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# Small and Closed vs. Large and Open: Some Lessons from Comparing Agricultural Development in Cuba and Colombia

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## Abstract

Comparing the experiences of selected Latin America and the Caribbean countries and their trajectories over the past 15 years offers rich insights into the dynamics and causes for not meeting the 2015 MDGs. They also offer clues for post-MDG strategies. Central to achieving sustainable growth are government policies able to support small and medium-sized farms and peasants, as they are crucial for the achievement of several goals, centrally: to achieve food security; to provide a sound and stable rural environment able to resist external (financial) shocks; to secure healthy food; to secure local food; and to protect vibrant and culturally rich local communities. This paper analyses and compares the most successful government policies to the least successful policies carried out over the last 15 years in selected Latin American and Caribbean countries and based on this analysis, offers strategies for more promising post-MDG politics, able to reduce poverty, reduce inequality, fight back informality and achieve more decent work in poor countries.

## Introduction

Global inequality dominates the discussion of the current state of global development. A recent Oxfam report stated that:

“Seven out of ten people on the planet now live in countries where economic inequality is worse than it was 30 years ago (Oxfam 2014,34). The number of dollar millionaires rose from 10 million in 2009 to 13.7 million in 2013. Since the financial crisis, the ranks of the world's billionaires has more than doubled, swelling to 1,645 people. Oxfam's research in early 2014 found that the 85 richest individuals in the world have as much wealth as the poorest half of the global population”(Oxfam 2014, 36).

Today, 850 million people in the world are undernourished (FAO Data 2014). Ninety eight percent of

the world's hungry population lives in the developing world and three quarters of the world's hungry population live in rural areas (World Food Programme 2014).

The UN and parts of the international community have been working on eradicating global hunger and extreme poverty. The FAO report on the global hunger situation comments that:

“Between 1990–92 and 2012–14, the prevalence of undernourishment has fallen from 18.7 percent to 11.3 percent at the global level, and from 23.4 percent to 13.5 percent in developing countries”(FAO State of Food Insecurity [SOFI] 2014, 9).

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These numbers have led the FAO to conclude that halving global hunger by 2015 (MDG Goal 1) is “within reach” (FAO SOFI 2014, 9). The region where proof of this attainability is found has been Latin America. From the period of 1990-1992 to 2012-2014, Latin America shrunk the share of the world’s hungry population that lived within its borders, reducing its share of the world’s hungry from 6.8 to 4.6 (FAO SOFI 2014, 11). Between 1990 and 1992, 14.4 percent of Latin Americans were malnourished. In the years 2012-2014, that number had been reduced to 5.1 (FAO SOFI 2014, 11). Latin America’s hunger has been reduced due to higher economic growth and state policies to curtail hunger. The FAO states that “Latin America has established itself as a major agricultural exporter, with the agricultural sector becoming an engine of domestic economic and employment growth for countries in the region” (FAO SOFI 2014, 52). Reducing the proportion of the global population that is hungry is certainly a noteworthy achievement. However, what is behind this reduction in hunger? While there exist different developmental models for how to eliminate hunger and poverty, what theoretical lessons can be taken from Latin America’s completion of MDG 1? While many would argue that Latin America’s integration into global commodity chains has generated new wealth and falling hunger, does the region’s openness to the global economy explain its progress on MDG 1?

### Latin American Agricultural Development

In the 2000s, Latin America went through a boom in its production of agricultural exports (Graziano da Silva et. al eds. 2009). This “boom” in production, however, did not lead to a significant contraction in rural hunger (Graziano da Silva et. al eds. 2009, 17). Rural populations make up 70% of the world’s extremely poor population, that live on less than \$1.25 a day (IFAD 2011, 18), while only being just under half of the world’s population. In Latin America, regional data collected by IFAD shows that in 2008, 19.9% of the rural population lived in poverty (lives on under \$2 a day), extreme poverty for the same population is 8.8 (lives on \$1.25 a day) (IFAD 2011, 234).

Behind the agricultural “boom” and perhaps lost

in the production data is the fact that in order to facilitate the increase in export production to earn sufficient currency reserves to survive financial markets (Rosnick and Weisbrot 2013), peasants had to be expelled in large numbers from their smaller plots to make room for the large plantation-style farms. In Latin America and the world, peasantries are increasingly confronting what is called the “global land grab” (Borras Jr. et al. 2012). Borras Jr. et al. (2012) note that in Latin America, land grabs are occurring as the result of financial crisis that have sent finance capital into the regions looking for safe investments (852). These grabs result in the production of “flex-crops,” crops that have multiple uses such as “soya (feed, food, bio-diesel), sugarcane (food, ethanol), oil palm (food, biodiesel, commercial/industrial uses), corn (food, feed, ethanol)” (Borras Jr. et al., 2012:851). A few examples of country experiences in Latin America were written in GRAIN’s report, *Hungry for Land*:

- “Argentina lost more than one-third of its farms in the two decades from 1988 to 2008; between 2002 and 2008 alone, the decline was 18%.
- In the decade from 1997 to 2007, Chile lost 15% of its farms. The biggest farms, those holding more than 2,000 ha, shrank 30% in number but doubled their average size, from 7,000 to 14,000 ha per farm.
- In Colombia, small farmers have lost around half of their land since 1980.
- In Uruguay, just since 2000, the number of farms has dropped 20% and this especially affects small farms: there are 30% fewer small farms, and they have 20% less land” (GRAIN 2013, 8).

The decline in the share of land is not only a Latin American issue and is affecting small-farmers globally. Small-farmers occupy 24.7% of the planet’s available farmland, while being 92.3% of the farms (GRAIN 2013, 3). While small farmers only occupy around ¼ of the world’s farmland, they produce about 80% of the food in non-industrialized countries and the vast majority of food eaten in most

countries (GRAIN 2013, 10-2).

The above story is contradictory from the perspective of Latin America's attainment of MDG 1. First, the UN-led development community is praising Latin America for their exemplary progress in attaining MDG 1 to halve hunger, which was attained as the result of an export boom in the agricultural sector and conditional transfer policies throughout the region (Graziano da Silva et. al eds. 2009). Meanwhile, peasants worldwide and within Latin America are increasingly losing access to their land due to the global land-grab's industrialization of agricultural production. So if Latin America was able to reduce its hunger and fulfill the MDG for 2015 to halve hunger and to lead the world in hunger eradication, yet its rural sector (that remains rural) is losing land and remains the large part of the malnourished population in Latin America, what production patterns should be pursued in order to eradicate hunger? Should the industrialization of agriculture continue (supported of course by the "internationalization" of economic activity)? Or should alternative practices be pursued to reverse the industrialization of agriculture and base it on localized markets (Hines 2013)?

### Methodology

To answer this question we employ a comparative analysis of two different models of agricultural production implemented by two Latin American governments in the 2000s. The cases, Cuba and Colombia, are chosen based on their conformity to competing models of agricultural development. Cuba's agricultural policy has been characterized by decentralized production patterns, support for small-scale producers, and attention to the food sovereignty of the farmers. Colombia's agricultural policy has been based on increasing integration of its rural space into global commodity chains. The granting of licenses for mining companies and the influx of investment for producers of palm-oil each represent actions taken by the Colombian state to connect their rural economy to the international economy. The comparison will be utilized to see how these countries have performed on indicators related to MDG 1, namely hunger and the ability of the policies to improve human development. We

provide data on the economic policies followed in each country, demonstrating the model of agricultural pursued in each country. Next, what follows is we compare each country's performance on indicators such as hunger, child mortality, and food supplies in order to determine which agricultural development policy is most useful for advancing the world toward MDG 1. We have collected our data from UN sources widely used for international comparisons. This ensures to the greatest degree possible, that the data represent the same phenomena and that comparing the countries on the basis of this data is useful.

### Two Perspectives on Development

In our exploration of the different models of agricultural production and their effect on national development writ-large, we must first explore the iterations of the epistemic communities which inform and are articulated by proponents of the distinct models. The first group of scholars is the liberal "developmentalists" that occupy most of the positions in the international development field. Two respected voices that are representative of this school are Paul Collier and Amartya Sen (1999). For Collier and Sen, development is an attainable goal for the world's poor population and is attainable under the right conditions. According to Sen, development is prevented from benefiting many populations and groups of people because they suffer from "unfreedoms" that prevent them taking advantage of opportunities and utilizing their own agency to resolve their personal 'development crisis'. Among Sen's listed "unfreedoms", he includes the freedom from hunger, the freedom from early death (missing women), the lack of access to markets, and the lack of access to basic health and social services. All of these conditions represent ways that world's poor are restricted in their freedom. For Sen, thinking in the liberal tradition, it is through a more rigorous protection of freedoms that will lead the world's poor to become "capable" of lifting themselves out of poverty.

Paul Collier's Bottom Billion (2007) follows a similar ideological perspective while emphasizing more practical and less philosophical solutions to the resolution of the world's development crises. Collier, unlike Sen, does not offer a "universal" solu-

tion to development in the form of a philosophical resolution, but instead targets his development solutions exactly to where he thinks they are needed the most, the poorest billion. For Collier, this poorest billion is largely located in countries that are either failing or on the verge of collapse. He considers countries such as Haiti, Ethiopia, Somalia, and others to be the primary laggards in global development. For Collier, development is analogous to "chutes and ladders" where there are some "fabulous ladders" which "most societies" are using. However, there are "some chutes" which "some societies have hit". It is the "bottom billion" which constitutes the "unlucky minority" who are "stuck" in their poverty (Collier 2007, 5). Since they are holding us all back, the development of the 'bottom billion' is a "global public-good" (Collier 2007, 184). Collier argues that it is the lack of economic growth which is creating "traps" in which countries fall and are unable to get out of it. The traps include "the conflict trap, the natural resources trap, the trap of being landlocked with bad neighbors, and the trap of bad governance in a small country" (Collier 2007, 5). For Collier, once the traps are understood, explained, and then addressed systematically, then self-reinforcing development becomes possible that will let the bottom billion "catch-up".

Sen (1999) and Collier's (2007) work demonstrates a common theme in the development community to think of development in the same light as modernization theory (Rostow 1968). It is for the developing countries of the world to link themselves into the technology, practices, and markets of the developed world in order to catch-up to the progress achieved in those places. For Sen and Collier, the integration of the world's poorest into the global marketplace and their unequal footing in global market competitions are what blocks them from achieving the material quality of life found in Western countries. It is from these assumptions that many scholars of development prescribe solutions to economic underdevelopment, among them including the promotion of export-enclaves and other strategic economic measures to serve an economic niche in the global marketplace.

### **Integrationist Skepticism**

For the above authors, the traditional path to development is through greater incorporation and adoption of the most productive forms of economic production possible in a specific country context. However, for scholars more versed in structural explanations, underdevelopment has a much different source and resolution. The "dependency" school of development studies emerged from the Economic Commission on Latin America and the Caribbean (ECLAC) in the late 1950s, most famously by Raul Prebisch. Prebisch's initial argument was that economic growth was impossible in developing regions of the world such as Latin America because of the unequal terms of trade which existed at that time. Latin America, being comprised of developing nations, was only being compensated for raw materials. However, in the developed world, the raw materials were being made and manufactured into finished goods with high rates of value-addition which made the finished good sales received in the developed world much more valuable than the export revenues received in developing countries for primary goods. Further developing the dependency school though was Immanuel Wallerstein and his "world-systems theory". For Wallerstein, the entire global economy was an integrated market economy in which different geographical locations occupied distinct positions within the global flow of goods and capital and due to this location, were locked into either a 'center', 'peripheral', or 'semi-peripheral' position. Centers were made up of the countries that benefitted from "primitive accumulation" and from where the peripheral countries receive significant amounts of foreign investment. Peripheries, located away from the centers of financing, are largely relegated to providing the raw materials and cheap labor for production.

In this conception of development and political economy, the underdeveloped nations, or the "developing" nations are developed precisely due to their relations with the "core". In fact, the reverse is also very tellingly true, as the core countries become and remain core countries due to their exploitative and advantageous relationships with the peripheral nations, what Andre Gunder Frank referred to as the "development of underdevelop-

ment" where one countries development is a direct result of another's "failure" to develop (Frank). The unequal dynamics and exploitative economic relations between peripheral and center states within the global capitalist economy explains underdevelopment. Within this paradigm, it is important to emphasize the structural features and geographies of production in order to understand the problems of underdevelopment. The most recent literature that tracks these issues come from the field of globalization studies, namely Joseph Stiglitz's *Globalization and Its Discontents* and most recently James Petras and Henry Veltmeyer's (2011) *Beyond Neoliberalism*. These works come from the liberal and Marxist perspective, while representing a critique of the integrationist development models mentioned above.

For Stiglitz, globalization has left many citizens in the developing world unhappy and worse off. The reasons for this, according to Stiglitz, are that the implementation of 'development' policies and the management of globalization has been uniform and carried out by institutions such as the World Bank (where he was chief economist) and the International Monetary Fund, which are embedded in a culture of elite influence and a drive for immediate results. The implementation of the IMF's reforms did not consider the internal development needs of the developing world or the ways in which sudden entry into global markets would leave developing countries behind and under-performing in the global economy.

James Petras and Henry Veltmeyer (2011) argue that the current development landscape is characterized by uneven development and exploitative economic relations that take on the character of labor-capital, core-periphery, and core-core. Perhaps writing with the clarity provided from the recent financial crisis, Petras and Veltmeyer advance the argument that instead of development representing the expansion of markets into undeveloped areas, it is actually the advance of markets that leads to underdevelopment. He points to the existing inequalities found in the world. He summarizes the 2010 UNDP report on Latin America for support on the relationship between unequal economic relations between countries,

by writing that "there exists a direct correspondence between the advance of globalization, neoliberalism and the advance of poverty, social inequality, and social inequity" (Petras and Veltmeyer 2011). For Petras and Veltmeyer, neoliberalism is not something that poor populations need help adopting and global markets are not harming peasants because they lack the "freedom" to take advantage of them or because they are locked in a "trap", rather it is due to the logic of capitalist production. Instead, it is capitalist production that since the very beginning has been built on the back of "accumulation by dispossession" to borrow the familiar phrase from David Harvey (2007).

From a rough synthesis between these different viewpoints and increasing global attention on global inequality and financial instability (Piketty 2013; Time for Equality 2010; Bellamy-Foster 2008), there has emerged a belief that states should play a greater role in mitigating inequality and alleviating the worst symptoms of "dispossession" within the capitalist economy in order to protect social harmony and environmental sustainability. The 2010 ECLAC report on the difficulties of development, *A Time for Equality* (2010), argues that Latin American and Caribbean states are essential for fulfilling the report's mandate, directly advanced in the title. The report argues that states have three main functions in order to best serve their populations in an increasingly competitive global economy. The first is to ensure that "public goods" are available that can be used for all citizens. These include grain storage, parks, state-backed capital supplies, or even the environment itself. The next is to mobilize these public goods with "strategic management" and "long-term vision" echoing earlier statist streams that called for the state to be the centralizing force that unifies society's interest. In today's world, states must insert themselves between their population and the global market's vicissitudes to ensure necessary resources will remain available and to promote production strategies that will increase material security. The third function is to foster a "civic will" that opens the state to others outside of elite circles. It is the final function, which states must fulfill to be able to fulfill the others. In essence, the state's capacity to know and create strategic initiatives

to serve its population requires that it interfaces with those same citizens without discrimination or exclusions on the basis of race, class, and gender.

### ***Rural Development-Strategies and Theoretical Approaches***

The above mentioned models of integrationist developmental scholars and autonomous and statist scholars each have different perspectives on the role of agriculture in the development process and disagree on how rural space should be marshaled toward national developmental goals. Agricultural development policies, from the standpoint of developmentalist scholars, should focus on the incorporation of small-farmers into global value chains. To do this requires on the ground adoption of agricultural practices that will best increase production for the global commodity chain. This echoes the implementation of the Green Revolution throughout the developing world that emphasized the principles of chemical inputs, new seed varieties, and monocrop planting whereby one plant predominates and is planted year after year (Shiva 1991). Miguel Altieri explains that the Green Revolution was a Malthusian model of agriculture which thought of the problem of hunger in society as one where the population had outgrown the productive capacity of the agricultural methods available during a given historical epoch (Burch 2013 Interview with Miguel Altieri, 2013, 386-7). Since the Green Revolution the industrialization of agriculture has continued afoot and has transformed into the neoliberal food regime (Wolf and Bonnano 2013), even leading some today to call for a new green revolution as a solution to the 2008 food crisis (Conway 2011). Those who push for a 'new' Green Revolution can best be explained to come from the idea that "dead" capital, unused by populations unaware and unconnected to international market structures. Hernando de Soto (2003) has most thoroughly expressed this notion of "dead" capital. He writes that "in the midst of their own poorest neighborhoods and shantytowns, there are - if not acres of diamonds- trillions of dollars, all ready to be put to use if only the mystery of how assets are transformed into live capital can be unraveled" (De Soto 2003, 37). This is echoes roughly the official view of the World Bank who, in 2008, drafted a World Development

Report issued a report on the role of agriculture and development. In it, the World Bank says rural poverty and issues related to food security can be improved through "new agriculture", that should be "led by private entrepreneurs in extensive value chains linking producers to consumers and including many entrepreneurial smallholders supported by their organizations" (WDR 2008,8).

There exists another model of agricultural development in Latin America and the world today. It is the agricultural model of La Via Campesina and other peasant groups that seek to keep small farmers on their plots. This form of production is known as agroecology. Agroecology is defined as the "application of ecological science to the study, design and management of sustainable agroecosystems" (Altieri 1995,16). Practically, agroecology promotes recycling nutrients conserving energy through the integration of crop and livestock production and the maintenance of biodiversity through the avoidance of chemical inputs over time (Altieri 1995). Recycling nutrients through the use of natural on-farm inputs, or "self-provisioning" (Van der Ploeg 2010), allows peasants to purchase fewer inputs and maintain long-term productivity of the soil. Agroecology is inherently reliant on the knowledge of peasant farmers about their particular and local growing conditions (ecology and economy) to generate optimal production methods. The increased integration of production methods (livestock and grains) on the same small-scale plot of land leads to a production system that is complex and requires the peasant's knowledge and labor of local idiosyncratic growing conditions.

### ***Situating the Cases***

Since the UN launched the pursuit of the Millennium Development Goals states have pursued different development strategies which were purportedly directed at achieving or moving their nations toward the achievement of these goals. Latin America is no different. Some states actively promote the World Development report's integrationist strategies for their rural areas; countries such as Brazil, Argentina, Colombia, Honduras, and Mexico have all emphasized the production of grain crops for export (Agricultural Boom in Latin America 2008). Two countries in Latin America represent

two extremes in the conflict over appropriate agricultural practices currently taking place between those who are angered by persistent numbers of "starved" and "stuffed" consumers of food suffering from high rates of obesity (Patel 2008). Cuba represents an extreme case of the socialization of agricultural production and obedience to the above-mentioned principles of agroecology. In Cuba, the government has allowed cooperatives to be formed on the old industrial farms that flourished when most agricultural production was geared toward the export economy (this period lasted from the time of Castro until the collapse of the Soviet Union in 1991) (Altieri and Monzote, 2012). Small-scale farming is promoted and scientists travel throughout the countryside instructing peasants in agroecological growing methods in order to maximize production on small-scales (Altieri 2009). In Colombia, a more traditional integrationist strategy was followed. Investments in extractive industries such as mining and megaprojects were promoted, a free trade agreement with the U.S. was signed, as well as a trade agreement with the E.U., and lastly biofuel productions have increased.

With these two cases and divergent development styles, a comparison can be made regarding the potential impact for agricultural policies on the attainable of human development goals. It is from here it must be asked, what have the results been toward attaining the Millennium Development Goals? Which model can provide a way forward? Why? To provide background for the comparison, first data on the relationship between market freedom and human development will be presented to establish the macro-validity of our study. From there, we will then examine data on Colombian and Cuban food production and consumption to demonstrate how at the micro and sectoral level, the success of "socialized" land policies that keep small farmers producing and limit the expansion of agri-business. The argument here will be to show that because Cuba has increased its "food sovereignty" and is practically food self-sufficient, that its model of agriculture is demonstrably better and more sustainable. Though imperfect and not easily implementable world-wide, it still represents a distinct form of exit from capitalist pro-

duction methods and allows for the creation of dependent communal networks based around increasing productivity of rural areas, increasing food supplies, and ecological sustainability.

### **Human Development and Economic Liberalization**

In our selection of cases, there is an essential comparison between two models of state-policy, one that is a liberalizing country that is opening itself to the world economy and one that is promoting internal development based on the needs of the population instead of promoting exports in international markets. We understand the degree of liberalization of economy to be commensurate with its obedience to the principles of neoclassical economics and the internationalization of the economy. We first provide a macro dataset to problematize the relationship that exists between market openness and human development. To examine the relationship between these two variables we retrieved data from the Heritage Foundation's Economic Freedom Index and the UNDP Human Development Index (HDI). To test on a macro-scale, it seems appropriate to take the measure of economic freedom (economic-freedom index) provided by the Heritage Foundation and correlate these scores to human development. This data will tell us directly to what extent economic freedom and openness are associated with human development.

A correlation analysis was run to determine the degree to which South American states with higher economic freedom measures also improve higher scores on the HDI. In this correlation, the Human Development Index is the dependent variable, which is compared with the Economic Freedom Index as the independent variable, in order to determine their relation between the two variables.

The correlation analysis equation is the following:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}} \quad [11]$$

The null hypothesis for this hypothesis is:  
H0: Economic liberalization does not improve the Human Development index in South



**Table 1. Correlations**

		HDI	EFI
HDI	Pearson Correlation	1	0,178
	Sig. (2-tailed)		0.623
	N	10	10
EFI	Pearson Correlation	0.178	1
	Sig. (2-tailed)	0.623	
	N	10	10

From **Table 1**, it is clear that these two measures are not correlated and that the predicted relationship between economic freedom and human development is not there. State HDI values are not much affected and do not correspond to economic openness. From this beginning, we take a critical stance on the value of “integrationist” development thought and are from here going to advance our case by utilizing a sectorial comparison directly linked to the pursuit of ending poverty and hunger in two Latin American countries in the period immediately following the international community’s adoption of the MDGs. We will start with Colombia.

**Colombian Policies Toward Rural Areas**

In Colombia, the 1990s and 2000s saw a deepening of the neoliberal model advanced in the 1980s under the banner of the Washington consensus. This policy had a particularly strong impact on the 32

percent of the Colombian population living in rural areas (World Bank Data 2013). Colombia has sought to advance economic growth via an increase in productivity and linkages to international markets via the “grander and better positioning for Colombia in international markets, international relations, and in the multilateral development agenda” (Ley 1450, 2011,1). Colombia’s international ties show the state’s commitment to participating in the global economy, most specifically the free trade agreement with the U.S in 2007, which went into effect in May of 2012 and the recently implemented FTA with the E.U (El Espectador 2012; Portafolio 2013).

In the rural sector, President Uribe’s government promoted investment and agribusiness as part of his “democratic security” policies. Ley 1133, or “Agro, Ingreso Seguro-AIS” (2007) sought to “protect the incomes of those agricultural producers that are af-

**Table 2. Expansion of Extractive Industries in Rural Areas-Colombia**

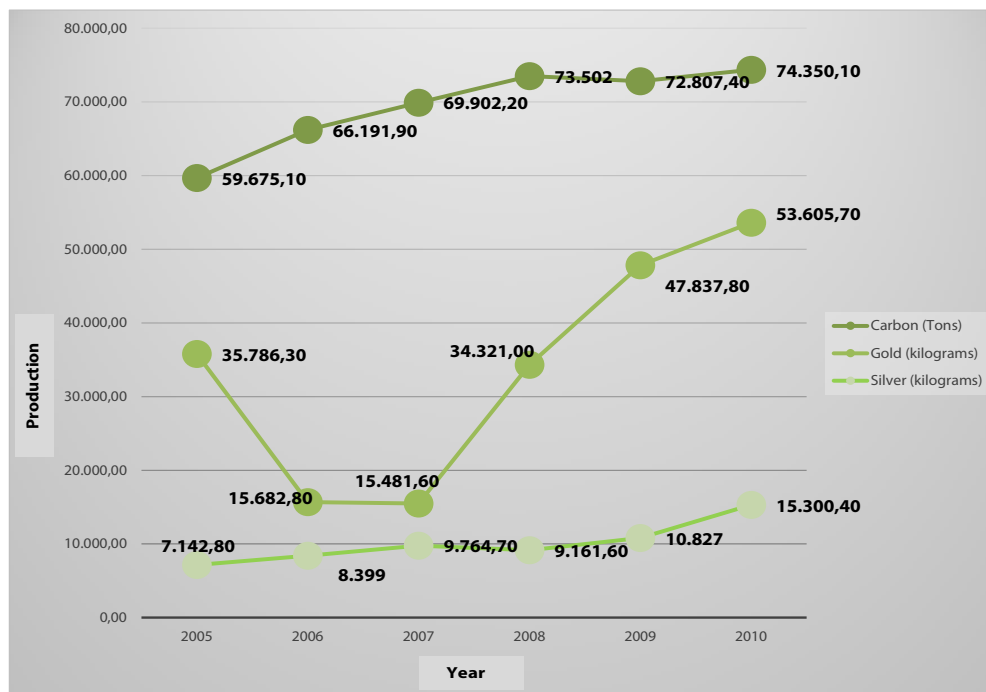
Years	Investments in Exploration (Colombian pesos)	Applications for Titles	Titles Awarded for Mining	Area Contracted For Mining
2005	11,544,724.209.	3,854	3,33	1,456,149.8
2006	23,535,797.000	4722	4406	1,931,448.40
2007	24,781,760.000	6221	6043	3,018,214.50
2008	23,211,000.000	8783	7343	4,485,909.80
2009	19,985,660.74	4252	8418	4,291,700.70
2010	31,853,660.74	6263	8832	5,428,119

Source: Anuario Estadística Minera Colombiana (2012, 69-77)

fectured by external markets” by “improving the competitiveness of the national agricultural sector” (Ley 1133, 2007). It would do this by providing “incentives for productivity” such as programs that facilitate “development and the transfer of technology” (Ley 1133 2007, 2). Lines of credit were also to be expanded that could “promote agricultural modernization” in Colombia. Colombia, at around the same time, finally fought back the guerrillas and reigned in, with more or less success, its different paramilitary armed groups. Under then-president Alvaro Uribe, who came to the presidency in 2002, the country became the number two recipient of US AID and military support and signed “Plan Colombia,” which

vestment in capital-intensive infrastructure such as pipelines, highways, and dams to exploit the country’s natural resources, including oil and coal (Villarand Cottle, 2012, 109).

Given the uncertainties of securing US energy supply, it is also not surprising that coal represents the largest mining industry in Colombia. Given all the controversy around coal caused by its highly polluting extraction and considering the difficulties, and costs, of mining it in the US caused by environmental restrictions and controls, it of course makes much more sense to let Colombia produce it for us. That way the pollution stays in Colombia, where production, given low wages and lax environmental protections, is also much cheaper. **Figure 1** demon-



**Figure 1. Expansion of Extractive Industries in Colombia: Production Data 2006-10**

Source: Anuario Estadística Colombiana (2012, 69-77)

sets it on a path of open markets, free competition, and deregulation, while at the same time focusing on developing those industries of interest to the US and its own, homegrown, pro-US elite. These laws, USAID assistance, and Plan Colombia translated into a productive push to exploit Colombia’s natural resources for sale in the global market. This push toward extractive and export-oriented production is described as a constitutive part of Plan Colombia:

An era of megaprojects, massive U.S. and international in-

states the expansion of extractive industries in Colombia between 2006 and 2010:

One of the regions deeply affected by this expansion of extractivist industries, particularly for biofuel, has been the Colombian Pacific, a region traditionally inhabited by black and indigenous communities. There, the industrial production of palm oil has pushed small-scale farmers off their land, causing one of the most severe human rights

**Table 3. Palm-Oil Production in Colombia**

Year	Mega Tons	% Change
1999	492	0.00
2000	520	5.69
2001	544	4.62
2002	525	-3.49
2003	525	0.00
2004	630	20.00
2005	660	4.76
2006	714	8.18
2007	733	2.66
2008	778	6.14
2009	805	3.47
2010	753	-6.46
2011	945	25.5
2012	974	3.07
2013	1035	6.26

Source: United States Department of Agriculture (2014)

and refugee crises in decades (Oslender 2007; Escobar 2008).

The neoliberal turn in Colombia is far from complete, as two newly-signed free-trade agreements (one with the U.S. and the other with the E.U) are currently being implemented. As was explained earlier, industrialized production leads to displacement and more hunger in the rural sector. The producers most affected are small farmers for whom “scaling-up” entails a prohibitive cost or requires indebtedness. Salamanca et. al (2009) define the small farm sector as those households where one member is either an independent agricultural worker or self-employed in the agricultural sector. In addition, he excludes those who have more than 50 head of cattle, 100 pigs, 100 birds, or over 150 head of small animals such as sheep, goats, rabbits, and guinea pig (76-7). Salamanca et. al calculate that there are 1,991,885 agricultural producers in Colombia, and of those 89% are a part of the small-farm economy (Salamanca et. al 2009, 78). The author predicts that the FTA with the U.S. will produce a 10% drop in the relative income of small farming sectors overall. More specifically, small-farming sectors engaged in the production of rice, barley, beans, maize (corn), sorghum,

wheat, chicken and pork will experience their “net income or profit” from agricultural production “decrease to zero.” Ultimately, that would mean that the prices for these commodities would “not provide profit or remunerate the farmer’s own labor,” and could force small-scale producers to “abandon the above activities” or end up displaced (Salamanca et. al 2009, 99). The exclusion of sugar from the agreement has meant that one area where the FTA could have aided Colombian producers (though not small producers) will not balance out the FTA’s impact toward the Colombian agricultural sector. Salamanca et. al’s (2009) study provides us with a clear argument regarding the future impact of Colombia’s free-trade agreement which is echoed by studies that have assessed the impact of NAFTA on the Mexican agricultural sector.<sup>1</sup>

### **Cuba**

In 1991, food security and production in Cuba was the worst in Latin America. This was due to a pre-

<sup>1</sup> For an explanation of free-trade and the Mexican agricultural sector see Timothy Wise’s interview on the Real News Network. NAFTA and U.S. Farm Subsidies Devastates Mexican Agriculture: <https://www.youtube.com/watch?v=N4KRd7Qjyys>. Also his article Wise, Timothy A. (2007). Policy Space for Mexican Maize: Protecting Agro-biodiversity by Promoting Rural Livelihoods. MA, USA: Tufts University. Wise, Timothy A. (2005). Identifying the real winners from US agricultural policies. Tufts University, 2005.

vious strategy of agricultural development that had been based on the Soviet-Leninist style of production where large farms were used to produce, as efficiently as possible, export crops for earnings (sugar in the case of Cuba). This style of farming, like all forms of industrial farming, was dependent on manufactured and imported chemicals, fertilizers, and seeds that during the Cold War were sent to Cuba as a form of aid within the socialist bloc countries. With the collapse of the Soviet Union and the loss of these inputs, new strategies to feeding the population had to be pursued as export earnings were likely to drop from falling production in the sugar sector. In response to this, Cuban agricultural policies moved away from the promotion of industrial agriculture for export markets and toward economic production that was focused on meeting local needs (Marquetti, 2014; Altieri and Funes-Monzote, 2009). From the early 1990s (Cuba's special period) until today, Cuban agricultural policies have created the most plentiful supply of food in all of Latin America. Instead of focusing on ramping up production on the large sugar estates, Cuban policy from the 1990s on was oriented toward the "rediscovery" of the local as a solution to the development crisis (Marquetti, 2014; Altieri, 2012).

In agriculture, this rediscovery was rooted in the promotion of agroecological principles in agricultural production. While traditional, large-scale export farming was based on the assumptions of the Green Revolution, the use of technology to overcome natural barriers to production, agroecology is based on the principle that simple, small-scale production methods produce more and do less damage to the environment, increasing sustainability and creating the potential for food sovereignty (Altier 2008; 2009).

Marquetti (2014) explains that the crisis of the 1990s forced the sugar sector to confront consistent declines in investment to its productive base, such as machinery, storage, and chemicals to kill pests due to the decline in the access to credit (11). In the early 2000s, a policy of decentralized production was passed that resulted in the closing of sugar refining plants. Ultimately, in 2008, the number of sugar refining plants had declined to 32 – down from 56, in 2002, representing a 21% decline in the number of sugar processing sites (Marquetti, 2014, 13-14). At the same time industrial agriculture was slowed, Cuba

was providing support to small-farmers through the creation of cooperatives, such as the Basic Units of Cooperative Production (UBPC) and the Service Cooperatives (CCS). State-owned lands, totaling around 3 million hectares were distributed for small-scale production (Altieri and Monzote, 2012). Altieri and Monzote (2012) report that from the mid-1990s until the early 2000s some 78,000 farms were given to individuals and communities. By 2012, more than 100,000 farms had been redistributed, totaling over 1 million hectares. In addition, scientists and agronomists were sent around the countryside to assist local communities in methods of farming consistent with agroecological principles and consistent their survival needs. Altieri and Monzote (2012) report that the small farmer sector in Cuba, in 2006, controlled only 25 percent of the agricultural land, and still produced over 65 percent of the country's food. In fact, food production and resource distribution is working well enough in Cuba that UNICEF declared the elimination of child malnutrition (Ravsberg, 2010).

In addition, since inputs from the Soviet Union were no longer available, Cuba's new wave of agronomists needed to find ways of increasing production with natural methods implemented on small scales. This ultimately has meant a precipitous decline in chemicals in Cuban agriculture, which has been accompanied by increased productivity.

As **Table 5** shows, even though Cuba is still struggling to adapt to the crisis caused by no longer receiving financial support from the USSR, the crisis has triggered a reply that bears great potential. The continued US embargo has made the option of nutritional self-reliance a mandate so that Cuba has made food sovereignty a number one strategic goal (Mesa-Largos, 2012). Cuban agricultural policy is informed by the assumptions of agroecology. The basic assumption of agroecology is that its "productivity in terms of harvestable products per unit area of polycultures developed by smallholders is higher than under a single crop with the same level of management" (Altieri, 2009, 105).

### **Country Performances-Colombia and Cuba**

Now that we have seen the policies followed by each country in the 2000s, we should investigate the outcomes for these countries in areas concerning food

**Table 4. Cuban Agricultural Inputs**

Crop	Percent Production Change		Percent Change in Agrochemicals
	1988-94	1988-2007	1988 to 2007
	1988 to 1994		1988 to 2007
	1988-94	1988-2007	1988 to 2007
General vegetables	-65	145	-72
Beans	<b>-77</b>	351	-55
Roots and tubers	-42	145	-85

Source: Rosset et al. (2011)

**Table 5. Prevalence of Undernourishment\***

Year	Colombia	Cuba
1999-01	13.1	<5
2000-02	13.2	<5
2001-03	13.1	<5
2002-04	13.3	<5
2003-05	13.4	<5
2004-06	13.8	<5
2005-07	14	<5
2006-08	13.5	<5
2007-09	13	<5
2008-10	12.5	<5
2009-11	12.4	<5
2010-2	11.7	<5
2011-13	10.6	<5

Note:

\*The Prevalence of Undernourishment expresses the probability that a randomly selected individual from the population consumes an amount of calories that is insufficient to cover her/his energy requirement for an active and healthy life" (FAO Food Insecurity 2013).

Source: FAO Food Insecurity Data (2013)

**Table 6. Food Supply**

Country	Food Supply-kcal/ capita/day
<b>Cuba</b>	<b>3258</b>
Brazil	3173
Mexico	3146
Netherlands Antilles	3102
Venezuela	3014
Argentina	2918
Chile	2908
Costa Rica	2886
Uruguay	2808
<b>Colombia</b>	<b>2717</b>
Honduras	2694
Panama	2606
El Salvador	2574
Peru	2563
Paraguay	2518
Nicaragua	2517
Dominican Republic	2491
Ecuador	2267
Guatemala	2244
Bolivia	2172

Source: FAOSTAT Food Supply Data (2013)

**Table 7. Food Prices Index**

Years	Colombia	Cuba
2001	108.69	114.33
2002	118.41	108.38
2003	127.2	110.28
2004	134.61	107.01
2005	143.14	110.3
2006	150.53	117.85
2007	162.5	124.7
2008	182.56	126.38
2009	189.61	
2010	191.69	
2011	200.98	
2012	209.94	

Source: FAOSTAT Food Price Indices Data (2013)

**Table 8. Mortality Rate of Children under Age 5**

	Colombia	Cuba
2000	25.2	8.4
2001	24.4	8
2002	23.7	7.7
2003	23	7.4
2004	22.3	7.1
2005	21.7	6.8
2006	21.1	6.5
2007	20.5	6.4
2008	19.9	6.3
2009	19.3	6.2
2010	18.7	6
2011	18.1	5.7
2012	17.6	5.5

Source: GapMinder Under 5 Mortality (2013)

sovereignty and human-development. For clarification, food sovereignty is the right of an area, region or nation to be allowed to produce their own food and regulate their agricultural production to allow for the long-term and sustainable management of agricultural resources in order to ensure long-term productive capacity (Altieri 2008). We can thus look back at over 10 years of consistently applying two development strategies. One favors open markets, foreign direct investment, classic modernization, and industrialization coupled with a pro-business and pro-entrepreneur political approach. The other is characterized by a favoring of small-scale, ecological production, that preserves small-holder rights to land in favor of international investors. Which one was more successful?

While Colombia has lowered undernourishment, mostly through such conditional cash transfer programs as Familias en Acción, its overall performance lags far behind Cuba's, where undernourishment has been successfully eradicated. This is reflected by data on food supply, where Cuba ranks No. 1 among comparable Latin American and Caribbean countries and Colombia ranks 10. The mortality of children under 5 is another widely used way to assess the wellbeing of a population. According to **Table 8**, Cuba outperforms Colombia in this as well. This indicates that small-children in Cuban are in less dire circumstances materially than those in Colombia. While agricultural policies are certainly not the only reason for this discrepancy, it is also true that well-fed populations avoid many medical problems and find it easier to care for the most vulnerable within their society.

Finally, while life expectancy at birth has steadily climbed in Colombia to now 74.6 years, in Cuba, life expectancy at birth is 79.4 years – among the highest in the world and comparable, in the region, only to Chile and Costa Rica. Overall, Cuba's life expectancy at birth ranks 38, while Colombia's is ranked 83 (World Health Organization, 2013). However, life expectancy in Colombia varies strongly depending on income, rural / urban residence and race. In 2005, in the predominantly rural poor, and black Chocó, life expectancy stood at 67 years - five years below the average. (Departamento Nacional de Planificación, 2007). In 2005, 12 percent of chil-

dren under 5 suffered from chronic malnutrition in Colombia – but 17 percent in rural areas. This number climbs to 9.7% for children age 5 to 11 in urban areas – and 18.5 percent in rural areas (Departamento Nacional de Planificación, 2007). In 2008, 74.6% of Colombians living in rural areas are poor and infant mortality of children under 5 in rural areas was 39.09 of 1000 babies born (PNUD, 2011).

## Conclusion

From the above data, it seems clear that of the two distinct styles of agricultural development followed in Colombia and Cuba, the Cuban model has out-performed the Colombian. Fewer children in Cuba die prematurely, more calories are available to the entire population and food prices are not as high. Clearly, food sovereignty is more of a reality for the Cuban population than the Colombian. While Colombia's countryside has been turned into an engine of production and economic growth, it is also a zone of intense conflict, displacement and a center of the global "land-grab". While economic growth may have reduced hunger in some parts of Colombia, it did not eradicate it. It seems plausible that the further integrated the Colombian countryside becomes into global markets the number of small farmers will be much smaller and the level of food sovereignty will go down. In this interpretation, it is imperative that the agricultural sector be evaluated from the perspective of small-farmer health. As was mentioned earlier, small-farmers are most responsible for feeding the world population. Following this, it seems that the Colombian data illustrates the damages and dangers of relying on economic growth to feed and 'develop' to meet the needs of an increasingly displaced rural population.

The consensus on the importance of smaller-scale production has spread to the highest levels of UN administration. In 2009, then United Nations Special Rapporteur on the Right to Food, Olivier de Schutter, stated that for the earth to feed itself "the most efficient farming techniques available" must be adopted. He specified that today the scientific community has determined that "agroecological methods outperform the use of chemical fertilizers in boosting food production in regions where the

hungry live" (de Schutter, 2009). Three years later, Olivier was seconded by the new head of the UN Food and Agriculture Organization, José Graziano da Silva, who argued that peasants and the world population as a whole "need sustainable agriculture tailored to regional conditions" (Der Spiegel, 2012). In other words, production methods must be determined first by how well the production serves the producers and how it agrees with the environmental conditions.

The primary lesson from this paper has been to demonstrate the lagging performance of market integration and pro-growth policies for rural populations. The data provided demonstrates the lower success of Colombia on the measure of food sovereignty. This is an important lesson given the praise Latin America has received for completing MDG 1 and halving hunger in the region. While this has occurred, the micro-comparison of rural policies reveals that integrating into the global economy is not the only way to reduce extreme poverty and hunger, and that in fact more localized production models can better serve the basic interests of more. Cuba's promotion of its small-farm sector has helped it to have a more robust food supply, lower prices, better access to food, and low occurrences of infant mortality which is usually high in societies with poor nutrition. It is with the above comparison in mind, that we call for state efforts to protect small farmers and small-scale producers from the advance of industrial farming and the global land grab.

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The authors hereby declare that there is no conflict of interests.

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