soviet Union Collapse (1959-1989)

Heavily supported by the rural population, the Socialist Revolution of 1959 was determined to transform the Cuban economy and society. Central to both was the emphasis on agriculture and for over 50 years, Castro's Cuba continually sought improvements to the agricultural system (Wright, 2009). According to Funes et al. (2002) the agricultural sector was to be reformed "to meet the food requirements of the population; to generate export earnings; to provide raw materials for industry; [and] to eradicate poverty…in the countryside" (p. 4). However, as with most countries' food systems, Cuba was made vulnerable due to the structures inherited from the colonial and Republic era, its dependency on external markets and favourable trade conditions, and its own poor policy choices (Wright, 2009; Alvarez, 2004). The following historical overview of agricultural production from the Revolution to the *Special Period in Time of Peace* will provide an explanation of these vulnerabilities and their impact on Cuba's food security situation in terms of land tenure, trade, the "modernization" of agriculture (large scale, high-input, mechanization, chemicalization), and the environment.

## Land Reform

On January 1, 1959 Fidel Castro marched into Havana and declared the Revolution. Fulgencio Batista, the US-supported presidential dictator, and Batista allies fled the country as the new Socialist government brought in sweeping agricultural reforms (Wright, 2009). On May 17$^{th}$ of the same year, the First Agrarian Reform – The Agrarian Reform Act of 1959 – sought to transform the inequitable landholding structure that had persisted for centuries (Gonzalez, 2003). The reform abolished the *latifundia* (estates larger than 402 hectares) and divided the remaining land among those cultivating it - tenants, subtenants, sharecroppers, squatters, and agricultural

laborers (Alvarez, 2004; Gonzalez, 2003; Wright, 2009)[12]. In addition, every farming family of five or more members were given 27ha to live on and the right to purchase up to 67ha. The only exception to the reform was land dedicated to export crops; in this case, up to 1342ha were permitted (Wright, 2009). Most of the large estates, especially sugar plantations and cattle ranches, were turned over to state-controlled cooperatives (Gonzalez, 2003). The dismantling of large national and foreign-owned landholdings and the provision of land to those that worked it was a watershed in Cuba's history and fundamentally transformed the quality of life for the rural population.

In October of 1963, the Second Agrarian Reform Law was introduced. The Second Reform stipulated that all landholdings in excess of 67ha would be nationalized and all agricultural production was to be centrally organized by the state (Wright 2009). As Alvarez (2004) explains, the reasons behind the Second Reform were twofold: "(1) socialist property ownership had advanced farther in other sectors of the economy, although limits on land ownership were considered unacceptable; and (2) the rural bourgeoisie was in conflict with the revolutionary process, helping armed groups fighting the government" (Aranda, 1968, p. 189). While the first reform affected land belonging to foreign companies and large owners, the second impacted medium-sized Cuban farmers (Alvarez, 2004). Wright (2009) elaborates:

> Many farmer landowners and professionals fled the country, taking their agricultural knowledge with them....and other large landowners...ran

[12] Funes (2002) notes that around this time low-chemical input approaches were encouraged for small farmer production.

> down their holdings, which would adversely affect production for years to come. Meanwhile, many farm labourers migrated to the cities (p. 54).

As a result of the 1963 agrarian reform, "only 30% of agricultural lands and 30% of the agrarian labor force remained in the private sector" (Gonzalez, 2003, p. 699). Gonzalez asserts that the state farms enabled the government to control the food supply and mitigate food shortages. Small farmers joined Credit and Service Cooperatives (CCSs), first established in 1960, and Agricultural Production Cooperatives (CPA) which were founded in 1977 (Funes et al., 2002; Wright, 2009).

The CCSs comprised the voluntary association of small farmers who had received land through agrarian reform – either the ownership of or usufruct over their lands and other means of production. In this type of cooperative, individual farmers work their farms independently, but join together to receive credit and services from state agencies, "procure new types of technology (which were too expensive or complex for individual producers to acquire), and obtain other benefits in marketing, prices and so on" (Nova González, 2013, p. 280). Funes et al. (2002) explain that, while this model is consistent with the traditional definition of private ownership, the farmer is also "economically integrated into the community through membership in the CCS" (p. 77). CCS members purchase inputs and sell products at fixed prices through state agencies, based on production plans and contracts established with state distribution systems. In 1961, the National Association of Small Farmers (ANAP) was founded to represent individual farmers as well as CCS members to provide loans and other supports (Nova González, 2013).

The second oldest production cooperatives in Cuba are the Agricultural Production Cooperatives (CPA) (Funes et al., 2002; Wright, 2009). "During the 1970s and particularly starting in 1975, after the First Congress of the Cuban Communist Party, the decision was made to support and develop the cooperative movement among farmers who had received land under the agrarian reform. The need to move more advanced forms of production was proposed and the Agricultural Productions Cooperatives were formed" (Nova González, 2013, p. 282). Modeled on the Soviet *kolkhoz* collective farms, CPAs were formed by farmers who chose to join together their individual plots of land and pool resources for "increased production, marketing and economic efficiency" (Funes et al., 2002, p. 61). In addition to pooling resources (land, labour, livestock, materials), the farmers also shared in all investment and production outputs (Wright, 2009). Therefore, the CPAs are characterized by the transformation of individual property into social or collective property.

While "the CPAs, along with the previously formed CCSs, gave rise to an important cooperative movement in Cuban agriculture…after this initial process of the development of agricultural cooperativism, it showed little change and instead became stagnant. All subsequent development of Cuban agriculture was the result of a policy based on state property of the land. Until 1993, 82 percent of the country's land was under various forms of state ownership and management" (Nova González, 2013, p. 282).

During this time, Cuba was under pressure from the Soviet Union to adopt a similar agricultural model, as collectivization would enable the government to "modernize" agriculture in terms of mechanization, large-scale irrigation and inputs (fertilizers and pesticides), which would

also be more conducive to sugar production to address Cuba's need for export earnings. Unfortunately, the heavy dependence on sugar, the vulnerabilities resulting from high-input "modernized" agriculture, and the low efficiency and productivity of state farms did not encourage a food secure state. While these characteristics of Cuba's agriculture will each be explained, a more detailed analysis of Cuba's reliance on sugar is required to explicate the issues associated with an export economy and its impact on a nation's food security.

## Cuba's Sugar Dependency

In the first years of the Revolution, agricultural diversification was prioritized as sugar monoculture was blamed for many of Cuba's economic misfortunes (Enríquez, 2000; Gonzalez, 2003). Diversification efforts and import substitution crops such as rice, potatoes, onions, soya and peanuts on former *latifundia* commenced to better meet the country's food security needs (Wright 2009). However, as Gonzalez (2003) explains:

> Because sugar is a perennial crop, the high production figures for the 1959-1961 period obscured the long-term consequences of failing to plant new sugar cane. By 1962, sugar output had declined by 30% relative to 1961 levels, without offsetting increases in industrial production or in the production of other agricultural products (p. 704).

With a growing trade deficit and the increased tightening of the U.S. embargo coupled with existing favourable conditions to support sugar production – e.g. climate, infrastructure, expertise, and strong demand from the Socialist trading block to purchase growing quantities -

plans for diversification and import substitution were replaced by the continued production and export of sugar (Alvarez, 2004; Enríquez, 2000; Funes et al., 2002; Gonzalez, 2003; Wright, 2009). While sugar production did change from the colonial era, as it fostered related industrial development, Cuba's pre-revolutionary trade dependence on the United States was replaced by trade dependence on the Soviet Union and the Council for Mutual Economic Assistance (CMEA) (Enríquez, 2000; Gonzalez, 2003). With revenues received from sugar sold to CMEA (on average, 5.4 times higher than the world market price), and with Cuba unable to sell on the international market, the country relied on the CMEA for "resources it could not, or did not, produce itself: petrol, gas, foodstuffs, fertilizers, pesticides and machinery" (Wright, 2009, p. 55). To demonstrate Cuba's dependency on the CMEA, Gonzalez (2003) states:

> From 1946 to 1958, an annual average of 69% of Cuba's foreign trade was with the United States. From 1977 to 1988, the comparable figure for Cuba's trade with the CMEA countries was approximately 80%. By the late 1980s, the CMEA countries supplied 63% of food imports, 98% of imported fuels and lubricants, 80% of imported machinery and equipment, and 57% of imported chemical products. They also purchased the majority of Cuba's exports, including 63% of sugar, 73% of nickel, and 95% of citrus (p. 705).

As a result of Cuba's reliance on sugar exports, the provision of favourable loans and price subsidies[13], the economy would later plunge into a state of crisis following the collapse of

[13] Between 1986 and 1990, Cuba received $11.6 billion in Soviet loans and $10 billion in Soviet price subsidies (Gonzalez, 2003, p. 705).

the Soviet Bloc (Gonzalez 2003).

## Cuba's "Modern" Agricultural Model

Aligned with the tendencies of the time (i.e. Green Revolution), Cuba adopted a model of agricultural production[14] characterized by increased mechanization, the consolidation of land, and massive increases in the use of fertilizers, pesticides and other chemical inputs received from CMEA member countries further increasing its dependency on external markets (Enríquez, 2000, Funes et al., 2002; Gonzalez, 2003; Woodhouse, 2010; Norberg-Hodge, Merrifield and Gorelick, 2002).

Made possible by CMEA trade, Cuba's agricultural strategy emphasized large-scale, capital-intensive farming system specializing in sugarcane production and livestock. High mechanization efforts were initially directed at the sugarcane harvests, but subsequently, all agricultural sectors came to rely heavily on high-input methods[15] (Enríquez, 2000). "During the first three decades of the Revolution, fertilizer use increased tenfold and pesticide use increased fourfold. By 1989, Cuba's consumption of herbicides and pesticides was close to 34,000 tons per year, and herbicides were being applied to approximately one third of the country's cultivated land" (Gonzalez, 2003, p. 708).

Cuba's reliance on high input agriculture not only increased dependency on external

[14] Worldwide, industrialized countries, including the Soviet Bloc, shifted to "modern" agricultural practices in the name of "progress". Countries were seeking "technological answers to the Agrarian Question" (Funes et al., 2002; Wright, 2009).

[15] Although much of the equipment ultimately employed in the sugar sector was produced in Cuba, this was not necessarily the case with machinery used in the production of other types of crops (Enríquez, 2000).

actors but it also resulted in devastating consequences, typical of the time, for the environment, human health, agroecosystems, and rural areas as masses migrated to the cities (Funes et al., 2002). While the Green Revolution initially increased agricultural yields, it soon revealed its fragility and vulnerability as the highly toxic chemicals[16] resulted in deforestation, biodiversity loss, groundwater contamination, and infertility in a large portion of agricultural soils (Funes et al., 2002; Palma et al., 2010; Gonzalez, 2003).

During this phase of "chemicalization" of agriculture, as more land was devoted to this type of production "cultural pest control practices and other traditional methods were largely abandoned by Cuban farmers"[17] with Cuban farmers becoming increasingly specialized and further ingraining mono-cropping as the dominant agricultural model (Funes et al., 2002). Unfortunately, the consequences of heavy chemical use quickly became evident, with "the ineffectiveness of some pesticides in the control of existing pests, the development of pesticide-resistant insect populations, and decreased population densities of natural enemies of insect pests" (ibid, p. 110). By the end of the 1980s, this agricultural model was resulting in significant yield loss.

Prior to the Special Period, Cuba was able to satisfy the nutritional needs of its population. However, the country was fundamentally food insecure as it relied on a single crop for a significant portion of its export earnings, depended on a single market for most of its foreign trade, and satisfied the nutritional needs of its population through imported food and agriculture

[16] Fertilizer and pesticide use was particularly high in the sugar industry (Gonzalez 2003: 708).
[17] "...A trait demonstrated in many countries when synthetic pesticides first appeared on the world market" (Funes et al. 2002:110)

inputs. The most food insecure states are those that combine inadequate domestic food production with reliance on one or two export commodities for the bulk of their foreign exchange. These states are "highly vulnerable to external political and economic pressures, such as the vicissitudes of world market prices for their imports and exports or, in the case of Cuba, the collapse of their major trading partners" (Gonzalez, 2003, p. 706). The model of agricultural development pursued during the revolutionary era resulted in a food economy wholly dependent on the Soviet Union, and when it disintegrated, Cuba was left devastated (Bas, 2006).

## The Special Period in Time of Peace and Cooperative Development

Having lost its primary trading partner, Cuba's food production collapsed as imported fertilizers, pesticides, machinery, and petroleum and preferential terms of trade of Cuban sugar for Soviet oil disappeared. Gabriele (2011) notes that exports, imports, GDP, real wages and consumption all were reduced to a fraction of their former size in a matter of 2-3 years. Cuba's purchasing capacity was reduced to 40 percent, and all agricultural activities were seriously affected. Suddenly, $8 billion a year disappeared from Cuban trade, while the decades old U.S. trade embargo continued to cripple the Cuban economy. Between 1989 and 1993, the Cuban GNP fell from $19.3 to $10.0 billion; imports were reduced to 75 percent, including most foodstuffs, agrochemicals, and industrial equipment; many industries were forced to close; and public transportation and electric plants worked at minimum capacity. The situation was so dire that Cuba experienced the least growth in per capita food production in all of Latin America and the Caribbean (Altieri and Funes-Monzote, 2012; Koont, 2004).

At the same time, world prices for sugar fell from 13.6 U.S. cents per pound in 1989-1990

to 9.1 cents per pound the following year (Bas, 2006). During these years, food products became scarce and those that did exist were difficult for average Cubans to access because of their increased prices. “Caloric intake fell by 27% between 1990 and 1996” (Garth, 2009, p. 179). The daily intake of the average Cuban citizen had descended to 1863 kilocalories, including 46 grams of protein and 26 grams of fat, all figures well below FAO recommended minimums for a healthy diet (Koont, 2004).

The effect of this most dramatic shock in Cuba’s economic history was devastating and a new, extensive rationing system was instituted to ensure equitable distribution of scarce resources. There were severe reductions in the availability of food products in the rationed market and a lack of replacement parts and fuel meant that farm machinery sat idle in the fields while a third of the harvests were forced to rot. However, Cuba’s food security crisis was unique in that while the poor are consistently affected disproportionately, in Cuba, food programs for vulnerable populations and the ration system ensured that the weight of the problem was shared. This meant that food insecurity could have potentially led to the destabilization of the country, but through policies of fair and effective distribution – even of insufficient resources – Cubans were able to mitigate their situation (Bas, 2006).

Cuba was forced to transform the economy overnight and the first priority was food. Lacking what was once necessary farm equipment, petroleum, fertilizers and pesticides, Cuba had to learn how to produce food differently, in the countryside and well as the cities, in order to survive (Holm, 2011). Out of a crisis, the country reoriented its agriculture to depend less on imported inputs and, in the process, became a world-class example of sustainable organic

agriculture. "In response to the crisis, the Cuban government introduced significant changes in the organization of agricultural production" (Gonzalez 2003, p. 712). In doing so, Cuba experienced the best food production performance in Latin America and the Caribbean in the period stretching from 1996 to 2005. Altiere and Funes-Monzote (2012), explain that "much of the production rebound was due to the adoption…of…agrarian decentralization policies that encouraged forms of production, both individual as well as cooperative" (p. 23)[18].

The turnaround began with the State's reorganization of agricultural production under the Third Agrarian Reform of 1993-1994 (Gonzalez, 2003; Bas, 2006). In an effort to improve food distribution and encourage food production, the Third Agrarian Reform involved: the opening of agricultural markets - *agropcuarios* - under market mechanism; government facilitated and supported urban agriculture; the promotion and implementation of an alternative to industrial agriculture - low input sustainable agriculture (LISA) which included the production of biological pest controls and biofertilizers and the renewed use of animal traction (Funes et al., 2002; Gonzalez, 2003; Bas, 2006). Furthermore, as the subject of this chapter asserts, conversion of large, inefficient state farms into smaller agricultural cooperatives – *Unidades Básicas de Producción Cooperativa (UBPC)* - helped Cuba to "achieve an unprecedented degree of agricultural diversification as well as enhanced food security, reduced reliance on one or more trading partners, and improved environmental stewardship" (Gonzalez, 2003, p. 728).

Land Reform & Cooperative Development

[18] It is also important to note that Cuba's well-developed social infrastructure and human resource base which the state had invested in since the Revolution, helped facilitate Cuba's recovery during the Special Period (Rosset and Benjamin, 1994; Garfield, 1999; Funes, 2002).

While the state was the most important sector of production from the Revolution through to the 1990s, with the onset of the *Special Period*, the Cuban government responded to the food insecurity situation by reorganizing agricultural production to promote greater productivity (Gonzalez, 2003). The state farms were drastically downsized in terms of landholdings, number of workers, and equipment, thus reducing the state's economic stronghold (Funes et al., 2002). Two major land tenureship changes encouraged this: distribution of land in usufruct to thousands of small producers[19] and the conversion of large state farms into smaller cooperative farms, UBPCs [20] (Gonzalez, 2003; Wright, 2009). The objective of the new decree – Law No. 142 – enacted by the Cuban Council of State, was to: "increase the efficiency of agricultural production and to create incentives for greater productivity. The expectation was that [by] replacing state farms with smaller, self-managing cooperatives, …productivity [would increase] by rewarding UBPC members for exceeding production goals" (Gonzalez, 2003, p. 713). As outlined in Nova González (2013) the formation of the UBPCs were based on the following principles issued by the Communist Party in 1993:

- A connection between the human being and the land as a way of stimulating interest in work and a concrete sense of individual and collective responsibility.
- The self-sufficiency of members and their families through cooperative efforts, as well as the progressive improvement of housing conditions and other aspects related to workers' well-being.

[19] "The Cuban government...distributed thousands of hectares of state land in usufruct to pensioners, state workers, and private farmers. Decree Law No. 142 authorized the distribution in usufruct of small, dispersed parcels of land that could not be incorporated into UBPCs and of idle lands formerly used to cultivate tobacco" (Gonzalez ,2003, p. 716).
[20] "The UBPCs were a socialist...solution to the national agricultural crisis, as opposed to the neoliberal formula that was used in many countries, involving the privatization of land and other means of production. Instead, the UBPCs have been an attempt to collectively exploit the land, which was legally owned by the state, by using the cooperative form with self-management and self-financing" (Harnecker, 2013, p. 298).

- Rigorous association between worker income and production.
- Extensive management autonomy. The units of production proposed should administer their own resources and become self-sufficient in terms of production (p. 284).[21]

These lands were granted on a usufruct basis to former state agricultural workers for an indefinite period of time. In other words, former agricultural workers, as members of the newly formed UBPCs, were given the right to farm their lands in perpetuity, although title to the lands remained with the state (Funes et al., 2002; Alverez, 2004). The members of the UBPCs then purchased the associated inputs and means of production from the state - machinery, farm animals, buildings, etc. - which were sold to cooperatives at low prices on favourable credit terms (Funes et al., 2002; Gonzalez 2003; Alvarez 2004). Under the new cooperative arrangement, the members of the UBPCs elected their leaders into a Board of directors from among the membership. They were remunerated in accordance with the incentive scheme developed by each cooperative (Gonzalez 2003; Alvarez 2004). The UBPCs were required to sell a majority of their production (80 percent), to the state marketing agency - *the acopio*. The remaining 20 percent could be sold directly at the farmers' markets at prices set by supply and demand (Funes et al., 2002: Gonzalez, 2003). As Bas (2006) explains, while the cooperatives' autonomy was limited by government planning, this also "represented a drastic shift in ideology…for the formation of the UBPCs, the traditional preference for state controlled agriculture was

[21] While there are cases of extremely successful UBPCs (democratic, autonomous, production incentives, etc.) and with the new Policy Guidelines (Los Lineamientos) cooperatives are moving in a new direction, Nova González (2013) notes that UBPCs have been inefficient and lack autonomy, as they had to deliver planned quotas to state enterprises. This has been slowly changing since 2015 as UBPCs have been gaining direct access to markets.

dropped…[and] for the opening of the *agropecuarios* [farmers' markets], the strong government opposition to free markets was overruled" (p. 54). In describing the productivity of the UBPCs, Gonzalez (2003) explains that by 1996 "production of staple crops rebounded to 95% of 1988 peak production levels…[and] by 1997, UBPCs were producing more than 70% of Cuba's sugar, 42% of milk, 32% of staples, 12% of vegetables, 36% of citrus, 16% of tropical fruits, 38% of rice, 22% of coffee, and 7% of tobacco" (p. 714).

"By 1999, almost 3000 UBPCs had been formed, and just over two thirds of agricultural land was held by the private sector" (Wright, 2009, p. 99) The overriding aim was to increase domestic production. Figures show that this was achieved to a certain degree. According to official figures, "after the low dip of 1993–94, quantities increased to a point where production for some crops has regained and even surpassed the levels achieved in 1989" (Wright 2009, p. 100). While the new cooperative members constituted a new type of producer, there continued to be a certain degree of ambiguity between the previous state-run structures and the new cooperative arrangement (Funes et al., 2002). By 1999, there were almost 3000 UBPCs; however, even though they were formed to increase production efficiency, they were subject to state production quotas, and had little autonomy in deciding what crops to produce (Wright, 2009, p. 99).

### Urban Agriculture

Also of importance is the urban agriculture movement that took root during the *Special Period.* Urban Agriculture emerged as a grassroots movement as communities reclaimed vacant urban space and available resources to produce food for domestic consumption (Bas, 2006; Wright,

2009). By default, citizens used the principles of organic agriculture and urban gardens emerged all over the Havana – on balconies, patios and rooftops. Though previously prohibited by the state and viewed as a sign of poverty, urban agriculture became a widespread movement, increasing food production and alleviating food security in the cities (Bas, 2006; Wright, 2009).

Production in roadside gardens to extensive farms in the semi-rural urban periphery were classified as "urban agriculture" and in 1994 the Ministry of Agriculture began to regulate the process, creating an Urban Agriculture Department. This department oversaw production, provided technical assistance and information, and secured land-use rights for urban gardeners (Cranford, 2003; Gonzalez, 2003). In 1997, Resolution No. 527/97 was passed which enabled each urban dweller to receive up to one-third of an acre of land (Cranford, 2003; Wright, 2009). By December 1999, more than 190,000 lots had been taken up and "production tripled over the first three years to supply approximately 20 per cent of local food needs" (Sinclair and Thompson, 2001; Wright, 2009: 82).

Employing the principles of urban production - defined by Companioni et al. (2002) as the use of organic methods that do not contaminate the environment; the use of local resources; and the direct marketing of produce – four main types of urban agriculture emerged: organoponicos and intensive vegetable gardening; small plots, patios, and popular gardens; organization specific plots; and suburban (peri-urban) farms (Bas, 2006; Cranwell, 2003; Funes et al., 2002; Wright, 2009). The first, organoponicos and intensive vegetable gardening "have been the most important methods...and have gone a long way toward helping [Cubans] rediscover [their] horticultural traditions (Funes et al., 2002, p. 226). For example, *UBPC Vivero Organopónico*

*Alamar* is one of Cuba's most successful urban cooperatives. Vivero Alamar Cooperative began with 800 square meters and 4 members and has since grown to 11.4 hectares and 190 members. The primary purpose of the cooperative is to produce fresh vegetables, medicinal herbs, seedlings, and value added products, which are sold directly to the local community from an on-site stall (Interview 2). Vivero Alamar provides its members with a comparatively good salary (approximately three times the amount an individual could earn working for the state) and a share in the profits that increases with seniority (ibid). Decisions are made democratically with one member, one vote, which has further incentivized the membership. As the President of the cooperative explains "We exercise direct democracy here…people raise the issues they want to bring to the general assembly. It's participatory democracy where people can express their ideas and participate" (ibid).

By growing food in the city, Cuba was less dependent on energy-intensive transportation and refrigeration systems. With fertilizers, pesticides, petrol no longer readily available, the urban gardens were models of organic agriculture, using low cost and environmentally sound cultivation methods based on locally available resources. In addition to providing much needed food, contributing to Cuba's food security, urban agriculture has created "over 350,000 new, well-paying, and productive jobs over the last twelve years" (Koont, 2009, para. 12). This job creation is a significant contribution to the country's total employment, well-being of the persons employed, and Cuban society. As Gonzalez (2003) explains: "In short, urban gardening promoted food production, increased food availability, and encouraged ecologically benign cultivation methods" (p. 718).

## Low-input Sustainable/Organic Agriculture

As mentioned, Cuba's conversion to low-input sustainable agriculture (LISA) was a direct response to the unavailability of inputs following the collapse of the Soviet Bloc (Bas, 2006). Cuba's case is unique because not only is it the "largest scale conversion from conventional agriculture to organic or semiorganic farming in history" but it's also the first example of an entire country turning to low-input agriculture (Rosset and Benjamin, 1994, p. 34; Bas, 2006). This conversion was made possible because of Cuba's social and political context and its willingness, ability, and supportive policies and reforms (land rights, secure markets) and human capital already in place (Bas, 2006).

According to Gonzalez (2003), Cuba's organic agriculture rested on three pillars: private farmers, the scientific infrastructure, and the state. While most land had been collectivized following the revolution, approximately 4 percent of Cuban farmers kept their plots, while another 11 percent was organized in service cooperatives. The survival of these types of farms was an important asset during the Special Period, as these farmers used traditional knowledge and methods of production that required less fuel and low-inputs. "Recapturing the experiences of campesino farmers who had knowledge that had been passed down from former generations, but that had been "forgotten" or displaced by conventional agriculture" (Funes et al., 2002, p. 15). During the Special Period it was possible to draw on these farmers as the nation moved to organic agriculture (Inderwildi and King, 2012). Gonzalez (2003) explains:

> Private farmers, using traditional low-input agricultural techniques, had been the backbone of ecologically sustainable agriculture in Cuba. They had economic

> incentives to protect the land they cultivated, limited access to capital intensive farming inputs, and generations of experience with ecologically benign agricultural methods. When the collapse of the socialist bloc produced a shortage of agricultural inputs, private farmers were quick to adapt because they had not become dependent on imported petroleum, animal feed, pesticides, or fertilizers (p. 722).

Just as the accumulated knowledge of Cuban farmers played a critical role in helping Cuba recover from the Soviet Bloc's collapse, the scientific research community was equally well positioned to contribute to Cuba's food security. From the onset of the revolution, human capital, education, and research were made priority. In the agricultural sector, various crop and animal research institutes were established and as Rosset and Benjamin (1994) state, "with only 2 percent of the population of Latin America, Cuba boasts approximately 11 percent of the scientists" (p. 28). Furthermore, by the early 1980s, some researchers began to criticize the industrial model of agriculture for its dependence on foreign inputs and environmental impacts and began focusing their work on agroecological alternatives (Gonzalez, 2003). This high concentration of Cuban scientists, backed by the government, were able to mobilize its research infrastructure and generate new ecological technology at a rapid rate following the collapse (Bas, 2006; Funes et al., 2002; Gonzalez, 2003).

Bas (2006) argues that, "three elements of the organic agriculture program have proven particularly successful— the approach to biological control agents, production of compost, and use of animal traction" (p. 64). For example, chemical pest management was replaced by the

ecological management of pests, diseases, and weeds through the use of predators, insect pathogens, and plants with insecticidal, fungicidal, bactericidal, and herbicidal qualities (Gonzalez, 2003). By 1992, the state opened over 200 Centres for the Production of Entomophages and Entomopathogens (CREES) which produce and supply modern biotechnology for pest control to cooperatives and farmers (Rosset and Benjamin, 1994; Koont, 2005). Chemical fertilizers were replaced by biofertilizers. Compost production ranges from organic amendments to vermicomposting (the uses of earthworms to produce quality humus) (Sinclair and Thompson, 2001; Gonzalez, 2003). Crop residues, composted municipal waste, sugar cane wastes, animal manure, and composted wastes from food processing plants, were also being utilized for fertilizer. Finally, the use of tillage with oxen rather than tractors, although initially prompted by the lack of fuel, tires, and spare parts, became an important tool to reduce soil erosion and cut down on weeds, animal traction has both cut down on soil erosion and been overwhelmingly successful in reducing the reliance on fuel for agriculture (Gonzalez, 2003).

> The shift to organic agriculture in Cuba resulted in the recovery and restoration of farmland that had been depleted by decades of capital intensive agricultural practices. Organic amendments, biofertilizers, and green manure were applied on state farms on a massive scale to increase the productive capacity of the land. Traditional conservation techniques developed by Cuban farmers were utilized in conjunction with alternative techniques developed by research institutes for the management, conservation, and recovery of compacted, salinized, eroded, and otherwise degraded soils (Gonzales, 2003, p. 724).

Agricultural Markets (Mercados Agropecuarios)

As briefly mentioned, during the Special Period, the Cuban government opened agricultural markets throughout the country to improve food distribution and stimulate food production. While further analysis of this strategy is needed in terms of improving food accessibility, the focus here is food availability – i.e. increasing food availability through stimulated production.

On September 19, 1994, the Council of Ministers enacted Law No. 191, which established agricultural markets (*mercados agropecuarios*) where farmers[22] could sell their surplus production at prices determined by supply and demand (Bas, 2006; Gonzalez, 2003). "The stated purpose of the new legislation was to create incentives for farmers to produce more food for domestic consumption....to combat the booming black market, and to address food shortages in the state's food rationing system" (Gonzalez, 2003, p. 719). In terms of production, the government historically set prices low in order to keep food costs down and thereby facilitate massive food security, and farmers, obligated to sell to the state, felt little incentive to produce to capacity. With the new legislation, however, farmers became materially incentivized to increase production (Bas, 2006; Sinclair and Thompson, 2001; Enriquez, 2000).

This increased level of control by the farmer, spurred production and increased food security for the population (Bas, 2006). In fact, within the first year, agropecuarios sales reached over 20,000 tons of agricultural and meat products, representing 25 to 30 percent of total

[22] "Among the entities and individuals currently authorized to participate in the markets are state farms, non sugarcane UBPCs, CPAs, credit and service cooperatives, private farmers, tillers of dispersed parcels of farmland, and tillers of private subsistence plots" (Gonzalez, 2003, p. 719).

production sold to the population (Álvarez, 2004, p. 103). Furthermore, within that same year, markets contributed between a quarter and a third of the Cuban population's total caloric intake. "By 1999 the sales volume had tripled and the markets were generating more than 5 million pesos in taxes annually" (Bas, 2006).

## Agriculture Cooperatives and Food Security in Cuba

From the colonial period through the early 1990s, the Cuban economy had been characterized by the concentration of landholding in either private or state hands, sugar monoculture, debilitating dependency on a primary trading partner, and reliance on imports to satisfy the nutritional needs of the population. However, as demonstrated by an analysis of the *Special Period in Time of Peace*, Cuba's reorganization of agriculture which led to an increased production, the availability of more diversified foods, and an increased income for farmers, has moved the nation towards self-sufficiency and thus, a more food secure position. Cuba is continuing on this path of self-sufficiency by focusing on cooperative development as a means to achieve a more food secure nation. According to Camila Piñeiro Harnecker (2011), in 2010, Cuba's 6,253 farming cooperatives "provided 13 percent of Cuba's employment (579,440 members); controlled 74 percent of Cuba's agricultural land and were responsible for producing 77 percent of Cuba's agricultural output" (cited in Holm, 2011, p. 15). Based on these statistics, it is clear that cooperatives are key to the development of agricultural production, increasing the quantity and quality of food for its citizens, and, at the same time, reducing the high level dependence on food imports.

The success of these changes notwithstanding, there remains considerable debate concerning food dependency in Cuba. After being hit by three destructive hurricanes in 2008,

Cuba satisfied national needs by importing 55 percent of its total food and as the world food price crisis drove prices higher, the government has needed to reemphasize food self-sufficiency (Altieri and Funes-Monzote, 2012). According to Feinberg (2011) agricultural production has been disappointing. Distressed farmers complain about shortages of critical inputs such as fertilizers, fuel, and machinery, lack of financial credits, and the repressed prices set by the government for their harvests. As a result of shortfalls in domestic agricultural production, "Cuba must allocate scarce foreign exchange to feed the population: in 2008, Cuba imported $2.3 billion in food stuffs including rice ($479 million) and beans ($148 million) and other dietary staples such as powdered milk ($234 million), chicken ($166 million), and fruits and vegetables ($219 million)" (Feiberg, 2011, p. 11). Increasing food production for domestic consumption and substituting imports is considered a strategic priority towards attaining food security. As a result, Cuba is in the process of making changes to its agricultural sector and the economy as a whole.

In 2011, following public consultations with over one million Cubans, a set of comprehensive guidelines were approved by the Sixth Congress of the Communist Party in Cuba. These guidelines *Los Lineamientos*, focus on twelve areas of social and economic reform and represent Cuba's new economic path of which cooperatives are a central. While there is much debate regarding the potential outcome of this move, Cuba has publicly committed to following the Statement of Cooperative Identity of the International Cooperative Alliance as reflected in *los Lineamientos*.

This has important implications for Cuba's agricultural sector and food security. While Cuba is upheld as a world-class example of sustainable agriculture and showcased the best food

production performance in Latin America and the Caribbean from 1996-2005, the level of production has lagged in recent years. To better achieve food security, Cuba is emphasizing increased food production for domestic consumption as well as import substitution. An important recent step taken by Cuba is the distribution of idle farmland with usufruct rights to cooperatives and individuals (Nova González, 2013). "Beginning in 2008, the Cuban Government instituted a new policy of land distribution to boost food security (Decreto Ley 259 and 300)" (Holm, 2014). "By the fall of 2011, 1.3 million hectares of land had been distributed in usufruct to 146 816 new farmers (97% of applicants), 80% of which was already in production. With 4 540 new farmers approved and "in process," a total of 151 356 new farmers were inducted. The average size of land allocated to each new farmer under this program has been 8.7 hectares" (ibid, p. 787).

As part of a broader effort to reform the Cuban economy, the state is relinquishing top-down controls in order to achieve increased productivity and innovation. For success to be achieved and sustained, the Cuban state must provide a supportive institutional framework and policies while, at the same time, enable cooperatives to function as autonomous enterprises. Agricultural cooperatives are viewed as a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives while maintaining a socialized form or production. Based on this thesis's primary research (carried out in 2013) with UBPCs, CPAs and CCSs, findings suggest that the cooperative model is a more productive vehicle for increasing food availability and food security. A majority of interview participants emphasized the role of the cooperative in ensuring a more sustainable livelihood in terms of decent salaries and share in surplus while at the same time, enabling farmers to pool their resources and enter into contracts with the state, tourism sector,

private enterprises and other cooperatives. In addition, the cooperative model provides for human development through decent work, food security for members and their families, provision of housing and other infrastructure, opportunities for continued education and training, and its participatory, democratic governance structure, thereby empowering workers. The networks and resources provided by the cooperative facilitate development by strengthening the local economy and reducing the vulnerability to exogenous shocks (Reed and McMurtry, 2009).

As of 2010, there were more than 6,253 cooperatives across Cuba. Approximately 74 percent of agricultural land is managed by the cooperative sector and it produces 77 percent of Cuba's agricultural output. Furthermore, the production of these farms provides food for domestic consumption, food for export, and employment for 579,440 of its members (Holm, 2011). The promotion of Cuban agriculture has become so important that Raul Castro declared domestic food production a national security issue. As the recommended caloric intake is being met by a vast majority of the Cuban population through, in part, a reliance on imports, the government is implementing measures to attain food security through increased domestic production leaving the nation less vulnerable to rising food prices and international market fluctuations. The Cuban state is committed to a food sovereign approach to food security and agricultural cooperatives are increasing production by bolstering economic incentives and social benefits, while at the same time, ensuring the gains from the revolution are not lost.

# Chapter 4

# Research Findings

## Introduction

Food security can be said to exist when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2008, para. 1). One of the key pillars to achieving food security is the production and availability of food supplies. While the availability of food can be provided through imports and food aid, the food sovereignty approach to food security focuses on domestic production and localizing food systems by supporting the sustainable livelihoods of food producers and ensuring local, democratic control.

The Constitution of the Republic of Cuba explicitly guarantees the right to adequate food. "Food security has been part of Cuba's social policy for more than 50 years; it is a priority as evidenced by the first agrarian reform law passed by the revolutionary state in 1959" (Interview 15). In 1962, less than three years after the revolution, there was a deep redistribution of wealth that benefitted the poorest layers of Cuban society: the provision of universal education from primary through university; guaranteed employment, free health care, and a subsidized food system guaranteeing essential nutritional requirements (ibid.). At the height of Soviet socialism this was ensured through a combination of subsidized imports and state distribution. However, with the collapse of the Soviet Union and the onset of the *Special Period*, the Cuban GNP fell from $19.3 to $10.0 billion and Cuba experienced the least growth in per capita food production in all

of Latin America and the Caribbean (Altieri and Funes-Monzote, 2012; Koont, 2004). During these years, food products became scarce and those that did exist were difficult for average Cubans to access because of their increased prices. Between 1990 and 1996 caloric intake fell by 27% (Garth, 2009, p. 179). Out of the crisis, however, Cuba reoriented its agriculture to depend less on imported chemical inputs and, in the process, became a world-class example of sustainable practices in agriculture.

Today, as part of a broader effort to reform the Cuban economy, the state is relinquishing top-down controls in order to achieve increased productivity and innovation. The promotion of Cuban agriculture has become so important that Raul Castro declared domestic food production a national security issue. While the recommended caloric intake is being met by a vast majority of the Cuban population through, in large part, a reliance on imports, the government is implementing measures to attain food security through increased domestic production leaving the nation less vulnerable to rising food prices and international market fluctuations.

Cooperative-based farming is a central part of these reforms, as specified in *los Lineamientos.* Agricultural cooperatives are viewed as a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives while maintaining a socialized form or production. For success to be achieved and sustained, the Cuban state must provide a supportive institutional framework and policies while, at the same time, enable cooperatives to function as autonomous enterprises.

As of 2010, there were more than 6,253 cooperatives across Cuba. Approximately 74 percent of agricultural land is managed by the cooperative sector and it produces 77 percent of Cuba's agricultural output. Furthermore, the production of these farms provides food for domestic consumption, food for export, and employment for 579,440 of its members (Holm, 2011).

Based on the literature as well as semi-structured interviews with government officials, academics, and members from ten agricultural cooperatives from across Cuba, the research findings suggest that the state is committed to a food sovereign approach to food security and supporting agricultural cooperatives through reforms to increase production by creating and bolstering economic incentives and social benefits, while at the same time, ensuring the gains from the revolution are not lost.

## Food Sovereignty in Cuba

As explained in previous chapters, food security is a goal while food sovereignty is an approach to achieve that goal. The difference between food security and food sovereignty in the Cuban context was emphasized by Professor Rodríguez at the University of Havana (Interview 14) specializing in cooperatives. While food security stresses that every person have enough to eat for a healthy and sustainable life, it doesn't stress where food comes from – whether imported or domestically produced. "According to this definition, Cuba has food security" (Interview 14). While the Special Period saw a severe decrease in food security, according to the FAO, since 2001, Cubans have an average daily intake of more than 3000 kilocalories, 80 grams of protein,

and 65 grams of fat (which is just under the recommended 70). “This is the result of the equity conditions in our social system. The government is dedicating a lot of money to import foods to satisfy the populations’ needs” (Interview 14). However, this means of total imports, approximately 15% are devoted to importing food. “Because of this Cuba doesn’t have food sovereignty” (Interview 14). Rodríguez explains:

> Food sovereignty stresses local production and local control of food production and distribution. It’s not local only in the sense of the country or whole island but local, really local production. And this is very important I think because we’re moving towards food sovereignty…there are many things going on in Cuba towards that. Cuba has a lot of opportunities because Cuba is free from transnational corporations that control the whole food chain - producing seeds, producing chemicals, and this market is completely divided between a small group of transnational corporations - Monsanto, Bayer and the others - but being a socialist country, Cuba has more opportunities to get to food sovereignty but we are not yet at that point (Interview 14).

President Raul Castro has publicly declared food security as an issue of national sovereignty, and though food sovereignty wasn’t explicitly stated, the state’s focus is applying a food sovereign approach as evidenced by support for local production or domestic consumption through agricultural cooperatives. “The public declaration is import substitution. This is very clear in the guidelines [los Lineamientos]” (Interview 14).

Similarly, Economist Díez, formerly with the Ministry of Joint Economic Planning, states: "Cuba does have food security, but not food sovereignty. Sovereignty will be achieved to the extent that national production participates in the supply of food. We have security based on external dependence. There is a co-relationship here between food security and sovereignty. And what is the element that links one to the other? You could have food security, like Cuba has, with a high dependence on imports, and that lowers your food sovereignty. To the same extent that you reduce that external dependence you become closer to food self-sufficiency and that increases the country's food sovereignty" (Interview 15).

When asked about the difference between food security and food sovereignty, Díez described the following:

> Food security has three components: availability - enough foods in the markets, enough supply for all of us; access – each person can have access to food whenever they need it; and [utilization]. According to studies carried out by the FAO, the world produces enough food to feed all of the world's inhabitants in a healthy manner. But what's the case? The countries of the north, the developed countries, have 25% of the world's population and consumes 50% of the food. The rest of the world, 75% of the world, consumes the other 50%. There's a disproportionate share which is reflected in the 800-900 million people who are suffering from hunger - most of them in sub-Saharan Africa, Asia, and here in Latin America.

> Sovereignty is the capability of nations, of peoples, to make their decisions that they need to make about their food. For example, in the case of Cuba, when your food depends to a significant degree on the importation of food, that makes you vulnerable. Why? Because if food prices go up and you don't have the money, you have to eat less. So, what happened when we had the world food crisis of 2008? The African countries with the lowest income, when food became more expensive, they could not maintain a domestic food supply and the hungry population grew. So, it's a double question - food security has to do with access, availability and consumption, healthy quality food at all times. Sovereignty is more a political question - that you as a country have the right to make your own food policies. But if your food policies depend on decisions that are not made within the nation, it makes you vulnerable. That's why here, in the Guidelines, achieving food self-sufficiency is emphasized (Interview 15).

Díez also emphasized although there are issues with insufficient revenues to cover all social spending, this is to a lesser degree in socialist Cuba, because of political will. “Here the state has not abandoned the idea of protecting the population” (Interview 15). Though Cuba imports more than 50% of food that is consumed, and it’s becoming increasingly expensive as prices have risen since 2008, the state is solving that problem with a great level of food sovereignty (Interview 15). As will be explained, the cooperative model, with support from the state through reforms, is contributing towards this.

Díez provided two reasons to demonstrate the role of agricultural cooperatives in applying food sovereignty:

> First - what is one of the objectives of cooperatives? The first thing that a coop has to do is satisfy the demand of its own members, improve the quality of life of its own members, not just food but also housing, infrastructure, but above all, food. But from a structural standpoint, 75-78% of the agricultural production output in Cuba comes from coops which are non-state forms of production. And a principle has been approved based on the Communist Party congress that coops will not be subordinate to anybody. They have full management autonomy. We want them to have full management autonomy. That's the goal. There are still some obstacles that need to be eliminated but that's the goal (Interview 15).

## Food Security in Cuba

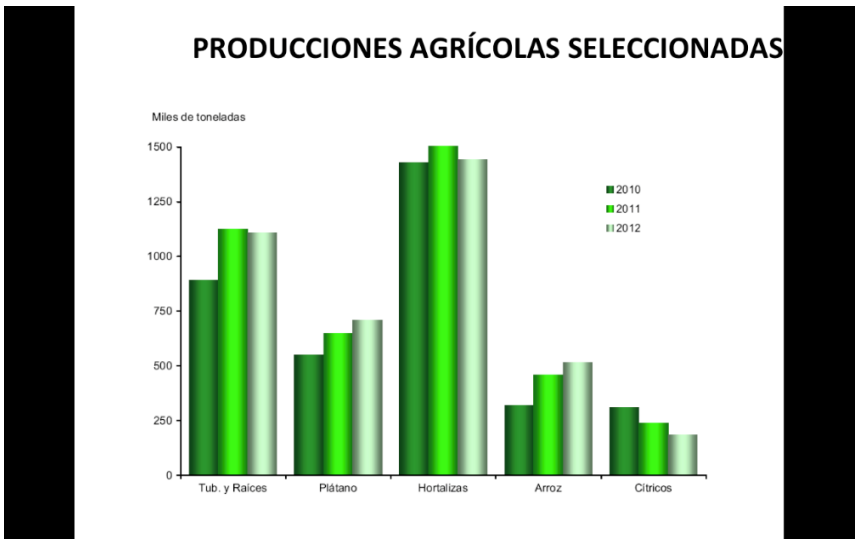
### Food Availability in Cuba

As mentioned, food security is based on four pillars: food availability, food accessibility, food utilization and stability of these factors over time. The findings below will focus predominantly on availability and accessibility (including stability) as utilization, though interconnected, focuses more on physiology and lies outside the scope of this research.

In an interview with Economist Alonso, the focus was first on *food availability* and the importance of increasing local production for domestic consumption to ensure food security in Cuba. The interviewee explained that “insufficient national production of food is compensated by

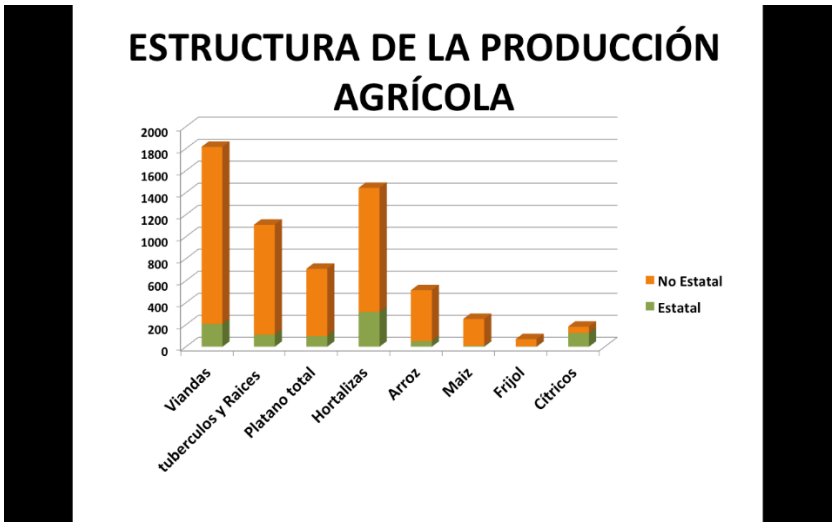
high levels of imports" (Interview 12). This is echoed by Beatriz Diaz (2012) who explained that similar to other Caribbean countries, Cuba has traditionally relied on food imports. At present imports represent approximately 18% of the total food consumed (Public Presentation at Saint Mary's University). According to Alonso some of the reasons behind the insufficient levels of production are low yields in primary production, low efficiency of the processing industry, and post-harvest losses throughout the distribution chain. In order to increase production, as will be discussed in further detail, a number of reforms have been instituted by the government (Law Decree 259 and 300) and *los Lineamientos* focus on updating the Cuban economy emphasizing agricultural production, import substitution and cooperative development (Interviewees 20, 21, 22 and 23).

To provide a basic overview of overall production of selected products Alonso presented the graph 4.1. The graph showcases agricultural production (in thousands of tons) for tubers & roots (tub y raices), banana (platano), vegetables (hortalizas), rice (arroz), and citrus (citricos) between 2010 and 2012. According to the graph, production is increasing for banana and rice and is relatively stable for tubers and root vegetables as well as other vegetables. There has been a decrease in citrus and some of this is due to hurricanes and other environmental factors.




Graph 4.1. Select Crop Production in Cuban Between 2010-2012. Source: Economist Alonso, Interview, May 30, 2013

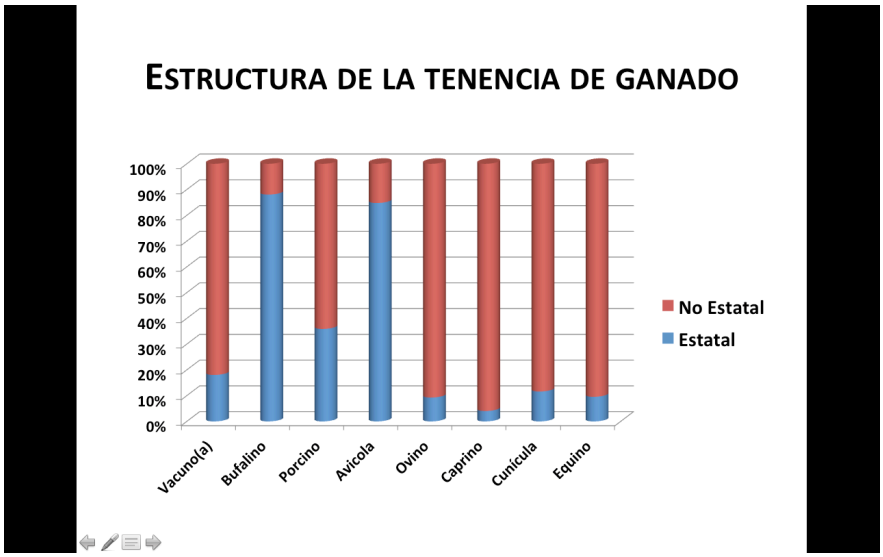
Graph 4.2 depicts state and non-state (cooperative) agricultural production in thousands of tons for 2012. Considerably more production is under the non-state sector with the exception of citrus fruits (citricos). "This is because it's an export crop. Almost everything in citrus productive cycles is carried out by state enterprises – it's production, commercialization, export" (Interview 12). Furthermore, as showcased by the graph 4.2, there is negligible state production of corn (maiz) and beans (frijol). The minor amount of domestic production for these crops is done by the cooperative sector but availability of these products is mostly attributed to imports. Alonso explains that because those crops have not been considered a priority, the resources dedicated to them are very small compared to other crops. Furthermore, "non-state forms of production are more efficient than the state forms…but yet they have less access to inputs" (Interview 12). The reasons behind this will be elaborated on in subsequent sections.




Graph 4.2. Structure of Agricultural Production – State and Non-State. Source: Economist Alonso, Interview, May 30, 2013

Similarly, Juan Jose Leon Vega, former head of International Relations at the Ministry of Agriculture, provided the following statistics: "The majority of production is produced privately or cooperatively: 94% of tubers and roots; 84.6% of vegetables; 86.4% of rice; 39% of citrus; 98.8% of tobacco (practically all tobacco farms are private, and tobacco farming skills are transferred from generation to generation); 96.8% of sugarcane production; and 88.9% of cow's milk (Interview 13).

Graph 4.3 demonstrates the state and non-state (cooperative) structure of livestock holdings. Similar to crop production, the majority of livestock is held in the non-state sector with the exception of chicken and buffalo.

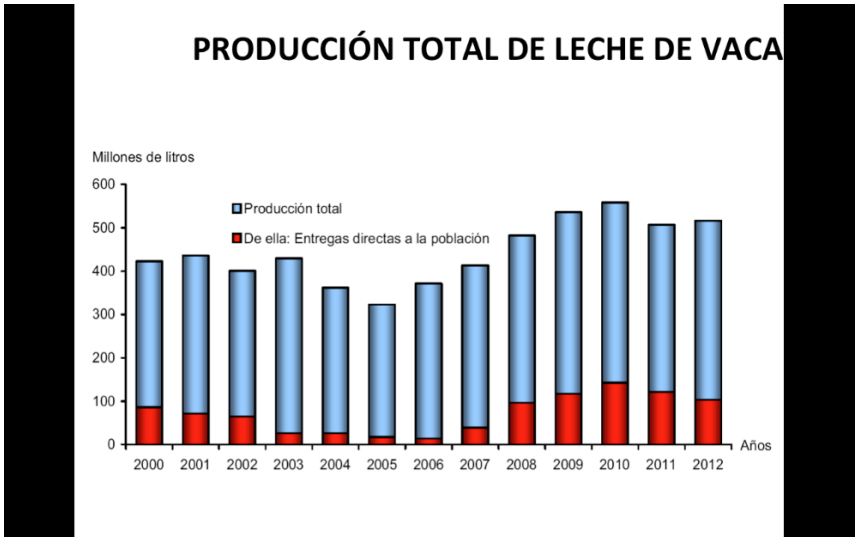



Graph 4.3. Structure of Livestock Holdings – State and Non-State. Source: Economist Alonso, Interview, May 30, 2013

Lastly, Alonso presented graph 4.4 on total production of cow's milk. Milk is very important to the Cuban diet with annual milk production between 500-600 million litres. However, this only satisfies approximately 50% of the domestic demand.[23] Milk is a government controlled product and must be sold to the state. It is then sent to a processing facility where it is processed into cheese, yogurt, etc. and the other is distributed to the population (depicted in red in graph 4.4 below) through the ration system at subsidized prices. Cuba distributes one liter of milk per day to every child between birth and 7 years of age, as well as to the sick and elderly (Interview 12).

[23] "Milk is a staple in the Cuban diet, however, domestic production is limited and many Cubans drink powdered milk. Deficiencies are due to poor on-farm hygiene practices; delays in collection and transportation of milk; and poor storage of milk once it is collected by cooperatives and awaits industry pick-up. These conditions lead to high milk spoilage and loss — amounting to more than 10% of annual production. This is compounded by a lack of integration and coordination along the dairy value chain, and a lack of interest for farmers to participate in the sector, given the low incomes received for milk produced" (CARE).

As Alonso explains, while production has increased slightly, it doesn't match the production levels before the crisis. "In talking about the relationship between the state and non-state sectors, where you see increases in milk [production] beginning around 2006 and 2007, this is where the state began to pay more prices to farmers for their milk. Imports of powdered milk range in the 30-40 thousand metric tons per year, representing annual expenditures of US 98.7-132 million" (Interview 12).

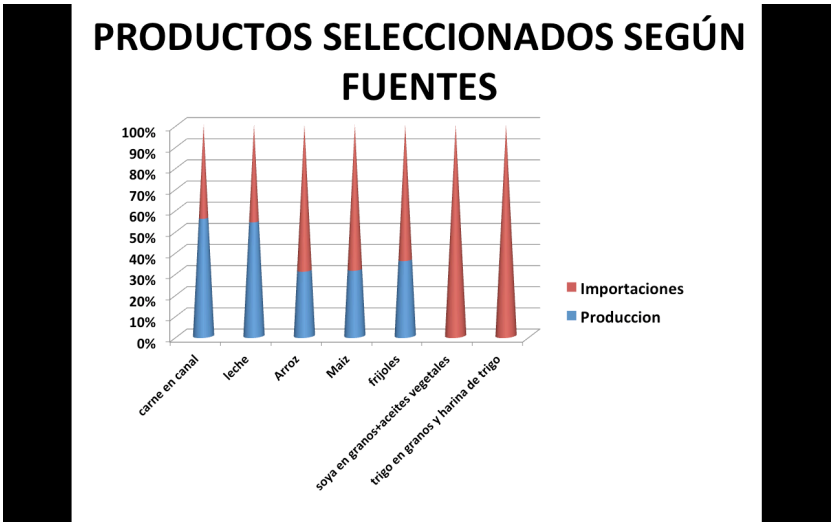



Graph 4.4. Total Production of Cow's Milk Between 2000-2012. Source: Economist Alonso, Interview, May 30, 2013

Furthermore, as part of the availability component of food security, Alonso explains that there is limited food available from the international market because Cuba lacks liquidity in hard currency.

To provide more detail on imports versus domestic production, Alonso presented graph 4.5 from 2011-2012 that showcased selected products according to their source. The first

category (carne en canal) represents wholesale meats (slaughtered and cleaned). This category along with milk (leche) is approximately 50% imported and 50% domestically produced. Rice (arroz), corn (maiz), and beans (frijoles) see a larger percentage imported, as discussed above. Lastly, soybeans and vegetable oils (soya en granos aceites vegetables) are totally imported.[24]




Graph 4.5. Selected Products According to Source – Import and Domestic. Source: Economist Alonso, Interview, May 30, 2013

Though the ration system will be elaborated on below, in explaining Cuba's reliance on imports - Rodríguez states:

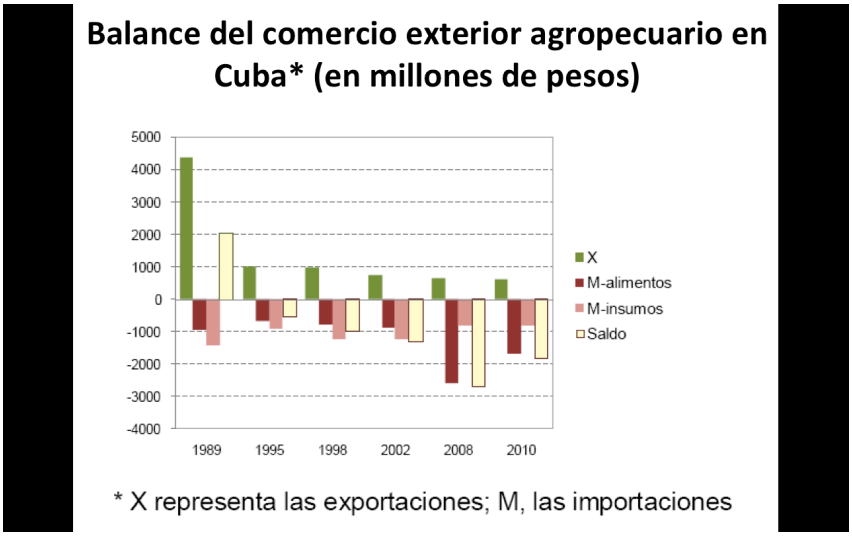
> In Cuba the state has a strong commitment to providing enough food for all the population. So, if we don't produce it, we have to import it. We import a lot of

[24] At the time of this interview, Cuba signed an agreement with Brazil to begin cultivating soy. Cuba has a soy oil processing plant and it imports either soybeans or crude soy oil and does the processing, packaging in Cuba. The produce different types of oil will require state investment making it a priority otherwise it will continue to be cheaper to buy or import oil.

> powdered milk. Why? Because every child from birth to 7 years old receives a litre of milk every day at a very low price, a subsidized price. If we don't produce it, we have to import it, because children have to get this. And not only children, but pregnant women, and some other persons who have different types of diseases. And this is the same for different kinds of foods. We don't produce enough rice and rice is our grain. We are producing less than half of the rice we consume each year. But for the ration card every person in Cuba receives - 7 pounds of rice monthly. I have a family of three and we cannot consume all of that so we give to others. And for some families it's not enough for them. So, even though the ration card is supposed to disappear, we need enough domestic production in order to satisfy all the population needs (Interview 14).

According to Juan Jose Leon Vega, while domestic production needs to increase there are also some products that Cuba will need to continue to import (Interview 13). For example, wheat is depicted in the graph 4.5 as being 100% imported because Cuba doesn't possess the climate required for growing this crop (Interview 12). Furthermore, a portion of corn and rice will need to be imported to meet demand. For rice, Cuba's annual production should meet 400 thousand tons this year but on average Cubans consume approximately 57kg per capita per year, or 700 thousand tons. Juan continued, "because we buy the rice from Vietnam, because it's so far away (approximately 28-30 days by ship) it is pricier. If we could buy from the US it would take 3 days. But that's not possible because we would have to pay cash, we don't receive credits. We can purchase with credits from Vietnam" (Interview 13).

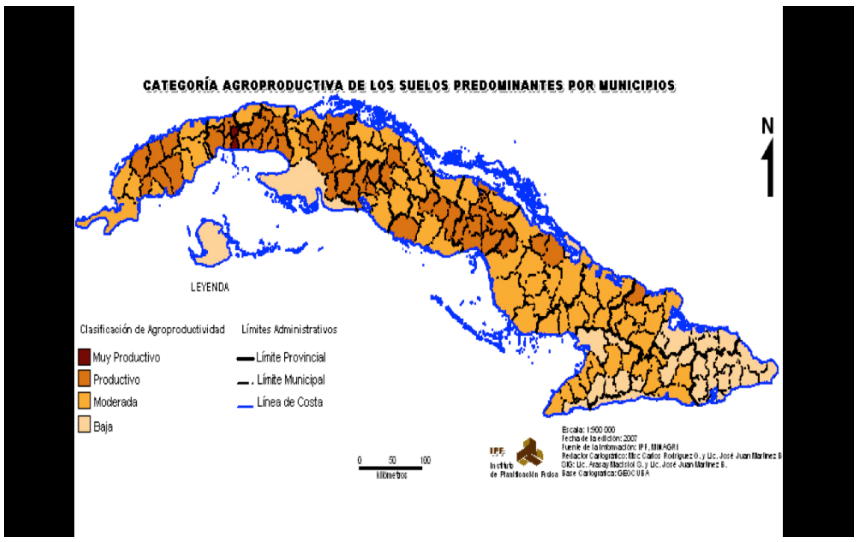
Further to the above point, Alonso discussed the balance of agricultural foreign trade in Cuba (balance del comercio exterior agropecuario en Cuba), depicted in the graph 4.6. The graph 4.6 demonstrates exports (green), including sugar, food imports (red), imports (pink), and balance of trade (white) in millions of pesos from 1989 to 2010. Before 1989 exports were much higher than imports and the income from sugar covered Cuba's food needs and required inputs. After 1989, following the Soviet Union's collapse, trade dropped sharply. Exports have remained at essentially the same low level over fifteen years, while imports have grown significantly. According to Juan, the Ministry of Agriculture mainly exports tobacco (cigars, tobacco leaves), citrus, honey, vegetable charcoal from acacia. Though sugar is still exported it is "depressed" and is under another ministry. The majority is exported to China (Interview 13).




Graph 4.6. Balance of Foreign Agricultural Trade in Cuba Between 1989-2010. Source: Economist Alonso, Interview, May 30, 2013

Another factor affecting food availability is the deterioration of key natural resources (soils, forests, fisheries, etc.). The degradation of the soils caused by unsustainable practices and crop management means that only 18.5 percent of soil is very productive (*muy productivos*) and 16.2 percent productive (*productivos*). The remaining 65% is unproductive (*poco productivos*) and very unproductive (muy poco productivos). Furthermore, drought has caused the reservoir water levels to decrease which negatively impacts agriculture and production yields (Interview 12).


Graph 4.7 Characteristics of the Soil in Cuba. Source: Economist Alonso, Interview, May 30, 2013




Graph 4.8. Agricultural category of the predominant soils by municipality. Source: Economist Alonso, Interview, May 30, 2013

These issues were also identified by Martinez, professor of food security in Cuba. Martinez explained that the situation in the countryside is complex as soil erosion, droughts, and the types of soil (arid, limestone) are impacting production. For example, in Pinar del Rio (where the interview took place), there is a high degree of salinization in the soil which has created issues for the workforce as it's predominantly an agricultural area (Interview 16).

## Food Accessibility in Cuba

Alonso discussed the second pillar of food security, *accessibility*, in the Cuban context. To begin, she explained that there is a discordance between "the structure of food supply (quantity, variety, quality and stability) and the demand and nutritional recommendations of the Cuban population" (Interview 12). This is because of the seasonality of many foods. The greatest supply of food in the agricultural markets is during the months of January to April. Because widespread

technology is unavailable (e.g. refrigeration) for storing foods (though there is some canning) prices increase during the rest of the year. While some frozen foods (vegetables, etc.) are available at the CUC market stores, these products are imported and cost prohibitive. For example, outside the growing season, a person can only purchase frozen broccoli from a CUC market for $3-5 (Interview 12).

As previously discussed, there is also the issue of post-harvest losses. Not all harvested foods are processed which results in food waste. As Alonso highlighted, "close to 30% of agricultural production is documented as post-harvest losses". While some of this is due to an insufficient processing industry, there are also issues with distribution. For example, while tomatoes are expensive in Havana, there are many tomatoes rotting in the fields because the state networks for collection and distribution are insufficient (Interview 12).

Another important factor in terms of food accessibility are income levels. Salaries and pensions are low and are not able to respond to higher prices. For example, in 2011 average wages (predominantly state salaries) increased by 2.8% and that same year food prices incased by 8.7 percent (with meat prices increasing by 24%). Approximately 75 percent of the economically active population is employed by the state. These state employees also have dependents whether children or parents.[25] An average household dedicates 70 percent of household income to food (table below is from 2008 showing approximately 60% of household income dedicated to food). However, this is based on average wages, and it does not include

[25] "The increasing number of elderly and retirees means greater demands on the libreta system; demands that will become more difficult to meet as the dependency ratio of contributing workers to pensioners declines" (Carter, 2013, p. 9).

income from other sources, such as remittances.[26] Alonso explained that these factors also have a social impact – low birth rate. Many Cubans are delaying having children because the cost of living is so high. Furthermore, there is also the diminishing subsidized food basket which is seeing less calories, protein and fat (see table 4.1 below for food basket items). "The subsidized food basket does not provide enough calories, proteins and fats so people have to buy on the market to make up for what is not covered by the subsidized food basket" (Interview 12).

*Table 2: Estimated Monthly Family Food Expenditures (minimum for 2008, in Cuban pesos)*

| Purchase | Per person | Total for nuclear family (four people) |
|---|---|---|
| Rationed food | 34.74 | 138.98 |
| Completion of diet | 92.16 | 368.65 |
| Condiments | 38.32 | 153.24 |
| **Total food costs** | **165.22** | **660.87** |
| Other household expenses | 113.43 | 453.75 |
| **Total** | **278.65** | **1,114.62** |

Source: Alvarez 2009.

Table 4.1 Estimated Monthly Family Food Expenditures for 2008. Source: Carter (2013). Cuba's Food Rationing System & Alternatives.

[26] It's important to note that approximately 90% of Cubans own their own home, and there is also free healthcare, education, etc.

*Table 1: Per Capita Allocation and Prices of Rationed Products, Havana, August 2012*

| Product | Quantity | Price (pesos/unit) |
|---|---|---|
| Rice (broken) | 5 pounds | 0.25 |
| Rice | 2 pounds | 0.90 |
| Beans | 0.6 pound | 1.80 |
| Sugar | 4 pounds | 0.15 |
| Coffee | 4 ounces | 4.00 |
| Cooking oil | 1 pound | 0.40 |
| Pasta | 1 pound | 1.80 |
| Whole milk powder | 1 kilogram | 2.50 |
| Soy yogurt (7–13 years) | 1 liter | 1.00 |
| Chicken | 1 pound | 0.70 |
| Eggs | 5 eggs | 0.90 |
| Salt (every 3 months) | 1 kilogram | 0.35 |
| Phosphorus supplement | 1 box | 0.40 |
| Bread (daily) | 1 bun-sized piece | 0.05 |

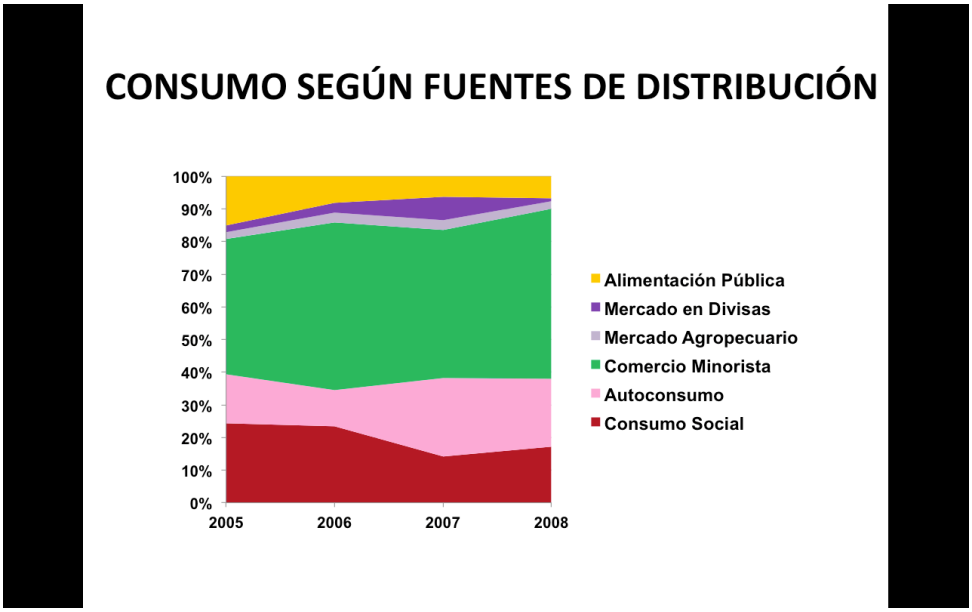
Source: Data from rationed retail market Calle 31, Havana Municipality Beach.

Note: The exchange rate for one Cuban peso (CUP) is US$0.04 (US$1 is worth 25 CUP). The average nominal salary at the end of 2011 was 455.0 CUP per month. Although this converts to US$19, it is not necessarily a realistic conversion because wages are supplemented with subsidized goods and services including education, housing, food, transportation, and electricity (Nova-González 2012).

Table 4.2 Per Capita Allocation and Prices of Rationed Products in 2012. Source: Source: Carter (2013). Cuba's Food Rationing System & Alternatives

To provide an in-depth understanding of food accessibility in Cuba, Alonso presented graph 4.9 that showcases food consumption based on different distribution/consumption channels (at the time of the interview statistics were only available up to 2008). *Alimentacion publica* (or public feeding) in yellow, refers to subsidized workers' lunches. However, the state is moving away from this channel because of the exorbitant cost (approx. US$35 million annually). In 2009, four government ministries closed their free lunchrooms and instead added extra 15 pesos (US$.60) a day to workers' salaries to purchase their own meals. The *mercado en divisas* (foreign exchange markets), in purple, are stores that sell mostly imported products in CUC. This represents a small percentage of the overall total as the products sold are very expensive for most Cubans. The mercado agropecuario (agricultural market), in grey,…also represents a small percentage of the overall total. The *comercio minorista* (retail trade), in green, represents 50% of the total and includes everything sold in retail purchase in pesos – e.g. food carts, kiosks (state

and non-state), point of sale on cooperative farms. *Autoconsumo* (self-consumption), in pink), refers to households that raise their own livestock and crop production for self-consumption. Lastly is *consume social* (social consumption), in red, which refers to food freely distributed to boarding schools, day care centers, hospitals, maternity homes, and homes for the elderly.




Graph 4.9. Consumption According to Sources of Distributions Between 2005-2008. Source: Economist Alonso, Interview, May 30, 2013

According to Juan, "in the farmers' market you can find a lot of products that you do not necessarily need in the ration book". The state is maintaining special diets and medical diets through the ration system – e.g. children and the elderly that are intolerant to some products. This is in addition to social consumption – hospitals, elderly homes, kindergartens, daycares (Interview 13).

As is explained by Díez, when the ration system came into place it was part of a broader structural transformation to redistribute wealth and ensure there was a guaranteed minimum of food for the entire population. It was a necessity. However, it is viewed as an obstacle by the country's top leadership. As the difference between the highest and lowest income has increased; the Gini coefficient has grown. There is a group in the population that does not need to be given subsidized food, though they continue to receive it (Interview 15). Similarly, Rodríguez explains that much of the domestic budget is dedicated to purchasing food for the ration system.

The movement towards subsidizing groups is a way of relieving the burden on the state's budget but also ensuring people have access in a more efficient manner. Rodríguez states "I don't need to receive 7 pounds of rice every month and many people are receiving more money than me" (Interview 14). Furthermore, Alonso suggests that current wages are not enough. People have many other different sources of income to supplement state salaries. "One of the goals is to return to the idea of peoples' wages being enough to cover social development, personal needs, family needs" (Interview 12). However, some food in the markets is very expensive.

### Agricultural Policy & Cooperatives – Challenges & Opportunities

In 2011, following public consultations with over one million Cubans, a set of comprehensive guidelines were approved by the Sixth Congress of the Communist Party in Cuba. These guidelines - *Lineamientos de la Política Económica y Social del Partido y la Revolución* - focus on twelve areas of social and economic reform and represent Cuba's new economic path. The twelve areas are: 1) economic management policy, 2) macroeconomic policy, 3) external economic policy, 4) investment policy, 5) science, technology, innovation and environment policy,

6) social policy, 7) agro-industry policy, 8) industry and energy policy, 9) tourism policy, 10) transportation policy, 11) construction, housing and water resources policy and 12) trade policy (Guidelines of the Economic and Social Policy of the Party and the Revolution, 2011). Economist Díez, formerly with the Ministry of Joint Economic Planning, explains that though Cuba faces many challenges in strengthening its agricultural sector, one of its greatest assets is the political will expressed through *los Lineamientos (*Interview 15). Based on interviews with academics and government officials, below are examples of challenges related to food sovereignty and security and how they are being addressed through state policies and reforms.

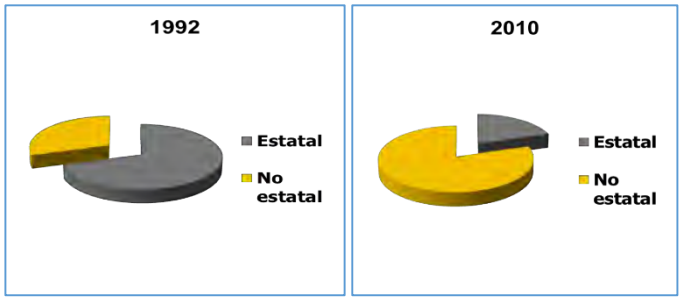
Land Reform

According to Juan Jose Leon Vega, former head of International Relations at the Ministry of Agriculture, and Rodríguez, professor at the University of Havana, the state is delivering vacant land to any person that plans to produce on it to boost agricultural yields and food production. "In December 2007, an important report was published showing that a large amount of agricultural land was idle. This was a consequence of the *Special Period* (also some land was depleted by the invasive plant, marabou). A movement was needed to make this land productive" (Interview 14). In September 2008, the first decree – Law No. 259 - was enacted providing up to 13.42 hectares of land in usufruct to anyone wishing to farm it (Interview 13). In November of 2012 this was amended by decree – Law No. 300 – which enabled the state to deliver up to 67 hectares. Furthermore, houses can be built on the land, and in the case of disability or death, a farmer's properties will be transferred to his or her family. Rodríguez explained that Decree 259 required farmers to join a CCS, but Decree 300, enables a person to join a CCS, CPA, or UBPC based on personal choice and the area they're living (Interview 14). Two million hectares of land

fell idle and as of January 30, 2013 land was delivered to 174,000 new people and the amount of land received in total is 1 540 000 hectares (Interviews 21; 23). By giving land in usufruct Cuba can more readily move towards import substitution (Interview 14). Furthermore, according to the UBPC in Ciega de Avila:

> Any person can request land - a professor, teacher, doctor - and can start producing on the land even though they have no experience. Nowadays there are many professionals given land in usufruct with the condition that they must be focused on production. Often the people that receive the land have not been farming. They must be accepted for association in one of the production units - CCSs, CPAs, UBPCs. This strengthens the coops and production. We have to continue giving more land to be more productive.

Between 1992 and 2010, there was a dramatic shift in the tenure of agricultural land. Before the collapse of the Soviet Union, large state farms represented over seventy-five percent of agricultural land tenure; while farmers and cooperatives held only twenty-five percent. However, in 2010, it is now the inverse (Fernández in Holm, 2011, p. 29).




Graph 4.10. Comparison of Land Between State & Non-State – 1992 and 2010. Source: Fernández in Holm, 2011, p. 29

Agricultural Cooperatives – Food Sovereignty & Food Security

Rodríguez explained that for Cuba to realize food sovereignty as an approach to food security, one of the strategies is focusing on coops. Rodríguez states, "Regarding food security, cooperatives are the main food producers in Cuba for domestic consumption" (Interview 14).

Díez (Interview 15) explained a brief history of cooperative development and the state's role. The first type of agricultural cooperative in Cuba was the CCS (Credit and Services Cooperative) in 1960. At the time, an experiment was carried out with another type of cooperative called *agricultural associations.* In a CCS the members are owners of their land (sometime in usufruct) and in the agricultural associations land was socialized. In 1975, during the First Congress of the Communist Party of Cuba, the creation of agricultural production cooperative (similar to agricultural associations) was approved. Here, farmers would join together voluntarily to collectivize their assets – land, animals, equipment – turning them into common property and carry out production plans with assistance from the State (the state provided support to CCSs as well) (Interview 15). One of the state motivations in creating agricultural production cooperatives (CPAs) has to do with the second agrarian reform law passed in 1963. Following this reform, the State appropriated large land holdings and limited the maximum amount of land to 67 hectares. By forming CPAs, there were economies of scale to increase production – greater application of intensive technologies, mechanization, use of fertilizers, irrigation. With the onset of the *Special Period in Time of Peace*, a third agrarian reform was implemented to increase food production by cooperativizing state enterprises which saw the creation of a third type of cooperative – Basic Units of Cooperative Production (UBPC). Former state enterprise employees were now part of the UBPC. The land that was distributed was

delivered in usufruct without a time limit but continues to be owned by the state. More recently, as mentioned, with the decrees 259 and 300 – more land has been distributed among individuals who then join cooperatives, increasing their overall size (ibid).

In summary, the CCSs formed in 1960, the CPAs in 1975 and the UBPCs formed during the *Special Period*, and now hold approximately 75 percent of the country's farmland (though there is a small group of farmers, approximately 20,000, who own their land but are not associated with any of the cooperatives) (Interview 15). In 2010 agricultural coops provided 13 percent of employment and were responsible for producing 77 percent of agricultural output (Fernández in Holm, 2011). At the time of the interview, the CCSs held approximately 40 percent and supplied approximately 60 percent of agricultural food production while the UBPCs had 37 percent of the land but only contributed 20 percent of agricultural food production (Interview 15). The CPAs are the second most efficient type of cooperative. As Fernandez explains, coop production, especially small farms, is much more efficient than the other productive forms (Interview 15).

Similarly, Rodríguez explained that CCSs provide most of the production for domestic consumption because they are more efficient. This efficiency is because of tradition and knowledge. On the other hand, the UBPCs were not as efficient because there was a lack of autonomy from the state (Interview 14).

Furthermore, Rodríguez asserted that by linking smaller parcels of land through cooperatives they can be more productive, apply more sustainable agricultural practices, and impact the community:

> I think the real direction is small because it's been proven that small properties are more productive, more diverse, more able to produce food - different kinds, more sustainable. And more sustainable from the economic point of view. They provide an economic network locally…it trickles down in the community. There are some coops that are big. For example, there are some sugarcane producing coops that I have visited that are big, but they are divided into small plots. Even for UBPCs, the successful ones have integration and diversification. That's very important (Interview 14).

Agricultural Cooperatives & The State

According to Díez, as part of *los Lineamientos*, there are a number of policy measures being studied with the central, strategic objective "to liberate the forces of production. The forces of production…are restricted or face obstacles – some of these obstacles may be regulations – which is holding back the complete action or full potential of these social actors. The intention or the goal is to gradually eliminate that and to replace these administrative mechanisms with economic and financial relations and greater participation of the market within the process of production within the agricultural sector but without giving up on planning, without renouncing planning. It's a question of finding a point of convergence between economic signs which are sent to the economic base through the plan with the signs of the market. And in my opinion that is

one of the major dilemmas in/for economic policy - how to achieve a harmonious convergence or with a minimum of contradiction between state intervention through planning or other mechanisms and the market" (Interview 15). Díez explained that in the agricultural sector there will be more autonomy in management:

> If they want to sell to the state they can. If they want to sell to the markets, they can. If they want to sell to a tourist hotel, they can sell directly to a tourist hotel. The state gives them credit facilities. They're fostering a market so that producers whether they're cooperative, individual, or state, can have free access to buy the supplies for production that they need. Because still today the resources that are allocated for the agricultural sector are distributed by the state (Interview 15).

Rodríguez emphasizes the importance of *los Lineamientos* for agricultural cooperatives:

> It's very important. It's called the actualization of the Cuban economic model which means reducing the role of the state in the economy, keeping the most important aspects of economic development under the control of the state but creating a more diverse economy. Giving place to both self-employment and cooperatives. We are also seeing the existence of coops in other fields of the economy. Another important change will be second tier cooperatives (Interview 14).

Below are some specific examples of the changing dynamic between state and cooperatives.

The Acopio (National Procurement & Distribution System)

The state's procurement and distribution system *(acopio)*[27] has been the link between producers and consumers since the revolution. One of the first reform measures implemented by the state has been to allow producers to sell their production directly to the population once their commitments to the state (*acopio)* are fulfilled (Interview 12). Previously the *acopio* had fixed prices for 20 basic products. The price and the products were non-negotiable. However, in 2013, it was decided to reduce the number of fixed priced, contracted products to 19 (Interviews 20; 21). Cooperatives can now come to a mutual agreement with the state through negotiation. Furthermore, the *acopio* has increased the price paid to producers for these products. This aspect, coupled with selling over production on the market, has meant higher incomes for food producers (ibid). As Alonso explains:

> The acopio had an inefficient collection of food products because they didn't have sufficient storage facilities. For example, you might have the situation where a farmer produced [and] made an agreement to sell to the acopio a certain amount of tomatoes but then ended up producing much more, having

[27] "Acopio…has been the official link between producers and consumers since the early years of the revolution. Throughout the years, it has become a highly centralized entity intended to collect and distribute all farm production. Production, however, could never be recorded in its totality since, as discussed in other fact sheets, it excluded on-farm consumption, bartering systems, and black market sales" (Alvarez, 2009, para. 6).

better yields, but the acopio would not buy those extra tomatoes. Now, if you meet your commitment to whatever you agreed to sell the state, whatever is left over you can sell to whoever you want. That means...you can also negotiate with the acopio to sell them the extra production or you can sell it to other entities including other cooperatives, etc. (Interview 12).

When asked how cooperatives are benefitting from the economic and social reforms, Miguel Salcines, founder and former President of the UBPC Vivero Alamar in Havana, explained:

Previously, cooperatives had a vertical organization. For example, we couldn't make our own contracts…those came from above. Now we are able to do that. Out of all these new measures that have been passed, the one that has benefitted us the most is the one of having a horizontal organization and we can [negotiate] contracts with individual persons or with entities (state, non-state, private). Previously,…someone from the state enterprise [would] tell the coop president "ok, look, this is what you're going to do - one, two, three, four". We would get into arguments. There was a lack of democracy in the economic sense – economic decision making and how we were going to do our production plan. We now have contracts with state enterprises, non-state entities and other cooperatives. For example, for individual persons we don't have to have a written contract, we can have an oral contract. Someone can come up and say "I want to buy mangos, bananas, etc". We can just write a receipt, write down their ID number and that's it. Before that used to be illegal, we couldn't sell to individuals.

> The problem of food/question of food in Cuba is a vital question. The state, in seeking equity carried out many measures of control but it ended up de-motivating or de-stimulating the producer and that did a lot of damage to the country's production and economy.

As described by Rodríguez, before there wasn't a contractual relationship between the state and cooperatives but an administrative one. "The contract relationship gives more autonomy than administrative relationship because you sign the contract and so it's your obligation. In an administrative relationship, you are waiting for top down authorizations; now it is decided by both coop and state" (Interview 14). Diaz also emphasized the interdependent relationship between the state and coops as the state enterprises are providers of inputs and credits and they also buy the products (Interview 14).

It should also be noted that in speaking to many of the cooperatives, the contracted quota system was not viewed unfavorably (as is often portrayed in the literature). For example, in interviewing members of a CCSF (Strengthened Credit and Services Cooperative) in Cienfuegos, it was explained that although the cooperative must fulfill a state quota, this also means that the cooperative has a guaranteed market with guaranteed pricing which is advantageous in some respects (Interview 11). Furthermore, inputs are credits are received as part of this relationship as well. Similarly, members of the CPA Martyrs de Barbados explained that "the price offered by government are convenient [and] acceptable by both" (Interview 10). For example:

> The enterprise [acopio] can contract production and prices are arranged by a council of ministers. Some prices are fixed, others are negotiated. There is a legal document that the state makes with farmers. Government sometimes provides inputs and this is in exchange for the contract. Recently, the state changed incentives for milk production. The main incentive is that the price of milk has been increased, and if we over produce the price will stay the same but the incentive is that we will receive additional protein ration to feed the cows. Quota is determined per milking cow. 30 milking cows, usually 2-3 litre per cow. 77 litres (80%) are contracted by the government and this includes ration system, day cares, hospitals, etc. the rest – 20%- is sold at market. Depending on the quality (butterfat) we can receive up to 2.90 (high quality) per litre (Interview 10).

Tourism

As the state continues to relax its control over cooperatives, cooperatives can now sell directly to the tourism sector. This was discussed by Alonso, Vega, and Díez (Interviews 20, 21, 23). Previously, as Alonso explains, the tourism imported all of its food because it didn't have a relationship with the national agro-industry. However, hotels can now buy directly from producers. Producers can sell their products to the tourism industry for hard currency and use this to reinvest in the cooperative. However, one of the ongoing problems is with distribution. The distribution infrastructure (i.e. transportation) has not kept up with the possibilities for commercialization. According to Vega (Interview 13):

> All cooperatives that are located nearby hotels, they have been solving the problems easily. The problems arise when the cooperative is far away because of transportation. The ones that are nearby, they are doing well. The staff at the hotel are really satisfied because their products are fresh and of good quality. I think that in the next few years, with these decisions that have been taken by Congress (there are 37 agreements that have something to do with agriculture) have a lot to do with the division between the state direction and the enterprises direction. Sometimes these two things have been really mixed up.

Cooperative Banking & Inputs

Another issued described by Alonso is that cooperatives cannot have bank accounts in CUCs. They have to make purchases in CUCs through the state enterprise and if the state enterprise does not have the liquidity that it needs to make a purchase, that farmer or coop cannot buy the supplies that they need in CUCs. It's a bureaucratic obstacle. At this time coops cannot directly import and they also cannot go directly to a Cuban import company and to purchase equipment such as tractors. They have to do it through the state enterprises which belong to the Ministry of Agriculture and that creates a lot of difficulties and obstacles for their production plans (Interview 12). Similarly, according to Díez there are some issues with the equipment and machinery that is available through the state. While they have it, it's more than 20 years old, from the Soviet Union. "The infrastructure is decapitalized and requires investment for updates, repairs" (Interview 15).

According to Wendy Holm, if the state buys a tractor for 100 000 USD, they then sell it to the coop for 100 000 Cuban pesos, which means the state has to make up the difference. The state is buying it for US dollars on the open market, and then they're selling it for those same dollars in Cuban pesos, 1/25 of the price. “So then under socialism that's the challenge, the state then has to make up the difference from tourism and other sectors in order to balance those books. It's like paying you your full cost of production for your potato and then selling it to the population for something that's affordable for the population, so then that difference, the state has to balance the books and they used to be balanced with sugar and things and now tourism is paying the majority of that and some other industries” (Interview 13).

Vega explains that the National Bank of Cuba gives credits to cooperatives. Nowadays, the cooperatives' credit is only taxed with a 4% per year and the individual farmer a 6% of interest per year. There has to be a guarantee for the credit. For example, if a coop wants to buy a tractor they can use their harvest as the guarantee without any problems (Interview 13).

## The Cooperative Model

One of the key pillars to achieving food security is the production and availability of food supplies. While the availability of food can be provided through imports and food aid, the food sovereignty approach to food security focuses on domestic production and localizing food systems by supporting the sustainable livelihoods of food producers and ensuring local control. As explained, agricultural cooperatives are viewed as a more productive model to increase Cuba’s self-sufficiency and reduce the country’s reliance on food imports by incentivizing production through market incentives while maintaining a socialized form or production.

As will be presented below, agricultural cooperatives contribute to the food sovereignty approach to food security in Cuba. Research findings[28] suggest that agricultural cooperatives are a vehicle to increase production by creating and bolstering economic incentives and social benefits for its members and community. Responses are categorized according to common theme as well as type of agricultural cooperative – UPBC (Basic Unit of Cooperative Production); CPA (Agricultural Production Cooperative); and CCS (Credit and Services Cooperative).

## Sustainable Livelihoods

### *Economic Benefits & Incentives*

Successful agricultural cooperatives provide their members with material benefits and incentives. While conducting qualitative interviews with agricultural cooperative members throughout Cuba, a majority of interviewees emphasized the role of the cooperative in ensuring a more sustainable livelihood, especially when compared to state-run enterprises, in terms of salaries and share in surplus (profit). The following section demonstrates the material benefits and incentives of belonging to an agricultural cooperative.

A well-known example is the UPBC Organoponico Vivero Alamar located on Havana's periphery. The coop was founded in 1997 by Miguel Salcines, a former Agronomist with the Ministry of Agriculture and Cooperative President at the time of this interview. The Vivero Alamar Cooperative began with 800 square meters and 4 members and has since grown to 11.4 hectares

[28] Based on semi-structured interviews in 2013 with members from ten agricultural cooperatives across Cuba.

and 190 members. The primary purpose of the cooperative is to produce fresh vegetables which are sold directly to the local community from an on-site stall (Interview 2). Vivero Alamar provides its members with a comparatively good salary (approximately three times the amount an individual could earn working for the state) and a share in the profits that increases with seniority (Interview 2).[29] Members are paid 350-700 pesos a month plus a share in profits that ranges between 100 to 600 pesos and is distributed every 15 days. Gonzalo Gonzalez describes the surplus (profit) distribution as follows:

> Thirty percent stays in the cooperative for its development, and seventy percent is distributed among members. This distribution is…dependent on two things - the attitude and aptitude of the members as well as the length of time the worker has been a member. Workers are paid a share of the surplus every 15 days in addition to the monthly salary. For example, if you've worked in the coop for one year, you will receive an additional 100 Cuban pesos. A person working for 2 years receives 200 pesos; 300 pesos for 3 years; 400 pesos for at least 5 years; 500 pesos for 10 years; and 600 for 15 years.

Gonzalez continues: "With the surplus share incentive, [members make] higher than the average salaries of Cubans of other working centers. In just a short time, we've been turned into a very powerful competitor in the employment market" (Interview 2).

[29]According to Cuba's national Statistics and Information Bureau (ONEI) the mean salary in figures report for 2012 revealed that the average salary of Cubans is 466 pesos (CUP) a month This is roughly the equivalent of $18-$20 USD.

In Miramar, a residential district of Havana, the Organoponico – 5ta y 44, is also providing sustainable livelihoods for its members through their production of vegetables. Formed in 1992, the coop has 19 members[30] and 48 garden beds. Similar to Vivero Alamar, 80 percent of the surplus is shared among workers (Interview 1). In speaking to Roberto, responsible for the technical and administrative duties of the coop, it was explained that "Salaries for working in the organoponico are higher than salaries for the majority of Cuban people. When profits are good, members can expect 1500-2000 pesos per month, compared to other sectors in Cuba where you earn between 400-600 pesos per month" (Interview 1). There are also incentives in place to encourage worker productivity. For example, "workers operate under a point system. A worker with maximum amount of points will get a maximum amount of pay. Gains are related to productivity – the harder you work, the more points received" (ibid).

In the city of Ciego de Avila, found in Central Cuba and capital of Ciego de Avila Province, there are 13 organoponicos. One of the UBPC organoponicos interviewed was formed in 1993 and has 13 members, 7 of which are linked directly to the production area (Interview 6). Similar to the previous two UBPC organoponicos, each worker-member has a salary based on anticipated production for each month (approximately 570 Cuban pesos) and there are also incentives for increasing production as each member will get a share in profits of "over production" (ibid). Each area has a production plan. If the member responsible for the area exceeds their production plan,

[30]There are 19 coop members – Roberto was interviewed and he is responsible for technical and administration duties; an Agronomist; 9 maintenance workers, three workers linked to production, 2 workers for commercializing, two cleaners, and one microbiologist.

as an incentive, they can receive up to 30 percent of the sales for that area (ibid). More specifically, as one coop member explains:

> The general plan for the last four months (January 2013 to April 2013) was to sell 62 000 pesos worth of production. But we have sold 77 063 pesos worth of production. That's about 25% over the plan. So, there are some members, because of the overproduction, that will get 366 pesos besides the 570 pesos for anticipation (Interview 6).

In sum, "it's based on efficiency. Each member has their own set of beds and the surplus is divided as the members determine based on efficiency and productivity" (Interview 6).

The UBPC Moncada found in Vinales, a small town in the province of Pinar del Rio on the western side of the Island, is comprised of 82 members. Similar to the other cooperatives, each member receives an equal monthly salary of 650 pesos as well as a share in the surplus (profit) which increases with seniority to reward peoples' dedication to the cooperative. Furthermore, during the harvest period, there is an additional incentive tied to productivity. As one coop member explains:

> When the coffee harvest starts there is an incentive system for paying, so when you pick up the first 3 buckets, you receive a certain amount. For example, 10 pesos for each bucket. After the fourth one, the amount is increased. So, the more you pick up, the more you gain (Interview 5).

Another type of agricultural cooperative examined is the Agricultural Production Cooperative (CPA). The CPA 26 de Julio in Los Palos is comprised of 52 members, 729 hectares and is involved in livestock and crop production. As with the other cooperatives there is an incentive to increase production which results in a larger surplus share among members. The members receive a salary every two weeks, 30% of the surplus post-harvest; and 50% of the surplus at the end of the year (Interview 8). As described by one coop member: "On average, coop members make 700-800 pesos monthly including the surplus. The most rewarding thing is to see this cooperative getting better. In the same way the life standards of the members' of the cooperative are getting better and better" (ibid).

One of the largest coops in the capital city of Cienfuegos is the CPA Martyrs de Barbados which represents a powerful production centre in the city. The coop specializes in crop and livestock production. While this cooperative provides a similar salary and share in surplus as the other cooperatives interviewed, additional steps were taken to increase the number of female members working in the fields and to also recognize their dual responsibility of working inside and outside the home. Women frequently work as administrators, in human resources, or perform other office roles. To address this, coop members brought forward a proposal to be approved by the assembly which would have women receive 25 percent more salary if they work in the fields. Furthermore, men work 26 days in the field and women work 24 days in the field. If there are no absences, members receive an additional 40 pesos (Interview 10).

*The Cooperative Advantage*

In addition to salary and surplus are other material advantages of the cooperative model. For example, the CPA 26 de Julio in Los Palos has been able to pool their resources and expand their cooperative. The cooperative has a meeting room on site equipped with computers, machinery such as tractors and leveling machines, and a workshop for repairing their equipment (Interview 8). Furthermore, the CPA Martrys de Barbados in Cienfuegos share approximately 70 percent of their supplies and all of their equipment. Also, as a cooperative they enter into contracts with the government which provides guaranteed sales before the planting season begins. There are no individual farmers in Cienfuegos as all farmers voluntarily choose to join a cooperative (Interview 10). Furthermore, a member of a CCS in Vinales, Pinar del Rio explains that "The fact we've been linked closely to the cooperative gives us possibilities. We can take the opportunity of being linked with the cooperative for selling directly to the population the food we produce here, we also can sell in the cooperative stall (Interview 7).

In recent years, some CCSs have been strengthened and have the necessary equipment and personnel to increase their management capacity and improve services and support to their members. These entities are called Strengthened Credit and Service Cooperatives (CCSF). In Cienfuegos province, all of the CCSs have been strengthened to CCSFs. One of the CCSFs interviewed consisted of 390 family production units. The CCS members pay a fee based on a percentage of production and have used this to purchase equipment and means of transportation to provide members with services directly. A CCS can become a CCSF based on production levels, and if approved by the cooperative assembly and if government provides the opportunity to purchase their machinery. Having ownership over the machinery and equipment is preferred to renting because the CCSF can contract their services to other cooperatives, the

equipment is close to where the farmers are working, the members have a relationship with the coop as owners, and it is easier and more efficient (Interview 11).

The creation of CCSFs demonstrates the government's releasing of control over the CCSs. They are more autonomous and rather than looking to the state to provide all inputs and support, the CCSF has the ability to do it for themselves (Interview 11). The coop also provides market access in that in provides transportation from farm to market. In the example of milk, the CCSF is in charge of picking up production daily and taking it to the farmers' market.[31] Furthermore, the cooperative ensures farmers are supported in that if a farmer within the CCSF had poor production the CCSF will help this farmer by not charging for certain services (Interview 11).

While each coop interviewed varied in size – both in membership and land – common to each is that the cooperative devised its own benefits and incentive structure to meet the needs of its members and to also increase productivity. As evidenced by the cooperative members interviewed – cooperative membership provides sustainable livelihoods for its members through better wages and a share in surplus, while at the same time incentivizing production, which contributes to food availability and food security.

Social Benefits

[31] Food is also contracted by state. Supplied to daycares, schools, etc.

*Decent Work*

In addition to member defined salaries and share in surplus are other advantages of the cooperative model. A majority of the interviewees emphasized their working environment and social benefits as important features of belonging to the cooperative.

Gonzalo Gonzalez and Miguel Salcines from the UBPC Vivero Alamar explained that the cooperative implemented a set of social measures to benefit the members and attract new, qualified members. For example, the workday is 7 hours long and is reduced to 6 hours during the summer months – June to August. Members have one day off every two weeks and there is also a beauty parlor and barber on site, which offers free services to members. In addition, members are provided with breakfast, a mid-morning snack and lunch each day for free. Gonzalo explains, "By reducing the work day and incentivizing the production we have higher yields and we work more efficiently – we produce 100 tonnes per hectare" (Interview 2). "We're swapping labour for capital; we're investing in people" (Interview 4). Salcines continues:

> We gave emphasis on improving working conditions on the cooperative gradually - cold water, a lunchroom, protective gear. We don't say that the human being is the most important, we say it's the only important thing. There are factors such as dignity on the job, possibilities for continuing education, working conditions, and salary. Those are the social elements that the cooperative needs to defend within the cooperative. So, when these kinds of benefits began to be known in the labour market, professionals came here to work. So, all of these factors came

> together and created a type of unity that I think is what makes it different (Interview 4).

The social benefits of belonging to a cooperatives are also echoed by members of the UBPC Moncada in Vinales, Pinar del Rio. Members are guaranteed transportation to and from the cooperative and lunch is provided on site. Similarly, the CPA Martyrs de Barbados also provides lunch to its members – "we offer five different dishes a day. Lunch costs 50 cents per person which is very low" (Interview 10).

In addition to providing transportation and meals on site, many of the cooperatives offer other services to their members. For example, the UBPC Vivero Alamar provides interest free loans (Interview 4, Appendix 2) and CPA 26 de Julio in Los Palos builds homes for its members. Credit is provided by the coop and the members pay the mortgage to the coop (Interview 8).[32]

*Members' Food Security*

Furthermore, while it has been emphasized that through the productive cooperative model, cooperatives are increasing food availability and thus, food security in Cuba, it should also be emphasized that the cooperatives are helping to ensure the food security of its members and their families through production for self-consumption.

[32] Coop built homes, members pay mortgage to coop. Credits provided by coop, government supplies the building materials and then the coop members pay back the mortgage to the coop. *Need clarity around this.*

For example, the members of UBPC Moncada in Vinales, Pinar del Rio, are guaranteed the main food products for family consumption. While the government has contracted the tobacco and coffee production from the coop, a portion of the land is devoted to food crops for the 82 members and their families. There is an organic vegetable garden which produces roots, beans, fruits and rice and livestock which is then sold to the members and their families at a very low price (Interview 5). Similarly, the members of the UBPC Organoponico – 5ta y 44 in Miramar, have the right to take home 1 ½ pounds of vegetables per day and other goods are sold to workers under subsidized prices; the CPA – Martyrs de Barbados, in Cienfuegos, provides production to its members weekly; and the CPA March 13 in Trinidad maintains an organoponico for its members to access quality, healthy food (Interview 1; Interview 10; Interview 3).

*Education & Training*

Another component of the cooperative model that was discussed during interviews was the focus on education and training. As Miguel Salcines from the UBPC Vivero Alamar cooperatives explains: "We provide training here. Including with people from other countries...we provide courses from other countries. Training is just part of our everyday life here. But it's not an academic type of training, it's concrete, with a technical basis" (Interview 4). Members are also provided with educational opportunities abroad to then implement their new skills at the cooperative (Interview 2).

> Some of our technicians…travel abroad, participate in different courses, events, and conferences in Bolivia, Peru, Colombia, Costa Rica, Venezuela, including Canada. It's a motivation for technicians here. They're not just cast aside or

> marginalized, there are technicians that can improve their self-esteem, their education, they can do post-graduate courses.

Furthermore, there is also a sharing of knowledge among cooperatives. As explained by a cooperative member of the UBPC Ciego de Avila, all of the organoponico cooperative leaders meet bi-weekly to share information on seed management, planting, etc. and discuss challenges with production; it's a participatory space for all to provide feedback and suggest solutions (Interview 6). In Vinales, Pinar del Rio, a CCS member explained they have become a teaching station: "Our cooperative is a central reference for all the farmers in the area because of the agroecology and…permaculture" (Interview 7).

*Democratic Governance Structure*

As mentioned, the social and material benefits and incentives of the cooperative model have been decided by the cooperative members. Democratic decision-making is part of the governance structure of all cooperatives interviewed.

For example, UBPC Vivero Alamar has 190 members and these members form the cooperative general assembly which is the ruling power of the cooperative – where the main decisions are discussed and approved. The decisions are made democratically as each member has one vote. The assembly elects its president every five years and the president proposes the cooperative board to the assembly for approval (Interview 2). Furthermore, when asked what makes the UBPC Vivero Alamar work, the President at the time, Miguel Salcines, emphasized the following:

> It is a question of democracy. We exercise direct democracy here…people raise the issues they want to bring to the general assembly. It's participatory democracy where people can express their ideas and participate. It is representative democracy in the case of leadership. The person that you choose to represent you should be somebody that really does represent the interests of the cooperative. And that's my case, and what I've tried to do is to have shared leadership. Because there's a lot of talk about the question of the feeling of belonging. But the first sense of belonging that's needed is a sense of belonging of ideas. The ideas of our project - what is it we're trying to do, what is it that we want?

Similarly, UBPC Moncada emphasized their democratic governance structure as an important aspect to the functioning of their cooperative. The assembly consisting of all members meet monthly to discuss the workings of the cooperative and vote on major decisions. The management board, comprised of a president, account manager and production manager, is elected by the assembly and is ratified every five years. It was also emphasized that members have a clear understanding of their role in the cooperative and what must be accomplished. This includes their quality of work, discipline, attendance record, and their relationship with other members. If members aren't fulfilling their duties the assembly votes whether they should remain a member (Interview 5).

# Chapter 4

# Conclusion

Food security is a goal while food sovereignty describes how to achieve that goal. Food security exists when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (United Nations Food and Agricultural Organization (FAO), 2008, para. 1). With the collapse of the Soviet Union and the onset of Special Period in Time of Peace, food products became scarce and those that did exist were difficult for average Cubans to access because of their increased prices. The daily intake of the average Cuban citizen had descended to 1863 kilocalories, including 46 grams of protein and 26 grams of fat, all figures well below FAO recommended minimums for a healthy diet (Koont, 2004). Cuba reoriented its agriculture to rely less on imported inputs and created a third type of agricultural cooperative – Basic Units of Cooperative Production. In 2001, Cuba began to rebound with an average daily intake of more than 3000 kilocalories, 80 grams of protein, and 65 grams of fat. This has been possible because of Cuba's Socialist system and commitment to human development. However, in order to satisfy the populations food needs, the state has become heavily reliant on imports. While Cuba has food security, because of its reliance on external factors, it does not have food sovereignty.

Food sovereignty is understood as the capability of peoples to make decisions that they need to make about their food production, distribution and consumption. In Cuba's case the availability of food depends to a significant degree on importation, which leaves the nation

vulnerable to fluctuating international markets. If food prices increase, as they did during the food price crisis of 2007-2008, the ability to buy food on the market decreases. Food sovereignty is a political question - a country should have the right to make their own food policies. But if country's food policies depend on decisions that are not made within the nation, vulnerability ensues. Building local production and maintaining a domestic food supply mitigates this vulnerability. As a result, the Cuban state is emphasizing a food sovereignty, food self-sufficiency. While the availability of food can be provided through imports and food aid, the food sovereignty approach to food security focuses on domestic production and localizing food systems by supporting the sustainable livelihoods of food producers and ensuring local control.

The Cuban government is implementing measures to attain food sovereignty through increased domestic production leaving the nation less vulnerable to rising food prices and international market fluctuations. One such tool to do this is through the support of agricultural cooperatives. As part of a broader effort to reform the Cuban economy, the state is relinquishing top-down controls in order to achieve increased productivity and innovation. Cooperative-based farming is a central part of these reforms. As specified in *los Lineamientos*, agricultural cooperatives are viewed as a more productive model to increase Cuba's self-sufficiency and reduce the country's reliance on food imports by incentivizing production though market incentives while maintaining a socialized form or production. For success to be achieved and sustained, the Cuban state must provide a supportive institutional framework and policies while, at the same time, enable cooperatives to function as autonomous enterprises.

To better achieve food security, Cuba is emphasizing increased food production for domestic consumption as well as import substitution. An important recent step taken by Cuba is

the distribution of idle farmland with usufruct rights to cooperatives and individuals (Nova, 2013). Research findings suggest that agricultural cooperatives are a vehicle to increase production by creating and bolstering economic incentives and social benefits for its members and community.

Successful agricultural cooperatives provide their members with material benefits and incentives. While conducting qualitative interviews with agricultural cooperative members throughout Cuba, a majority of interviewees emphasized the role of the cooperative in ensuring a more sustainable livelihood, especially when compared to state-run enterprises, in terms of salaries and share in surplus (profit). While each coop interviewed varied in size – both in membership and land – common to each is that the cooperative devised its own benefits and incentive structure to meet the needs of its members and to also increase productivity. As evidenced by the cooperative members interviewed – cooperative membership provides sustainable livelihoods for its members through better wages and a share in surplus, while at the same time incentivizing production, which contributes to food availability and increased food sovereignty. Furthermore, the cooperative also enables the pooling of resources to purchase inputs, sharing equipment and obtaining credit.

In addition to member defined salaries and share in surplus are other advantages of the cooperative model. A majority of the interviewees emphasized their working environment and social benefits as important features of belonging to the cooperative. Cooperatives invest in their members emphasizing decent working conditions, education and training opportunities, members' food security, democratic governance structure, and other resources – building houses, providing interest free loans. Democratic decision-making is part of the governance structure of all cooperatives interviewed.

While there are some obstacles to overcome in terms of regulatory barriers, the intention is to gradually eliminate restrictive policies and give more responsibility to cooperatives. Without giving up on planning, it is a question of finding a balance between the state and cooperatives' autonomy. The state is committed to a food sovereign approach to food security and supporting agricultural cooperatives through reforms to increase production by creating and bolstering economic incentives and social benefits, while at the same time, ensuring the gains from the revolution are not lost. The relationship between the supportive socialist Cuban state and agricultural cooperatives utilizes a food sovereign approach to food security. Though not without its challenge, this research concludes that with supportive agricultural policy and the cooperative model as a vehicle for production, agricultural cooperatives can bring about food security through food sovereignty by increase local production for domestic consumption, becoming less reliable on imports and vulnerable to global markets.

# References


Adeler, M.A. (2009). Enabling Policy Environments for Co-operative Development: A Comparative Experience. Social Economy Hub.

Almås, R., Campbell, H. (2012). Rethinking Agricultural Policy Regimes: Food Security, Climate Change and the future resilience of global agriculture. Bingley, UK: Emerald Group Publishing Limited.

Altieri, M.A., Funes-Monzote, F.R. (2012). The paradox of Cuban agriculture*, Monthly Review, 63*.

Alvarez, J. (2004). *Cuba's agricultural sector*. Gainesville, FL: University Press of Florida.

Barker, D. (2003). WTO Agreement on Agriculture: Threat to Food Security and Sustainability. International Forum on Globalization. Retrieved from http://www.ifg.org/pdf/cancun/issues-foodsecurity.pdf

Bas, J.A. (2006). Radical Reorientation in Agriculture, Proceedings from Cuba: In Transition? CUNY.

Bateman, M., Novkovic, S. (Eds.). (2015). ICA Global Research Conference 2014. *Journal of Co-operative Organization and Management, 3* (1), 1-48.

Birchall, J. (1997). *The international co-operative movement*. Manchester, UK: Manchester University Press.

Birchall, J. (2003). *Rediscovering the Cooperative Advantage: Poverty Reduction Through Self-Help*. Geneva, Switzerland: International Labour Organization.

Birchall, J. (2004). *Cooperatives and the Millennium Development Goals*. Geneva, Switzerland: International Labour Organization.

Birchall, J. (2011). *People-centred businesses: Co-operatives, mutuals, and the idea of membership.* England, UK: Palgrave MacMillan.

Birchall J., and Simmons R. (2009) Co-operatives and Poverty Reduction: Evidence from Sri Lanka and
Tanzania. Co-operative College, Paper 13, Manchester. Co-operative College.

Borzaga, C. and Galera G. (Eds.). (2012). Proceedings from *Promoting the Understanding of Cooperatives for a Better World*. Trento, Italy: Euricse.

Brennan, M. (2005). IFAS Community development: cooperatives as tools for community and economic development in Florida. Retrieved from http://edis.ifas.ufl.edu/fy728 *century*. London; Halifax: Zed Books; Fernwood Publishing.

CARE (n.d.). Care in Cuba strengthening the management of the dairy production chain in Cuba. Retrieved from http://care.ca/sites/default/files/files/publications/Cuba-dairy.pdf

Chan, M.L., and Roach, E.F. (2013). Unfinished puzzle: Cuban agriculture: the challenges, lessons & opportunities. Food First Books.

Corcoran, H., and Wilson, D. (2010). The worker co-operative movements in Italy, Mondragon and France: Context, success factors and lessons. *Canadian Worker Co-operative Federation*.

Curl, J. (2012). *For all the People: Uncovering the Hidden History of Cooperation, Cooperative Movements, and Communalism in America.* Oakland, California: PM Press.

Davidson, C. (2011). *New Paths to Socialism: Essays on the Mondragon Cooperatives and Workplace Democracy, Green Manufacturing, Structural Reform, and the Strategic Politics of Transition.* Pittsburg, PA: Changemakers Publications.

Develtere, P., Pollet, I., and Wanama, F. (2008). Cooperating out of poverty: The renaissance of the African cooperative movement. 2 International Labour Office World Bank Institute. Retrieved from:http://www.ilo.org/public/english/employment/ent/coop/africa/download/coop_out_of_poverty.pdf.

Diaz, B. (2012). Co-operatives in Cuba's economic development: The way of the future? PowerPoint Presentation. Saint Mary's University.

Duda, J. (2016). An interview with economic historian Vera Zamagni. Retrieved from http://thenextsystem.org/learning-from-emilia-romagna/

Eicholz, J., Waters, P. (2012). *Cuban cooperatives advance, diversify*. The Global News Hub for Co-operatives. Retrieved from http://www.thenews.coop/node/8493

Enriquez, L. J. (2000). Cuba's new agricultural revolution: the transformation of food crop production in contemporary Cuba. *Food Firest Development Report, 14.* Retrieved from http://www.foodfirst.org/pubs/devreps/dr14.html.

Feenstra, G. (2002). Creating space for sustainable food systems: Lessons from the field. *Agriculture and Human Values 19*, 99–106.

Feinberg, R.E. (2011). *Reaching out: Cuba's new economy and the international response*. Latin America Initiative at Brookings.

Food and Agriculture Organization of the United Nations (1997). The food system and factors affecting household food security and nutrition. *Agriculture, food and nutrition for Africa: a resource book for teachers of agriculture*. Rome: Agriculture and Consumer Protection Department. 12. FAO (2005).

Food and Agriculture Organization of the United Nations (1996). Rome Declaration on World Food Security and World Food Summit Plan of Action. World Food Summit 13-17 November 1996. Rome.

Food and Agriculture Organization of the United Nations. (2006). Food Security Policy Brief (Issue 2). Retrieved from http://www.fao.org/forestry/13128-0e6f36f27e0091055bec28ebe830f46b3.pdf

Food and Agriculture Organization of the United Nations. (2008). *Food security information for action:* EC FAO Food Security Programme.

Food and Agriculture Organization of the United Nations. (2009). The World Food Summit on Food Security. 16-18 November 2009. Rome.

Food and Agriculture Organization of the United Nations. (2012). Agricultural cooperatives – key to feeding the world. Retrieved from http://www.fao.org/getinvolved/worldfoodday/en/

Food and Agriculture Organization of the United Nations. (2015). The state of food insecurity in the world. Retrieved from http://www.fao.org/3/a-i4646e.pdf

Funes, F., Garcia, L., Bourque, M., Pérez, N., and Rosset, P. (2002). *Sustainable agriculture and resistance: transforming food production in Cuba*. Havana, Cuba: Asociación Cubana de Técnicos Agricolas y Forestales.

Furobotn E., Pejovich S. (1970), "Property right and the behaviour of the firm in a socialist state", *Zeitschrift für National őkonomie*, *30*, 431-454.

Gabriele, A. (2011). Cuba: from state socialism to a new form of market socialism? *Comparative Economic Studies*, *53,* 647–678.

Garth, H. (2009). Things became scarce: food availability and accessibility in Santiago de Cuba then and now. *NAPA Bulletin,* 32, 178-192.

Gonzalez, C. G. (2003). Seasons of resistance: sustainable agriculture and food security in Cuba. *Tulane Environmental Law Journal,* 16, 685-728.

González, H. (2010). Debates on food security and agrofood world governance. *International Journal of Food Science and Technology, 45*, 1345-1352.

Harnecker, C. P. (2013). *Co-operatives and socialism: a view from Cuba.* Palgrave Macmillan.

Hartley S, Johnson H. 2014. Learning to Co-operate: Youth Engagement with the Co-operative Revival in Africa. European Journal of Development Research 26(1): 55–70.

Hiranandani, V. (2010). Sustainable agriculture in Canada and Cuba: a comparison. *Environment, Development and Sustainability, 12* (5), 763-775.

Holm, W. (2011) Walking the Walk: Cuba's Path to a More Cooperative and Sustainable Economy." Report on the outcomes of an informal Havana dialogue. Retrieved from www.theholmteam.ca/HAVAVA.WORKSHOPS.Dec.2011.pdf

International Labour Organization (ILO) (2012). Message from ILO Director-General on World Food Day. Retrieved from http://www.ilo.org/global/about-the-ilo/who-we-are/ilo-director-general/statements-and-speeches/WCMS_191486/lang--en/index.htm

International Labour Organization (ILO) (2014). 69th Session of the General Assembly Second Committee. Item 25: Agriculture Development, Food Security and nutrition. 28 October 2014. Retrieved from http://www.ilo.org/newyork/speeches-and-statements/WCMS_320433/lang--en/index.htm

International Cooperative Alliance (2012). Co-operative identity, values and principles. Retrieved from http://2012.coop/en/what-co-op/co-operative-identity-values-principles.

International Cooperative Alliance (ICA), 2015a. *What is a cooperative?* Retrieved from http://ica.coop/en/what-co-operative

International Cooperative Alliance (ICA), 2015b. *What is a cooperative? Facts and Figures.* Retrieved from http://ica.coop/en/facts-and-figures

International Cooperative Alliance (ICA), 2015c. *History of the Cooperative Movement.* Retrieved from: http://ica.coop/en/whats-co-op/history-co-operative-movement

International Labour Organization (ILO), 2002. *R-193 - Promotion of Cooperatives Recommendation, 2002 (No. 193*). Retrieved from http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:R193

International Labour Organization (ILO), 2016. *ILO, ICA step up collaboration to promote cooperatives and decent work*. Retrieved from http://www.ilo.org/pardev/news/WCMS_377052/lang--en/index.htm

James, D. (2011). Food Security, Farming, and the WTO and CAFTA. *Global Exchange.* Retrieved from http://www.globalexchange.org/resources/wto/agriculture

Killick, T. and Stevens, C. (1992). Lessons from the Third World, in Killick and Stevens (eds) in *Reform in Eastern Europe and the Developing country dimension*, Overseas Development Institute, London.

King, R., Adler, M.A., and Grieves, M. (2012). Cooperatives as Sustainable Livelihood Strategies in Rural Mexico. *Journal of the Society for Latin American Studies, 32,* 163-177.

Koont, S. (2004). Food security in Cuba. *Monthly Review: An Independent Socialist Magazine, 55* (8), 11-20.

Kwapong, N.A. and Korugyendo, P.L. (2010) Revival of agricultural cooperatives in Uganda. Kampala and Washington: IFPRI. USSP Policy Note 10.

La Via Campesina (2003). Peoples' food sovereignty – WTO out of agriculture. Retrieved from https://viacampesina.org/en/index.php/main-issues-mainmenu-27/food-sovereignty-and-trade-mainmenu-38/396-peoples-food-sovereignty-wto-out-of-agriculture

La Via Campesina (2011). The international peasant's voice. Retrieved from http://viacampesina.org/en/

Lang, T., Barling, D. (2012). Food security and food sustainability: reformulating the debate. *The Geograhical Journal, 178* (4), 313-326.

Lawrence, G., Richards, C., Gray, I., and Hansar, N. (2012). Climate change and the resilience of commodity food production in Australia. P. 131-46 in C. Rosin, P. Stock, and H. Campbell, *Food Systems Failure.*

Lionais, D., and Johnston, H. (2009). Building the Social Economy Using the Innovative Potential of Place. In McMurtry, *Living Economics*, 105-128.

Lizzaralde, I. (2009). Cooperatism, social capital and regional development: the Mondragon experience. *International Journal of Technology Management & Sustainable Development, 8* (1), 27-38

Maghimbi, S. (2010). Cooperatives in Zanzibar: Decline and renaissance. CoopAFRICA Working Paper No. 17. International Labour Organization.

Mattews, R. (2012, October 19). The Mondragon model: how a Basque cooperative defied Spain's economic crisis. *The Conversation.* Retreived from http://theconversation.com/the-mondragon-model-how-a-basque-cooperative-defied-spains-economic-crisis-10193

McMichael, P. (2009). Banking on agriculture: a review of the World Development Report. Journal of Agrarian Change 9, 235–46.

McMichael, P., and Schneider, M. (January 01, 2011). Food security politics and the

Millennium Development Goals. Third World Quarterly, 32, 1, 119-39.

McMurtry, J.J. (2009). Co-operative Globalization: Corporate Globalization's Unheralded Other. In D. Reed and J. J. McMurtry (Eds.), Co-operatives in a Global Economy: The Challenges of Co-operation Across Borders (pages 54-84). Newcastle, United Kingdom: Cambridge Scholars Publishing.

Misselhorn, A., Aggarwal, P., Ericksen, P., Gregory, P., Horn-Phathanothai, L., Ingram, J., Weibe, K. (2012). *Current Opinion in Environmental Sustainability 4*, 7-17.

Mukherjee Reed, A., and Reed, D. (2009). Globalization and Cooperative Development: The Challenges of the Alternative Globalization Movement. In D. Reed and J. J. McMurtry (Eds.), Co-operatives in a Global Economy: The Challenges of Co-operation Across Borders (pages 242-272). Newcastle, United Kingdom: Cambridge Scholars Publishing.

Norberg-Hodge, H., Merrifield, T., and Gorelick, S. (2002). *Bringing the economy home: local alternatives to global agribusiness.* Bloomfield, CT: Kumarian Press, Inc.

Nova González, A. (2013). Agricultural cooperatives in Cuba: 1959-present. In C. Piñeiro Harnecker (Ed.), *Cooperatives and Socialism: A view from Cuba* (279-291). New York: NY: Palgrave MacMillan.

Novkovic, S. 2006. Co-operative business: the role of co-operative principles and values. *Journal of Co-operative Studies,* 39 (1), 5–16.

Novkovic, S. (2008). Defining the co-operative difference. *The Journal of Socio-Economics, 37*, 2168-2177.

Novkovic, S. (2012). How to manage co-operative difference in a socialist economy: Cuba's decentralization of decision-making. Managing the Co-operative Difference. Moncton, New Brunswick.

Parpart, J., and Veltmeyer, H. (2011). Critical development studies: The evolution of an Idea. In Veltmeyer, H. (Eds.), *The critical development studies reader: tools for change*. Halifax: Fernwood Publications.

Petras, J., and Veltmeyer, H. (2001). *Globalization Unmasked: Imperialism in the 21st century.* London; Halifax: Zed Books; Fernwood Publishing.

Pimbert, M (2006). Reclaiming autonomous food systems: the role of local organisations in farming, environment and people's access to food, a paper presented at the International Conference on Land, Poverty, Social Justice and Development, The Hague, Netherlands.

Raco, M. (2005). Sustainable development, rolled-out neoliberalism and sustainable communities. *Antipode*, *37* (2), 324-347.

Reed, D., McMurtry, J.J. (2009). *Co-operatives in a global economy: the challenges of co-operation across borders.* Newcastle, UK: Cambridge Scholars Publishing.

Restakis, J. (2012). Can co-operatives revive Cuba's sagging economy? *New Internationalist Magazine*, 454.

Riely F. et al. (1995). Food security indicators and framework for use in the monitoring and evaluation of food aid programmes. Food security and nutrition monitoring project. Arlington.

Rodriguez-Garavito, C.A. 2006. "Solidarity Economy and the Struggle for Citizenship in Times of Globalization: A Study of the Cooperatives of Informal Garbage Pickers in Colombia." In B. de Sousa Santos (ed.), Another Production is Possible: Beyond the Capitalist Canon, 43-69. London: Verso.

Rosin, C., Stock, P. and Campbell, H. (2012). Food Systems Failure: The Global Food Crisis and the Future of Agriculture. Abingdon, Oxon: Earthscan.

Rosset, P., Benjamin, M., 1994. The greening of the revolution: Cuba's experiment with organic agriculture. Ocean Press, Melbourne.

Rosset, P. (2009). Fixing our Global Food System. *Monthly Review: an Independent Socialist Magazine, 61,* 114-128.

Rosset, P. (2011). Food Sovereignty and Alternative Paradigms to Confront Land Grabbing and the Food and Climate Crises. *Development, 54* (1), 21-30.

Shiva, V. (2003). Free trade industrial agriculture rules threaten world's farmers: The World Trade Organization Agreement on Agriculture. *The Centre for Food Safety*. Retrieved from http://www.ifg.org/pdf/int'l_trade-shiva_AOA.pdf_1.pdf

Simmons R., and Birchall J. (2008) The role of co-operatives in poverty reduction: Network perspectives, *Journal of Socio-Economics*, 37 (6), pp. 2131-2140.

Sinclair, M., and Thompson, M. (2001). Cuba: going against the grain: agricultural crisis and transportation. Retrieved from http://www.oxfamamerica.org/publications.

Sixth Congress of the Community Party of Cuba (2011). Resolution on the Guidelines of the Economic and Social Policy of the Party and the Revolution. Official Website Ministry of Foreign Affairs Cuba. Retrieved from http://www.cubaminrex.cu/English/index.htm

Smith, S.C. (2001). Blooming together or wilting alone? Network externalities and Mondragon and Le Lega co-operative networks. *Discussion Paper No. 2001/27.*

Spear, R. (2002). The Co-operative Advantage. *Annals of Public and Cooperative Economics, 71*, 507-523.

United Nations Department of Economic and Social Affairs (UNDESA) (2012). International Year of Cooperatives 2012. Retrieved from http://social.un.org/coopsyear/

Vieta, M. (2012). Cuba's coming co-operative economy? Reflections from two recent field trips. *Global Research*. Retrieved from http://www.globalresearch.ca/cuba-s-coming-co-operative-economy/31966

Vieta, M., and Lionais, D. (2015). Editorial: The Cooperative Advantage for Community Development. *Journal of Entrepreneurial & Organizational Diversity, 4,* 1-10.

Wanyama, F.O., Develtere, P. and Pollet, I. (2008a) Encountering the evidence: Co-operatives and poverty reduction in Africa. Journal of Co-operative Studies 41(3): 16–27.

Wanyama, F.O., Develtere, P. and Pollet, I. (2008b) Reinventing the Wheel? African Cooperatives in a Liberalized Economic Environment. Leuven: Catholic University, Higher Institute of Labour Studies. Working paper, June.

Ward B. (1958), "The firm in Illyria: market syndicalism", *American Economic Review, 48*, 566-589.

Wittman, H. (2011). Food sovereignty: a new rights framework for food and nature? *Environment and Society: Advances in Research, 2*, 87–105

Woodhouse, (2010). Beyond industrial agriculture? Some questions about farm size, productivity and sustainability. *Journal of Agrarian Change, 10*, 437-453.

Wright, J. (2009). *Sustainable agriculture and food security in an era of oil scarcity: lessons from Cuba*. London, UK: Earthscan.

WTO agreement on agriculture: The implementation experience*:* Developing country case studies*.* (2003). Rome: Commodity Policy and Projections Service, Commodities and Trade Division, Food and Agriculture Organization of the United Nations.

Zamagni, S. and Zamagni, V. (2010). Cooperative Enterprise: Facing the Challenge of Globalization. Cheltenham, UK: Edward Elgar Publishing Limited.

Zamagni, V. (2015). The cooperative movement. In E. Jones and G. Pasquino (Eds.), *Oxford handbook of Italian politics*. Oxford: Oxford University Press.

Zeuli, K. (2002). The Role of Co-operatives in Community Development. University of Wisconsin Center for Cooperatives Bulletin. Retrieved from http://www.uwcc.wisc.edu/pdf/Bulletins/bulletin_09_02.pdf

# APPENDIX 1 – List of Interviews

| Interview No. | Pseudonym/ Or Name (if public) | Titles/Role | Location of Interview |
|---|---|---|---|
| 1 | UBPC Organoponico – 5ta y 44 | Roberto, Administration | Havana |
| 2 | UBPC Vivero Alamar – Gonzalo Gonzalez | Vice President | Havana |
| 3 | CPA March 13 | Members | Trinidad |
| 4 | UBPC Vivero Alamar - Miguel Salcines | Founder, President | Havana |
| 5 | UBPC Moncada – select members | Members | Vinales, Pinar del Rio |
| 6 | UBPC Organoponico – select members | Members | Ciego de Avila |
| 7 | CCS – select members | Members | Vinales, Pinar del Rio |
| 8 | CPA 26 de Julio – select members | Members | Los Palos |
| 10 | CPA Martyrs de Barbados – select members | Members | Cienfuegos |
| 11 | CCSF – select members | Members | Cienfuegos |
| 12 | Alonso | Economist | Havana |
| 13 | Juan Jose Leon Vega | Former head of International Relations at the Ministry of Agriculture | Havana |
| 14 | Rodríguez | Professor, University of Havana | Havana |
| 15 | Díez | Economist, formerly Ministry of Joint Economic Planning | Havana |
| 16 | Martinez | Professor of Food Security, Cuba | Pinar del Rio |