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## Contention 1: The Status Quo

#### Current US embargo hinders the development and expansion of the Cuban agriculture model. Current Cuban economic environment undermines the model

**FRANK, Reuters Havana Reporter, Tue Jul 30, 2013**

(MARC, Cuba reports little progress five years into agricultural reform, Reuters, <http://uk.reuters.com/article/2013/07/30/uk-cuba-reform-agriculture-idUKBRE96T0VK20130730>, Accessed: 12/3/13, CD)

(Reuters) - Agriculture in Cuba remains in crisis and the country is still dependent on imports five years into Raul Castro's presidency and efforts to reform the sector, according to a government report released this week. The communist-run nation is investing in some crops to reduce imports and others to boost exports, even as it gradually loosens the state's grip on all food production and distribution in favor of individual initiative and the law of the market. Cash-strapped Cuba imports some 60 percent of the food it consumes at a cost of around $2 billion annually, mainly bulk cereals and grains such as rice, corn, soy and beans, as well as other items such as powdered milk and chicken. Last year, $500 million of the imports came from the United States under an exception to the trade embargo that allows agricultural sales for cash. Unprocessed rice production was up almost 50 percent at 642,000 tonnes in 2012, compared with 436,000 tonnes in 2008 when Castro stepped in for his ailing brother Fidel, and production of beans rose during the same period by 28 percent to 127,000 tonnes, the only significant progress reported. Cuba and Brazil have been working for a number of years to grow soy for the first time on the Caribbean island, alternating the crop with corn. But there was no mention of soy in the report by the National Statistics Office ([www.one.cu/aec2012.htm](http://www.one.cu/aec2012.htm)), and corn production increased by just 30,000 tonnes to 360,000 tonnes during the five-year period. Castro has decentralized decision making, leased vacant land to 180,000 would-be farmers, allowed all agricultural producers to sell more of their goods on the open market (47 percent in 2012) and raised the prices the state pays for produce. Yet tonnage for root and garden vegetables and bananas and plantains has stagnated at around 5 million tonnes. The state owns 80 percent of the land and leases 70 percent of that to farmers and cooperatives. The other 20 percent of land is owned by private family farmers and their cooperatives and produces a far higher percentage of the nation's food. Export crops, from coffee and citrus to tobacco and sugar cane declined over the last five years, according to the report. Livestock fared no better with most categories either stagnating or declining, except milk, which increased by 8 percent to 604,000 tonnes. During the period three major hurricanes hit Cuba, where less than 10 percent of the farm land has adequate irrigation and drainage. In a paper delivered at a local economic conference earlier this year, Cuban economist Armando Nova said farmers should be able to purchase supplies at will, instead of having to wait for them to be assigned and delivered by the state. "You have to free up the entire production cycle, not just parts of it," Nova said. The first wholesale produce market run by a cooperative instead of the state opened this month. Castro's point man for reform, Marino Murillo, told parliament that the government would launch a pilot project on the Isla de la Juventud, just off the southwest coast, where farmers could directly purchase fertilizer and other supplies.

#### Cuba only exists as a US export market now

Copeland et al, Division of Economics and Business Administration, Oglethorpe University, 2011 (Jolly, Department of Agricultural Economics & Rural Sociology,Thompson, Economics, 202 Comer Hall, Auburn University, The History and Potential of Trade between Cuba and the US, Journal of Economics and Business, 2011, http://www.auburn.edu/~thomph1/cubahistory.pdf, Accessed: 1/23/14, CD)

A significant change occurred with the Trade Sanctions Reform and Export Enhancement Act of 2000 permitting the US to export humanitarian items. Political pressure from US agribusiness 10 contributed to this relaxation of the embargo. Cuba quickly became one of the top 30 US agricultural export markets. Alabama exports increased to over $126 million in 2004. Cuba accounted for a quarter of Alabama agricultural export revenue in 2006 due to the product mix and the location of the port in Mobile.

### Plan

#### The United States federal government should normalize bilateral agriculture trade with Cuba.

## Contention 2: No Free Lunch

#### The Current US industrial Agriculture practices are unsustainable for the environment and overall food security globally

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( KATHRYN A. ,University of Oregon School of Law, 2010, Creating a Sustainable Urban Agriculture Revolution, Journal of Environmental Law and Litigation, <http://law.uoregon.edu/org/jell/docs/251/peters.pdf>, Accessed: 10/12/13, CD)

The U.S. agricultural system is becoming increasingly more concentrated, specialized, and industrialized.10 As of this writing, ninety-eight percent of the food supply in the United States is produced by agribusinesses running industrial farms that employ mechanically and chemically intensive farming methods for the maximization of profit.11 These farming methods are further encouraged through government subsidies, which operate to affect the supply and price of agricultural commodities.12 Government subsidies have tended to benefit large agribusinesses13 and have encouraged the use of chemical inputs and unsound farming practices, which maximize short-term yields and profits at the expense of the environment and small local farmers.14 An additional consequence of farm subsidies is the overproduction of commodity crops, which requires that the United States supplement its food supply with fruits and vegetables imported from other countries.15 Industrial agriculture in the United States has only been in place since the mid-twentieth century.16 Modern agricultural practices began with the Green Revolution, a response to world food shortages in the 1940s that sought to increase productivity of land by employing science-based technologies in agriculture.17 The Green Revolution was born in the 1950s and continued developing new farming methods through the 1970s; these methods include the engineering of high-yielding plants and the establishment of large, monocultural farms heavily reliant on chemical pesticides and fertilizers, mechanization, and irrigation.18 While the Green Revolution’s techniques were successful in increasing food production for several decades, the long-term effects of this method of farming on the environment, economy, and society are now evident: groundwater contamination from chemical pesticides and fertilizers; soil erosion and depletion of soil nutrients caused by unsound cropping practices; destruction of necessary insects, such as bees, from pollution and the indiscriminate use of pesticides; inherent economic risks stemming from reliance on monocrops; and side effects on humans from agrochemicals.19 Further, these agricultural methods have resulted in the loss of the family farm20 and many rural farmers have lost their livelihoods as human labor has been replaced by machinery.21 Rapid population growth will increasingly burden the planet’s food supply system. In 2008, United Nation’s Chief Ban Ki-moon told world leaders the following: “The world needs to produce more food. Food production needs to rise by 50 per cent [sic] by the year 2030 to meet the rising demand.”22 Unfortunately, the Green Revolution’s agricultural methods may have already reached their limits.23 Most fertile land is already cultivated and urban development trends threaten existing farmland;24 furthermore, the effects of environmental degradation are resulting in declining crop yields.25

#### We isolate two scenarios resulting from the hegemony of industrial agriculture:

#### First, food insecurity -

#### International food system on brink of collapse—scarcity is the new norm, US provided global food supply cushion necessary to stave off violence and conflict through the world

**Brown, president of the Earth Policy Institute, 11**

**(**Lester R.“The New Geopolitics of Food,” <http://www.foreignpolicy.com/articles/2011/04/25/the_new_geopolitics_of_food>, Accessed 9/6/12, JA)

In the United States, when world wheat prices rise by 75 percent, as they have over the last year, it means the difference between a $2 loaf of bread and a loaf costing maybe $2.10. If, however, you live in New Delhi, those skyrocketing costs really matter: A doubling in the world price of wheat actually means that the wheat you carry home from the market to hand-grind into flour for chapatis costs twice as much. And the same is true with rice. If the world price of rice doubles, so does the price of rice in your neighborhood market in Jakarta. And so does the cost of the bowl of boiled rice on an Indonesian family's dinner table. Welcome to the new food economics of 2011: Prices are climbing, but the impact is not at all being felt equally. For Americans, who spend less than one-tenth of their income in the supermarket, the soaring food prices we've seen so far this year are an annoyance, not a calamity. But for the planet's poorest 2 billion people, who spend 50 to 70 percent of their income on food, these soaring prices may mean going from two meals a day to one. Those who are barely hanging on to the lower rungs of the global economic ladder risk losing their grip entirely. **This can contribute -- and it has -- to revolutions and upheaval**. Already in 2011, the U.N. Food Price Index has eclipsed its previous all-time global high; as of March it had climbed for eight consecutive months. With this year's harvest predicted to fall short, with governments in the Middle East and Africa teetering as a result of the price spikes, and with anxious markets sustaining one shock after another, food has quickly become the hidden driver of world politics. And crises like these are going to become increasingly common. The new geopolitics of food looks a whole lot more volatile -- and a whole lot more contentious -- than it used to. Scarcity is the new norm. Until recently, sudden price surges just didn't matter as much, as they were quickly followed by a return to the relatively low food prices that helped shape the political stability of the late 20th century across much of the globe. But now both the causes and consequences are ominously different. In many ways, this is a resumption of the 2007-2008 food crisis, which subsided not because the world somehow came together to solve its grain crunch once and for all, but because the Great Recession tempered growth in demand even as favorable weather helped farmers produce the largest grain harvest on record. Historically, price spikes tended to be almost exclusively driven by unusual weather -- a monsoon failure in India, a drought in the former Soviet Union, a heat wave in the U.S. Midwest. Such events were always disruptive, but thankfully infrequent. Unfortunately, today's price hikes are driven by trends that are both elevating demand and making it more difficult to increase production: among them, a rapidly expanding population, crop-withering temperature increases, and irrigation wells running dry. Each night, there are 219,000 additional people to feed at the global dinner table. More alarming still, the world is losing its ability to soften the effect of shortages. In response to previous price surges, the United States, the world's largest grain producer, was effectively able to steer the world away from potential catastrophe. From the mid-20th century until 1995, the United States had either grain surpluses or idle cropland that could be planted to rescue countries in trouble. When the Indian monsoon failed in 1965, for example, President Lyndon Johnson's administration shipped one-fifth of the U.S. wheat crop to India, successfully staving off famine. We can't do that anymore; the safety cushion is gone. That's why the food crisis of 2011 is for real, and why it may bring with it yet more bread riots cum political revolutions. What if the upheavals that greeted dictators Zine el-Abidine Ben Ali in Tunisia, Hosni Mubarak in Egypt, and Muammar al-Qaddafi in Libya (a country that imports 90 percent of its grain) are not the end of the story, but the beginning of it? Get ready, farmers and foreign ministers alike, **for a new era in which world food scarcity increasingly shapes global politics**. THE DOUBLING OF WORLD grain prices since early 2007 has been driven primarily by two factors: accelerating growth in demand and the increasing difficulty of rapidly expanding production. The result is a world that looks strikingly different from the bountiful global grain economy of the last century. What will the geopolitics of food look like in a new era dominated by scarcity? Even at this early stage, we can see at least the broad outlines of the emerging food economy. On the demand side, farmers now face clear sources of increasing pressure. The first is population growth. Each year the world's farmers must feed 80 million additional people, nearly all of them in developing countries. The world's population has nearly doubled since 1970 and is headed toward 9 billion by midcentury. Some 3 billion people, meanwhile, are also trying to move up the food chain, consuming more meat, milk, and eggs. As more families in China and elsewhere enter the middle class, they expect to eat better. But as global consumption of grain-intensive livestock products climbs, so does the demand for the extra corn and soybeans needed to feed all that livestock. (Grain consumption per person in the United States, for example, is four times that in India, where little grain is converted into animal protein. For now.) At the same time, the United States, which once was able to act as a global buffer of sorts against poor harvests elsewhere, is now converting massive quantities of grain into fuel for cars, even as world grain consumption, which is already up to roughly 2.2 billion metric tons per year, is growing at an accelerating rate. A decade ago, the growth in consumption was 20 million tons per year. More recently it has risen by 40 million tons every year. But the rate at which the United States is converting grain into ethanol has grown even faster. In 2010, the United States harvested nearly 400 million tons of grain, of which 126 million tons went to ethanol fuel distilleries (up from 16 million tons in 2000). This massive capacity to convert grain into fuel means that the price of grain is now tied to the price of oil. So if oil goes to $150 per barrel or more, the price of grain will follow it upward as it becomes ever more profitable to convert grain into oil substitutes. And it's not just a U.S. phenomenon: Brazil, which distills ethanol from sugar cane, ranks second in production after the United States, while the European Union's goal of getting 10 percent of its transport energy from renewables, mostly biofuels, by 2020 is also diverting land from food crops. This is not merely a story about the booming demand for food. Everything from falling water tables to eroding soils and the consequences of global warming means that the world's food supply is unlikely to keep up with our collectively growing appetites. Take climate change: The rule of thumb among crop ecologists is that for every 1 degree Celsius rise in temperature above the growing season optimum, farmers can expect a 10 percent decline in grain yields. This relationship was borne out all too dramatically during the 2010 heat wave in Russia, which reduced the country's grain harvest by nearly 40 percent. While temperatures are rising, water tables are falling as farmers overpump for irrigation. This artificially inflates food production in the short run, creating a food bubble that bursts when aquifers are depleted and pumping is necessarily reduced to the rate of recharge. In arid Saudi Arabia, irrigation had surprisingly enabled the country to be self-sufficient in wheat for more than 20 years; now, wheat production is collapsing because the non-replenishable aquifer the country uses for irrigation is largely depleted. The Saudis soon will be importing all their grain. Saudi Arabia is only one of some 18 countries with water-based food bubbles. All together, more than half the world's people live in countries where water tables are falling. The politically troubled Arab Middle East is the first geographic region where grain production has peaked and begun to decline because of water shortages, even as populations continue to grow. Grain production is already going down in Syria and Iraq and may soon decline in Yemen. But the largest food bubbles are in India and China. In India, where farmers have drilled some 20 million irrigation wells, water tables are falling and the wells are starting to go dry. The World Bank reports that 175 million Indians are being fed with grain produced by overpumping. In China, overpumping is concentrated in the North China Plain, which produces half of China's wheat and a third of its corn. An estimated 130 million Chinese are currently fed by overpumping. How will these countries make up for the inevitable shortfalls when the aquifers are depleted? Even as we are running our wells dry, we are also mismanaging our soils, creating new deserts. Soil erosion as a result of overplowing and land mismanagement is undermining the productivity of one-third of the world's cropland. How severe is it? Look at satellite images showing two huge new dust bowls: one stretching across northern and western China and western Mongolia; the other across central Africa. Wang Tao, a leading Chinese desert scholar, reports that each year some 1,400 square miles of land in northern China turn to desert. In Mongolia and Lesotho, grain harvests have shrunk by half or more over the last few decades. North Korea and Haiti are also suffering from heavy soil losses; both countries face famine if they lose international food aid. Civilization can survive the loss of its oil reserves, but it cannot survive the loss of its soil reserves. Beyond the changes in the environment that make it ever harder to meet human demand, there's an important intangible factor to consider: Over the last half-century or so, we have come to take agricultural progress for granted. Decade after decade, advancing technology underpinned steady gains in raising land productivity. Indeed, world grain yield per acre has tripled since 1950. But now that era is coming to an end in some of the more agriculturally advanced countries, where farmers are already using all available technologies to raise yields. In effect, the farmers have caught up with the scientists. After climbing for a century, rice yield per acre in Japan has not risen at all for 16 years. In China, yields may level off soon. Just those two countries alone account for one-third of the world's rice harvest. Meanwhile, wheat yields have plateaued in Britain, France, and Germany -- Western Europe's three largest wheat producers. IN THIS ERA OF TIGHTENING world food supplies, the ability to grow food is fast becoming a new form of geopolitical leverage, and countries are scrambling to secure their own parochial interests at the expense of the common good. The first signs of trouble came in 2007, when farmers began having difficulty keeping up with the growth in global demand for grain. Grain and soybean prices started to climb, tripling by mid-2008. In response, many exporting countries tried to control the rise of domestic food prices by restricting exports. Among them were Russia and Argentina, two leading wheat exporters. Vietnam, the No. 2 rice exporter, banned exports entirely for several months in early 2008. So did several other smaller exporters of grain. With exporting countries restricting exports in 2007 and 2008, importing countries panicked. No longer able to rely on the market to supply the grain they needed, several countries took the novel step of trying to negotiate long-term grain-supply agreements with exporting countries. The Philippines, for instance, negotiated a three-year agreement with Vietnam for 1.5 million tons of rice per year. A delegation of Yemenis traveled to Australia with a similar goal in mind, but had no luck. In a seller's market, exporters were reluctant to make long-term commitments. Fearing they might not be able to buy needed grain from the market, some of the more affluent countries, led by Saudi Arabia, South Korea, and China, took the unusual step in 2008 of buying or leasing land in other countries on which to grow grain for themselves. Most of these land acquisitions are in Africa, where some governments lease cropland for less than $1 per acre per year. Among the principal destinations were Ethiopia and Sudan, countries where millions of people are being sustained with food from the U.N. World Food Program. That the governments of these two countries are willing to sell land to foreign interests when their own people are hungry is a sad commentary on their leadership. By the end of 2009, hundreds of land acquisition deals had been negotiated, some of them exceeding a million acres. A 2010 World Bank analysis of these "land grabs" reported that a total of nearly 140 million acres were involved -- an area that exceeds the cropland devoted to corn and wheat combined in the United States. Such acquisitions also typically involve water rights, meaning that land grabs potentially affect all downstream countries as well. Any water extracted from the upper Nile River basin to irrigate crops in Ethiopia or Sudan, for instance, will now not reach Egypt, upending the delicate water politics of the Nile by adding new countries with which Egypt must negotiate. **The potential for conflict** -- and not just over water -- **is high.** Many of the land deals have been made in secret, and in most cases, the land involved was already in use by villagers when it was sold or leased. Often those already farming the land were neither consulted about nor even informed of the new arrangements. And because there typically are no formal land titles in many developing-country villages, the farmers who lost their land have had little backing to bring their cases to court. Reporter John Vidal, writing in Britain's Observer, quotes Nyikaw Ochalla from Ethiopia's Gambella region: "The foreign companies are arriving in large numbers, depriving people of land they have used for centuries. There is no consultation with the indigenous population. The deals are done secretly. The only thing the local people see is people coming with lots of tractors to invade their lands." Local hostility toward such land grabs is the rule, not the exception. In 2007, as food prices were starting to rise, China signed an agreement with the Philippines to lease 2.5 million acres of land slated for food crops that would be shipped home. Once word leaked, the public outcry -- much of it from Filipino farmers -- forced Manila to suspend the agreement. A similar uproar rocked Madagascar, where a South Korean firm, Daewoo Logistics, had pursued rights to more than 3 million acres of land. Word of the deal helped stoke a political furor that toppled the government and forced cancellation of the agreement. Indeed, few things are more likely to fuel insurgencies than taking land from people. Agricultural equipment is easily sabotaged. If ripe fields of grain are torched, they burn quickly. Not only are these deals risky, but foreign investors producing food in a country full of hungry people face another political question of how to get the grain out. Will villagers permit trucks laden with grain headed for port cities to proceed when they themselves may be on the verge of starvation? The potential for political instability in countries where villagers have lost their land and their livelihoods is high. Conflicts could easily develop between investor and host countries. These acquisitions represent a potential investment in agriculture in developing countries of an estimated $50 billion. But it could take many years to realize any substantial production gains. The public infrastructure for modern market-oriented agriculture does not yet exist in most of Africa. In some countries it will take years just to build the roads and ports needed to bring in agricultural inputs such as fertilizer and to export farm products. Beyond that, modern agriculture requires its own infrastructure: machine sheds, grain-drying equipment, silos, fertilizer storage sheds, fuel storage facilities, equipment repair and maintenance services, well-drilling equipment, irrigation pumps, and energy to power the pumps. Overall, development of the land acquired to date appears to be moving very slowly. So how much will all this expand world food output? We don't know, but the World Bank analysis indicates that only 37 percent of the projects will be devoted to food crops. Most of the land bought up so far will be used to produce biofuels and other industrial crops. Even if some of these projects do eventually boost land productivity, who will benefit? If virtually all the inputs -- the farm equipment, the fertilizer, the pesticides, the seeds -- are brought in from abroad and if all the output is shipped out of the country, it will contribute little to the host country's economy. At best, locals may find work as farm laborers, but in highly mechanized operations, the jobs will be few. At worst, impoverished countries like Mozambique and Sudan will be left with less land and water with which to feed their already hungry populations. Thus far the land grabs have contributed more to stirring unrest than to expanding food production. And this rich country-poor country divide could grow even more pronounced -- and soon. This January, a new stage in the scramble among importing countries to secure food began to unfold when South Korea, which imports 70 percent of its grain, announced that it was creating a new public-private entity that will be responsible for acquiring part of this grain. With an initial office in Chicago, the plan is to bypass the large international trading firms by buying grain directly from U.S. farmers. As the Koreans acquire their own grain elevators, they may well sign multiyear delivery contracts with farmers, agreeing to buy specified quantities of wheat, corn, or soybeans at a fixed price. Other importers will not stand idly by as South Korea tries to tie up a portion of the U.S. grain harvest even before it gets to market. The enterprising Koreans may soon be joined by China, Japan, Saudi Arabia, and other leading importers. Although South Korea's initial focus is the United States, far and away the world's largest grain exporter, it may later consider brokering deals with Canada, Australia, Argentina, and other major exporters. This is happening just as China may be on the verge of entering the U.S. market as a potentially massive importer of grain. With China's 1.4 billion increasingly affluent consumers starting to compete with U.S. consumers for the U.S. grain harvest, cheap food, seen by many as an American birthright, may be coming to an end. No one knows where this intensifying competition for food supplies will go, but the world seems to be moving away from the international cooperation that evolved over several decades following World War II to an every-country-for-itself philosophy. Food nationalism may help secure food supplies for individual affluent countries, but it does little to enhance world food security. Indeed, the low-income countries that host land grabs or import grain will likely see their food situation deteriorate. AFTER THE CARNAGE of two world wars and the economic missteps that led to the Great Depression, countries joined together in 1945 to create the United Nations, finally realizing that in the modern world we cannot live in isolation, tempting though that might be. The International Monetary Fund was created to help manage the monetary system and promote economic stability and progress. Within the U.N. system, specialized agencies from the World Health Organization to the Food and Agriculture Organization (FAO) play major roles in the world today. All this has fostered international cooperation. But while the FAO collects and analyzes global agricultural data and provides technical assistance, there is no organized effort to ensure the adequacy of world food supplies. Indeed, most international negotiations on agricultural trade until recently focused on access to markets, with the United States, Canada, Australia, and Argentina persistently pressing Europe and Japan to open their highly protected agricultural markets. But in the first decade of this century, access to supplies has emerged as the overriding issue as the world transitions from an era of food surpluses to a new politics of food scarcity. At the same time, the U.S. food aid program that once worked to fend off famine wherever it threatened has largely been replaced by the U.N. World Food Program (WFP), where the United States is the leading donor. The WFP now has food-assistance operations in some 70 countries and an annual budget of $4 billion. There is little international coordination otherwise. French President Nicolas Sarkozy -- the reigning president of the G-20 -- is proposing to deal with rising food prices by curbing speculation in commodity markets. Useful though this may be, it treats the symptoms of growing food insecurity, not the causes, such as population growth and climate change. The world now needs to focus not only on agricultural policy, but on a structure that integrates it with energy, population, and water policies, each of which directly affects food security. But that is not happening. Instead, as land and water become scarcer, as the Earth's temperature rises, and as world food security deteriorates, a dangerous geopolitics of food scarcity is emerging. Land grabbing, water grabbing, and buying grain directly from farmers in exporting countries are now integral parts of a global power struggle for food security. With grain stocks low and climate volatility increasing, **the risks are also increasing. We are now so close to the edge that a breakdown in the food system could come at any time**. Consider, for example, what would have happened if the 2010 heat wave that was centered in Moscow had instead been centered in Chicago. In round numbers, the 40 percent drop in Russia's hoped-for harvest of roughly 100 million tons cost the world 40 million tons of grain, but a 40 percent drop in the far larger U.S. grain harvest of 400 million tons would have cost 160 million tons. The world's carryover stocks of grain (the amount in the bin when the new harvest begins) would have dropped to just 52 days of consumption. This level would have been not only the lowest on record, but also well below the 62-day carryover that set the stage for the 2007-2008 tripling of world grain prices. Then what? There would have been chaos in world grain markets. Grain prices would have climbed off the charts. Some grain-exporting countries, trying to hold down domestic food prices, **would have restricted or even banned exports**, as they did in 2007 and 2008. The TV news would have been dominated not by the hundreds of fires in the Russian countryside, but by footage of food riots in low-income grain-importing countries and reports of governments falling as hunger spread out of control. Oil-exporting countries that import grain would have been trying to barter oil for grain, and low-income grain importers would have lost out. With governments toppling and confidence in the world grain market shattered, the global economy could have started to unravel.

#### Second, environmental collapse

#### Industrial agriculture is the primary cause of global warming – extinction is inevitable without a greater diffusion of organic agricultural practices

Ronnie Cummins, International Director of the Organic Consumers Association, 10/7/10

(Agriculture and Human Survival: The Road Beyond 10/10/10, http://www.commondreams.org/view/2010/10/07-9)

Despite decades of deception and mystification, a critical mass at the grassroots is waking up. A new generation of food and climate activists understands that greenhouse gas-belching fossil fuels, industrial food and farming, and our entire global economy pose a mortal threat, not just to our present health and well being, but also to human survival. Given the severity of the Crisis, we have little choice but to step up our efforts. As 35,000 climate activists at the historic global climate summit in April of 2010 in Cochabamba, Bolivia shouted, “We must change the System, not the climate.” “Changing the System,” means defending our selves, the future generations, and the biological carrying capacity of the planet from the ravages of “profit at any cost” capitalism. “Changing the System,” means safeguarding our delicately balanced climate, soils, oceans, and atmosphere from the fatal consequences of fossil fuel-induced climate change. “Changing the System” means exposing, dismantling, and replacing, not just individual out-of-control corporations like Monsanto, Halliburton, and British Petroleum, and out-of-control technologies like gene-altered crops and mountaintop removal; but our entire chemical and energy-intensive industrial economy, starting, at least for many of us, with Food Inc.’s destructive system of industrial food and farming. “Changing the system,” means going on the offensive and dismantling the most controversial and vulnerable flanks of our suicide economy: coal plants, gas guzzlers, the military-industrial complex, and industrial agriculture’s Genetically Modified Organisms (GMOs) and factory farms. Frankenfoods and Industrial Agriculture Highly subsidized GM crops - comprising 40% of U.S. cropland, and 10% of global crops - and the junk food and unhealthy processed foods and beverages derived from them, are the most profitable and strategically important components of industrial agriculture. Taxpayer subsidized GMOs and factory farms allow Food Inc. (corporate agribusiness) to poison the public and pollute the atmosphere and environment. Subsidized GM and monoculture crops - along with cheap soy, corn, and chemical additives - allow the McDonald’s, Cargills and Wal-Marts of the world to sell junk food, meat, and beverages at much lower prices than healthy, non-chemical foods. GMO crops and their companion pesticides and chemical fertilizers are the cash cows and vanguard of a global farming and food distribution system that consumes prodigious amounts of fossil fuels and emits tremendous amount of climate-destabilizing greenhouse gases. GMOs provide the ideological and technological foundation for the factory farms and mono-crop plantations that are destroying the climate, the soils, and the planet. Either we bring them down, or they will bring us down. According to Monsanto and the global war on bugs, war on biodiversity, chemical farming lobby, patented GMO seeds, crops, biofuels, animals, and trees can miraculously kill pests, reduce pesticide use, boost yields, alleviate world hunger, reduce petroleum use, and help farmers adapt to drought, pestilence, and global warming. As a growing "Millions Against Monsanto" corps understand, the Biotech Bullies are dangerous liars. Industrial agriculture, GMOs, and so-called cheap food have destroyed public health and wrecked the environment. Genetically Modified (GM) crops have neither reduced pesticide use, nor chemical fertilizer use. They kill pests, but they also give rise to superweeds and superpests. GM crops, like all industrial monoculture crops, use vast amounts of fossil fuel and water. GMO and their companion chemicals (pesticides and chemical fertilizers) destroy the greenhouse gas sequestering capacity of living soils and kill off non-patented plants, trees, and animals. Most GM crops, 90% of which are derived from Monsanto’s patented seeds, are genetically engineered to boost the sales of toxic pesticides such as Roundup, and thereby increase toxic pesticide residues in foods. GM crops do not produce higher yields, nor provide more nutritious foods. GM soybeans, the most important industrial agriculture crop, along with corn, consistently have lower yields, while chemical-intensive GM food crops contain far fewer vitamins and essential trace minerals than organic foods. Nor has gene-splicing (unlike organic farming) produced plant or tree varieties that can adapt to global warming. Nonetheless GM crops remain Food Inc.’s propaganda “poster child.” The unfortunate bottom line is that 65 years of chemical and GM agriculture, a literal World War Three on public health, rural communities, and the environment, have nearly killed us. Humans and our living environment have been poisoned, not only by pesticides, nitrate fertilizers, greenhouse gas pollution, and contaminated factory-farmed food, but also by the mutant organisms and patented chemical residues that accompany these genetically modified foods and crops. Either we make the Great Transition to a relocalized economy whose foundation is renewable energy and solar-based (as opposed to GMO and petroleum-based) organic food and fiber production, or else we are destined to burn up the planet and destroy ourselves. Despite mass media brainwashing (“Better living through chemistry… Monsanto can feed the world… GMO crops and trees can reduce fossil fuel use and climate-destabilizing greenhouse gases…”), consumers and farmers are seeing through the lies. Defying the efforts of the powerful industrial agriculture/biotech lobby, a growing number of activists and concerned citizens are connecting the dots and taking action. As a consequence Monsanto has become one of the most hated corporations on earth. A critical mass of research reveals that genetically engineered crops, now covering almost 40% of U.S. cropland (173 million acres of GM crops) and 10% of global farm acreage (321 million acres), pollute the environment, kill essential soil micro-organisms, generate superweeds and pests, decrease biodiversity, aid and abet seed monopolization, encourage massive use of toxic pesticides and chemical fertilizer, spew out massive amounts of climate-destabilizing greenhouse gases, and seriously damage animal and human health. Injecting genetically engineered hormones into dairy cows to force them to give more milk is reckless and dangerous. Monsanto’s genetically engineered Bovine Growth Hormone rBGH, now marketed by Eli Lilly, increases the risks of breast, prostate, and colon cancer for those who consume the milk. It also severely damages the health of the cows. Residue levels of Monsanto’s toxic herbicide, Roundup, found routinely in non-organic foods, destroy animal and human reproductive systems. Haphazardly ramming indeterminate amounts of patented foreign DNA, bacteria, and antibiotic-resistant genes into the genomes of already non-sustainable energy and pesticide-intensive crops and foods (corn, soy, cotton, canola, sugar beets, alfalfa) in order to increase the sales of Monsanto or Bayer's GMO companion herbicides or to facilitate monopoly control over seeds by the Gene Giants is not only non-sustainable, but criminal. Rejection of this out-of-control GM technology is a major driving force in the rapid growth of organic food and farming, as well as the growing demand for mandatory safety testing and labeling of GMOs. In the EU, where GM-tainted foods must be labeled, GMO crops are almost non-existent (although large quantities of GM animal feed are still being imported into the EU from the U.S., Canada, Brazil, and Argentina). Local and organic food production is now growing faster than GMO/industrial food and farming; improving public health and nutrition, reducing fossil fuel use and greenhouse gas pollution, sequestering billions of tons of CO2 in the soil (up to seven tons of CO2 per acre per year), and providing economic survival for a growing number of the world’s 2.8 billion small farmers and rural villagers. The growth of organic agriculture and relocalized food and farming systems are encouraging, but obviously organics are still the alternative, rather than the norm. As we enter into the Brave New World of global warming and climate chaos, many organic advocates are starting to realize that we need to put more emphasis, not just on the health and pollution hazards of GMOs; but rather we need to broaden our efforts and mobilize to abolish the entire system of industrial food and farming. As we are now learning, industrial agriculture and factory farming are in fact a primary (if not the primary) cause of global warming and deforestation. Even if were able to rip up all of Monsanto’s GMO crops tomorrow, business as usual, chemical-intensive, energy-intensive industrial agriculture is enough to kill us all. On the other hand, if we’re going to take down industrial agriculture, one of the best ways to leverage our efforts is to target the most hated corporation in the world, Monsanto. Besides contaminating our food, destroying the environment and moving, by any means necessary, to gain monopoly control over seeds and biodiversity, Monsanto and their Food Inc. collaborators are guilty of major “climate crimes.” These crimes include: confusing the public about the real causes of (and solutions to) global warming; killing the soil’s ability to sequester greenhouse gases; releasing massive amounts of greenhouse gases (CO2, methane and nitrous oxide) into the atmosphere; promoting bogus industrial corn and soy-derived biofuels (which use just as many fossil fuel, and release just as many greenhouse gases as conventional fuels); monopolizing seed stocks and taking climate-friendly varieties off the market; promoting genetically engineered trees; and last but not least, advocating dangerous geoengineering schemes such as massive GM plantations of trees or plants than reflect sunlight. The negotiators and heads of state at the December 2009 Copenhagen Climate negotiations abandoned the summit with literally no binding agreement on meaningful greenhouse gas (carbon dioxide, nitrous oxide, methane, and black carbon) reduction, and little or no acknowledgement of the major role that industrial food and farming practices play in global warming. Lulled by the world’s leaders vague promises to reduce global warming, and still believing that new technological breakthroughs can save us, the average citizen has no idea how serious the present climate crisis actually is. A close look at present (non-legally binding) pledges by the Obama Administration and other governments to reduce GHG pollution shows that their proposed, slightly modified “business as usual” practices will still result in a disastrous global average temperature increase of 3.5 to 3.9 C by 2100, according to recent studies. This will not only burn up the Amazon, the lungs of the planet, but also transform the Arctic into a region that is 10 to 16 degrees C warmer, releasing most of the region’s permafrost carbon and methane and unknown quantities of methane hydrates, in the process basically putting an end to human beings’ ability to live on the planet. We are literally staring disaster in the face. In the follow up to the Copenhagen Climate Summit this year, which is to be held in Cancun, Mexico (Nov. 29-Dec. 10) we, as members of global civil society, must raise our voices loud and clear. We must make it clear that we are years, not decades away, from detonating runaway feedback mechanisms (heating up and burning up the Amazon and melting the Arctic permafrost) that can doom us all. Industrial Food and Farming: A Deadly Root of Global Warming Although transportation, industry, and energy producers are obviously major fossil fuel users and greenhouse gas polluters, not enough people understand that the worst U.S. and global greenhouse gas emitter is “Food Incorporated,” transnational industrial food and farming, of which Monsanto and GMOs constitute a major part. Industrial farming, including 173 million acres of GE soybeans, corn, cotton, canola, and sugar beets, accounts for at least 35% of U.S. greenhouse gas emissions (EPA’s ridiculously low estimates range from 7% to 12%, while some climate scientists feel the figure could be as high as 50% or more). Industrial agriculture, biofuels, and non-sustainable cattle grazing - including cutting down the last remaining tropical rainforests in Latin America and Asia for GMO and chemical-intensive animal feed and biofuels - are also the main driving forces in global deforestation and wetlands destruction, which generate an additional 20% of all climate destabilizing GHGs. In other words the direct (food, fiber, and biofuels production, food processing, food distribution) and indirect damage (deforestation and destruction of wetlands) of industrial agriculture, GMOs, and the food industry are the major cause of global warming. Unless we take down Monsanto and Food Inc. and make the Great Transition to a relocalized system of organic food and farming, we and our children are doomed to reside in Climate Hell.

#### And, Runaway warming collapses civilization – controlling the rate of warming prevents irreversible tipping points in the form of sea level rise that exacerbates food insecurity and collapses world powers

Brown, Masters in AE from Maryland & Masters in Econ from Harvard, Director and Founder of the global institute of Environment in the U.S 2008 [Lester E. Brown, “Plan B 3.0: Mobilizing to Save Civilization”] SM

In 2004, Stephen Pacala and Robert Socolow at Princeton University published an article inThat showed how annual carbon emissions from fossil fuels could be held at 7 billion tons instead of rising to 14billion tons over the next 50 years, as would occur with business as usual. The goal of Pacala, an ecologist, andSocolow, an engineer, was to prevent atmospheric CO2 concentrations, then near 375 ppm, from rising above500 ppm. They described ways, all using proven technologies, that by could each cut carbon emissions by 1 billion tons per year. Any seven of these options could be used together to prevent an increase in carbon emissions through 2054. Pacala and Socolow further theorize that advancing technology would allow for annual carbon emissions to be cut to 2 billion tons by 2104, a level that can be absorbed by natural carbon sinks in land and oceans. The Pacala/Socolow conceptualization has been extraordinarily useful in helping to think about how to cut carbon emissions. During the three years since the article was written, the urgency of acting quickly and on a much larger scale has become obvious. We also need now to go beyond the conceptual approach that treats all potential methods of reducing carbon emissions equally and concentrate on those that are most promising. Researchers such as James Hansen, a leading climate scientist at NASA, believe that global warming is accelerating and may be approaching a tipping point, a point at which climate change acquires a momentum that makes it irreversible. They think we may have a decade to turn the situation around before this threshold is crossed. I agree.?3 We often hear descriptions of what we need to do in the decades ahead orby 2050 to avoid "dangerous climate change," but we are already facing this. Two thirds of the glaciers that feedthe Yellow and Yangtze rivers of China will disappear by 2060 if even the current 7 percent annual rate of melting continues. Glaciologists report that the Gangotri glacier, which supplies 70 percent of the ice melt thatfeeds the Ganges River during the dry season, could disappear entirely in a matter of decades.7What could threaten world food security more than the melting of the glaciers that feed the major rivers of Asia during the dry season, the rivers that irrigate the region's rice and wheat fields? In a region with half the world's people, this potential loss of water during the dry season could lead not just to hunger but to starvation on an unimaginable scale. Asian food security would take a second hit because its rice-growing river deltas and floodplains would be under water. The World Bank tells us that a sea level rise of only 1 meter would inundate half of the rice land in Bangladesh. While a 1-meter rise in sea level will not happen overnight, what is worrisome is that if ice melting continues at today's rates, at some point such a rise in sea level will no longer be preventable. The melting that would cause this is not just what may happen if the earth's temperature rises further; this is something that is starting to happen right now with the current temperature. As summer neared an end in 2007, reports from Greenland indicated that the flow of glaciers into the sea had accelerated beyond anything glaciologists had thought possible. Huge chunks of ice weighing several billion tons each were breaking off and sliding into the sea, causing minor earthquakes as they did so.!6 With melt-water lubricating the surface between the glaciers and the rocks on which they rested, ice flows were accelerating, flowing into the ocean at a pace of 2 meters an hour. This accelerated flow, along with the earthquakes, shows the potential for the entire ice sheet to break up and collapse?? Beyond what is already happening, the world faces a risk that some of the feedback mechanisms will begin to kick in, further accelerating the warming process. Scientists who once thought that the Arctic Ocean could be free of ice during the summer by 2100 now see it occurring by 2030. Even this could turn out to be a conservative estimate. This is of particular concern to scientists because of the albedo effect, where the replacement of highly reflective sea ice with darker open water greatly increases heat absorbed from sunlight. This, of course, has the potential to further accelerate the melting of the Greenland ice sheet. A second feedback loop of concern is the melting of permafrost. This would release billions of tons of carbon, some as methane, a potent greenhouse gas with a global warming effect per ton 25times that of carbon dioxide.The risk facing humanity is that climate change could spiral out of control and it will no longer be possible to arrest trends such as ice melting and rising sea level. At this point, the future of civilization would be at risk.  This combination of melting glaciers, rising seas, and their effects on food security and low-lying coastal cities could overwhelm the capacity of governments to cope. Today it is largely weak states that begin to deteriorate under the pressures of mounting environmental stresses. But the changes just described could overwhelm even the strongest of states. Civilization itself could begin to unravel under these extreme stresses.

## Contention 3: Viva La Comida

#### Cuba’s fossil fuel, fertilizer and chemical free agriculture produces better crops than industrial farming

Raj Patel, ward-winning writer, activist and academic He has degrees from the University of Oxford, the London School of Economics and Cornell. October 7, 2013

 (What Cuba Can Teach Us About Food and Climate Change, Slate, <http://www.slate.com/articles/health_and_science/future_tense/2012/04/agro_ecology_lessons_from_cuba_on_agriculture_food_and_climate_change_.html>, Accessed: 10/7/13, CD)

The Studebakers plying up and down Havana’s boardwalk aren’t the best advertisement for dynamism and innovation. But if you want to see what tomorrow’s fossil-fuel-free, climate-change-resilient, high-tech farming looks like, there are few places on earth like the Republic of Cuba. Under the Warsaw Pact, Cuba sent rum and sugar to the red side of the Iron Curtain. In exchange, it received food, oil, machinery, and as many petrochemicals as it could shake a stick at. From the Missile Crisis to the twilight of the Soviet Union, Cuba was one of the largest importers of agricultural chemicals in Latin America. But when the Iron Curtain fell, the supply lines were cut, and tractors rusted in the fields. Unable to afford the fertilizers and pesticides that 20th-century agriculture had taken for granted, the country faced extreme weather events and a limit to the land and water it could use to grow food. The rest of the world will soon face many of the same problems: In the coming decade, according to the OECD, we’ll see higher fuel and fertilizer costs, more variable climate patterns, and limits to arable land that will drive cereal prices 20 percent higher and hike meat prices by 30 percent—and that’s just the beginning. Policymakers can find inspirational and salutary ideas about how to confront this crisis in Cuba, the reluctant laboratory for 21st-century agriculture. Cuban officials faced the crisis clumsily. They didn’t know how to transform an economy geared toward sweetening Eastern Europe into one that could feed folk at home. Agronomists had been schooled in the virtues of large-scale industrial collective agriculture. When the “industrial” part became impossible, they insisted on yet more collectivization. The dramatic decline in crop production between 1990 and 1994, during which the average Cuban lost 20 pounds, was known as “the Special Period.” Cubans have a line in comedy as dark as their rum. Cuban peasants proved more enterprising than the government and demanded change. First, they wanted control over land. The state had owned 79 percent of arable land, and most was run in state cooperatives. Initially the government refused to listen, but the depth of the crisis and the demands of organized farmers created some space for change. Through reform, the government decentralized farm management. The land remains in government hands, but now it is also available with “usufruct” rights to tenants, who can invest in the soil and pass the land onto their children. But that took the farmers only so far. So some of the country’s agronomists, plant breeders, soil scientists, and hydrologists (Cuba has 2 percent of Latin America’s population but 11 percent of its scientists) found themselves being put to use by Cuban peasants in the fields. Their task: figure out how to farm without the fossil-fuel products upon which the country’s agricultural systems had become dependent. With no fertilizer, pesticide, or herbicide, and no means to import substitute chemicals, many in the scientific community landed on “agro-ecology.” To understand what agro-ecology is, it helps first to understand why today’s agriculture is called “industrial.” Modern farming turns fields into factories. Inorganic fertilizer adds nitrogen, potassium, and phosphorous to the soil; pesticides kill anything that crawls; herbicides nuke anything green and unwanted—all to create an assembly line that spits out a single crop. This is modern monoculture. Agro-ecology uses nature’s far more complex systems to do the same thing more efficiently and without the chemistry set. Nitrogen-fixing beans are grown instead of inorganic fertilizer; flowers are used to attract beneficial insects to manage pests; weeds are crowded out with more intensive planting. The result is a sophisticated polyculture—that is, it produces many crops simultaneously, instead of just one.

#### Cuba’s model will be adopted worldwide – opens up new land and encourages small business models

Shkolnick, J.D. Candidate, Drake University Law School, 2012

(Jacob, SIN EMBARGO: n1 THE CUBAN AGRICULTURAL REVOLUTION AND WHAT IT MEANS FOR THE UNITED STATES, Drake Journal of Agricultural Law, LexisNexis scholar ,Accessed:10/23/13, CD)

The organoponic system is not limited in its application to Cuban urban farms, but maintains potential to be applied worldwide, including in the United States. Urban agriculture in Cuba revitalized and put to use previously abandoned and unused land. A similar approach could be applied to the United States as a means to restore blighted areas. n177 Applying Cuban-derived organoponics in U.S. cities could potentially open up an enormous amount of land that was previously unusable. From a business perspective, investing in an organoponic agricultural program in the United States is also a sound decision since the demand for local produce reached $ 4.8 billion in 2008 and is only expected to grow further, potentially reaching $ 7 billion in 2012. n178 [\*706] In an American city beset with high unemployment such as Detroit, Michigan, for example, investing in urban agriculture could potentially generate as many as five thousand new jobs. n179 By utilizing Cuba's system of organoponics, the need to use expensive and complex farm machinery could be significantly reduced. Already companies in the United States, such as Farmscape Gardens in southern California, recognize what Cuba's organoponic system could achieve and have integrated it into their business practices. n180 Rachel Bailin, a partner in the company, indicated that it was Cuba's organic farming practices that helped inspire them to start a company devoted to urban agriculture. n181 They have already used Cuba's organoponic farming methods to produce more than 50,000 pounds of produce since the spring of 2009. n182 The potential for future growth in this industry is huge, as Farmscape Gardens' current levels of production make it the largest urban agriculture company in the state of California. n183 Cuba not only offers attractive prospects for trading in the future, but methods of agriculture pioneered out of necessity have broad prospects if applied to agriculture in the United States. As the demand for locally grown produce continues to increase, a cost-effective and proven agricultural model like Cuba's organoponic system may be just what is needed to allow for urban agriculture to flourish.

#### Lifting agriculture restriction key to provide economic stability in cuba

Ashby , Senior Research Fellow at the Council on Hemispheric Affairs, March 29, 2013

(Dr. Timothy, PRESERVING STABILITY IN CUBA AFTER NORMALIZING RELATIONS WITH THE UNITED STATES – THE IMPORTANCE OF TRADING WITH STATE-OWNED ENTERPRISES, COHA, <http://www.coha.org/preserving-stability-in-cuba-timothy-ashby/>, Accessed: 1/19/14, CD)

U.S. policy specifically supports “a market-oriented economic system” [3] toward Cuba, yet regulations prohibit the importation of any goods of Cuban origin, whether from the island’s potentially booming private sector–including 300,000 agricultural producers–or State-Owned Enterprises (“SOEs”). [4] Such a policy is counterproductive to U.S. interests. Regardless of over 400,000 entrepreneurs, including agricultural cultivators, it could be many years, if ever, when Cuba’s private sector would be ready to serve as the engine of economic growth. SOEs employ 72 percent of Cuban workers. [5] A rational commercial rapprochement towards Cuba would therefore require a change in current laws and in the system of regulations prohibiting the importation of Cuban goods and products. Normalized bilateral trade will benefit the Cuban people by helping to provide economic stability and fostering the growth of a middle class–both of which are essential for the foundation of democratic institutions. Two-way trade must include both Cuba’s private sector as well as SOEs.

#### Access to a US export market key to save and spread Cuban sustainable system

Kost, agricultural economist in the. Specialty Crop Branch, Market & Trade Economics. Division, Economic Research Service, 2004

(William E, CUBAN AGRICULTURE: TO BE OR NOT TO BE ORGANIC?, ASCE, <http://www.ascecuba.org/publications/proceedings/volume14/pdfs/kost.pdf>, Accesssed: 1/20/14, CD)

EXTERNAL MARKETS MAY BE CRITICAL FOR AN ORGANIC CUBA In addition to the above European markets, the successful expansion and viability of Cuba’s organic production may also depend on access to geographically close, high-income foreign markets, namely the United States and Canada. Currently, Cuban produce is not certified-organic in either of these markets. Only after Cuban products are certified for these countries could Cuba legally export produce labeled organic to these markets. Given that many technical production practices currently followed by Cuban producers are potentially compatible with U.S. certification standards and given Cuba’s prior experience in becoming Swiss-certified, Cuba could be well positioned to meet U.S. certification standards. For the U.S. organic market, in addition to a lifting of the U.S. embargo, Cuba would have to be certified by a USDA-accredited certification program that assures U.S. markets that Cuban products labeled organic meet all National Organic Program standards and regulations under the U.S. Organic Foods Production Act of 1990. If the U.S. embargo on Cuba were lifted, Cuban exports, once certified, could play a significant role in the U.S. organic market. In this current U.S. niche market, production costs are high. Opening the U.S. market would enable Cuba to exploit its significant comparative advantage in this area. This market could become a quick foreign exchange earner for Cuba. The largest barrier Cuba faces in expanding into the U.S. organic market will be meeting U.S. requirements for organic certification. Tapping the U.S. market may create sufficient price incentives for Cuban producers to take the necessary steps to meet the organic standards of other importing countries. Cuba could then expand production of organic produce geared to these specialty export markets. With sufficiently high prices for organic produce, urban labor may remain active in an organic urban gardening sector. Most likely, the viability of a vibrant organic produce production and processing sector in Cuba will depend on Cuba’s gaining access to the large, nearby U.S. market. Without such access, organic-oriented production of horticultural products in Cuba will likely remain a necessity-driven way to produce food for domestic consumption in an environment where other production approaches are just not available. The U.S. market is large and diverse. The demand for organic produce is only one portion of that market. How Cuba’s horticultural industry responds to restored U.S. trade will be a function of the relative price and cost incentives of the organic and non-organic market segments. If the organic price premiums are sufficient, Cuba has the climate, land resources, low-cost labor, and history of organicoriented production to allow it to develop and grow its horticultural sector in that direction.If the market incentives are not sufficiently large to pursue the organic produce market, Cuba will return to a chemical- and technology-driven, yield-maximizing, and labor-minimizing commercial production as rapidly as they can afford to do so. Cuba will have some incentive to increase domestic food production as rapidly as possible to feed the domestic population, rather than importing food for domestic consumption. Cuba could then use a larger share of its scarce foreign exchange to import energy, technology, and other inputs to support growth in other secogy, and other inputs to support growth in other sector.

#### Cuba’s agroecological practices create a sustainable agriculture model that promotes environmental concerns and food independence

Christina Ergas, graduate student in sociology at the University of Oregon , March 2013,( (Cuban Urban Agriculture as a Strategy for Food Sovereignty, Monthly Review, <http://monthlyreview.org/2013/03/01/cuban-urban-agriculture-as-a-strategy-for-food-sovereignty>, Accessed 10/6/13, CD)

In conjunction with these movements, Cuba has made remarkable strides toward establishing a system of food sovereignty. One of their most notable projects in this regard is their institutionalized and organized effort to expand agroecological practices, or a system of agriculture that is based on ecological principles and environmental concerns. Cuba has largely transformed food production in order to pursue a more sustainable path. These practices are not limited to the countryside. Cuba is the recognized leader of urban agriculture.5 As Koont highlights, the Cuban National Group for Urban Agriculture defines urban agriculture as the production of food within the urban and peri-urban perimeter, using intensive methods, paying attention to the human-crop-animal-environment interrelationships, and taking advantage of the urban infrastructure with its stable labor force. This results in diversified production of crops and animals throughout the year, based on sustainable practices which allow the recycling of waste materials (29). In 2007, urban agriculture comprised approximately 14.6 percent of agriculture in Cuba. Almost all of urban agriculture is organic. Cuba’s environmental protections and agricultural innovations have gained considerable recognition. The 2006 Sustainability Index Report, put together by the World Wildlife Fund by combining the United Nations Human Development Index and Ecological Footprint measures (or natural resource use per capita), contends that the only nation in the world that is living sustainably is Cuba.6 The island nation is particularly lauded for its strides in urban food production.7 Sustainable Urban Agriculture in Cuba is the first book to take a comprehensive look at this practice around the entire island. Koont indicates that the significance of urban agriculture in Cuba is that although Cuba is not completely food self-sufficient, it is the only example the world has of a country that produces most of its food locally, employing agroecological techniques for production. Furthermore, most of the food produced is for local consumption. As a result, Cuba has one of the shortest producer-to-consumer chains in the world. In this book, Koont documents the impressive transformations that have taken place within this nation

#### Dialogue of Cuban resistance to imperialism from Individual to individual promotes US sustainable agriculture movement and allows the US to adopt the Cuban model

Thompson,p h.D. Curriculum and Education Director,. Center for Documentary Studies at Duke University, 22 March 2012,

(Charles D.,Visions for Sustainable Agriculture in Cuba and the United States: Changing Minds and Models through Exchange, Duke University

with Alexander Stephens, Marian Cheek Jackson Center, <http://www.southernspaces.org/2012/visions-sustainable-agriculture-cuba-and-united-states-changing-minds-and-models-through-exchan>, Accessed: 10/7/13, CD)

Individuals and small groups can begin to heal historic wounds between two countries—through common experiences, work, and dialogue. I came back to the U.S. enriched beyond measure, not by internalizing the policies of agriculture over the last century or even what might make an organopónico movement run better, but by human exchanges and in-person meetings. We should invent ways to enable visitors who are prepared to listen and learn to go to Cuba, as well as ways to bring farmers and technicians from Cuba to work in the U.S. South. The dialogue of resistance to imperialism in Cuba can help inform the politics of the U.S. sustainable agriculture movement. And with political and economic changes imminent in Cuba, there are lessons to be learned from U.S. organizations confronting corporate agriculture. It would be tragic if loosened commercial restrictions in Cuba resulted in planting an agribusiness model there that we are desperately trying to get away from in our own country. As Fernando Funes put it, the inclusion of small farmers through redistribution of resources "makes them critical actors in the new reconfigured economy."20 Cuban people, particularly rural people, are the true wealth of the island. Most are literate, savvy about change, and have developed opinions about workable solutions. The potential for exchange between Cuba and the U.S. South offers a collective possibility for agricultural sustainability, an exchange that must overcome boundaries between nations.