The Driving Forces and Resultant Effects of the Global Food Crises:

Development Reconsidered in a Time of Need

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Table of Contents

Table of Contents i

Research Proposal iii

Annotated Bibliography iv

Outline vii

Text

Abstract 1

I. Hunger in Haiti: A Local Introduction to a Global Problem 1

a. The Global Food Crisis of 2008

II. Global Food Insecurity: Factors, Forces and Policy Effects 4

a. Supply & Demand Side Forces

b. Effects of Global Trade Policies

c. Socio-Economic Factors

d. The Development of Underdevelopment

III. The Emergence of the World System: Setting the Stage for European Dominance 13

a. From Mercantilism to Colonialism

b. Plantation Economics and the Creation of Dependent States

c. Economic Imperialism in the 20th Century

d. Neo-Liberalism and the IMF

IV. The Problems of Today: Local Solutions to Global Problems 23

a. Promotion of Local Agriculture for Domestic Consumption

b. Cuba's "Special Period"

c. Development Reconsidered: The Importance of Smallholders

V. Conclusion: A call to Action 29

Bibliography 31

Research Proposal

For my senior project I will be looking at the global food crisis of 2008, brought about by the spike in international commodity prices starting in 2006, as well as the recurring economic issues plaguing the world system that directly lead to widespread hunger. Global food crises are not new events, and this latest one was predictable. It is my hope that by examining the structural forces at work behind this latest crisis, better means will be developed to deal with these problems. In order to go about this I will perform research on the effects of hunger in the world, the ways in which it manifests itself, and why it has remained the most prevalent of human problems. My research will almost exclusively come from published sources and internet databases. By pulling information from a large number of different sources I hope to find the issues that are of chief concern to the current problems with food security. These are incredibly crucial times; with over one billion individuals across the face of the earth feeling the effects of hunger it is time for action. Hopefully this research will help me come to a conclusion about what that action needs to be.

Annotated Bibliography

Chambers, W.B. & Sampson, G.P. *Developing Countries and the WTO: Policy Approaches.* New York: United Nations University Press, 2008. Print.

Chambers and Sampson compile a number of essays dealing with the effects that the WTO has had on developing economies. They mostly point to abuses within the WTO by powerful economies, and how this is negatively effecting many developing economies. They discuss the importance of trade access to development, and a number of essays within deal with unfair trade regulations, especially in regards to farm subsidies, that are hurting many rural farmers. This will be useful in my discussion on the negative effects that developed nations farm subsidy programs have on developing economies.

FAO, "The State of Food Insecurity in the World 2008", Food and Agricultural Organization of the United Nations. Rome: United Nations, 2008.

In this publication the FAO analyzes a number of reasons behind the global food crisis of 2008. It points to a number of causes, especially the rising price of petroleum and increased biofuel production. This will be useful to my project because it supports my section on the reasons behind the rising commodity prices worldwide.

Halweil, Brian. *Eat Here: Reclaiming Homegrown Pleasures in a Global Supermarket*. New York: W.W. Norton & Company, 2004. Print.

Brian Halweil explores the way in which the modern food system is broken, and how hope for recovery lies in the transition to a locally based system. He provides details of how the long chain of food production hurts a majority of world farmers, and how this system is a main reason behind the destruction of rural communities. This work will be helpful to my project because it details how the current global food system destroys rural livelihoods.

IFAD, "Food Prices: Smallholders can be Part of the Solution", International Fund for Agricultural Development. Rome, 8 July 2009. Web. 10 November 2009.

IFAD, the International Fund for Agricultural Development, is an agency of the U.N. In this article they find that the recent price spikes in international commodities markets are putting serious concerns on the lasting security of the world food system. The article looks at the 2 billion smallholders worldwide, and how they can be further empowered through certain types of development strategies. This will be useful to my project, especially my discussion on the

importance of smallholders, and the need to switch development strategies to bring more of them into local markets.

Katz, J. "Poor Haitians Resort to Eating Dirt." *NationalGeographic.com.* National Geographic Mag., 30 Jan. 2008. Web. 24 Sept. 2009.

In this article, Katz details how rising food prices are hurting millions of people in Haiti, forcing them to rely on mud-cakes as a source of food. This will provide me with a local example with which to start my project off, and a clear picture of the negative effects that food crises has on individuals.

PBS. "Haiti's Poor Eat Dirt." *PBS.org*. PBS Publications, 20 Feb. 2009. Web. 24 Sept. 2009

This article has similar information as the Katz article. It will be used for many of the same reasons as those mentioned above.

Rosset, Peter. "Alternative Agriculture and Crisis in Cuba", *Technology and Society Magazine IEE* 1997. Print. pp 19-25.

Rosset look at how the collapse of the Soviet Union and the U.S. Trade embargo forced Cuba to develop and diversify its domestic food market. In the wake of an artificial peak oil crisis Cuba was able to maintain a high food production level through self-sufficiency and a thrust toward organic farming techniques. This work will be helpful to my project because it supports my prescription on how to combat food insecurity; the promotion of local agriculture for the domestic market.

SELA. "Global Recession, Migration and Remittances: Effects on Latin American and Caribbean Economies." Latin American and Caribbean Economic System. Caracas: SELA Permanent Secretariat, 2009. Print.

This publication analyzes the effects that the global recession has had on Latin American and Caribbean Economies. It pays particular attention to the drop in employment in the U.S. and how this has had negative effects on remittances sent to other countries. This will be useful in my project because it will show how global recession is hurting many countries in ways beyond unemployment.

The World Bank. "What are the facts about rising food prices and their effects on the region?." *WorldBank.org*. 2009. Web. 1 Nov. 2009.

The World Bank analyzes the effects that rising food prices are having on Latin America and the Caribbean. Their findings are similar to the findings in the FAO source mentioned above. This source will be used in much the same way as the FAO source.

Torres, R., Momsen, J. & D.A. Niemeier. "Cuba's Farmers' Markets in the 'Special Period' 1990-1995," in Besson, J. & J. Momsen, *Caribbean Land and Development Revisited*, New York: Palgrave Macmillan 2007. Print. Pp 53-66.

Looks at much of the same forces as the Rosset source had on Cuba's post-Soviet Union agricultural development. Will be used for the same reasons as above-mentioned source.

Outline

I. Introduction- Haiti's Hunger Plight

A. dirt cookies, rising prices

II. Body- Global Food Crisis of 2008.

A. -why?

i. -rising prices

a.- supply&demand forces

1. -Petroleum prices

-inputs and transport costs

-effects on small-scale producers

2. -Biofuel Demand

-grain price effects

3. -Emerging Markets in China and India

-rising demand

b. -Investing potential

1. -price jumps attractive to investors.

c. -global trade policy implications

1. farm subsidies and trade liberalization

-effects on small scale producers

-Mexican Corn example

2. IMF, WorldBank

-development styles, trade liberalization effects

3. Effects of Protectionism

-higher demand, lower supply

B.Global financial crisis

i. -reduced international aid

ii. -unemployment up, remittances down.

1. -Latin American and Caribbean effects

C. Socio-economic factors

i. Underdevelopment in the world

1. historical legacy of underdevelopment. Outline of emergence of current world system.

i. mercantilism to colonialism

ii. Plantation economies

iii. dependent states

iv. economic imperialism

D. Where we are now

i. Current state of local agriculture.

ii. Promotion of local agriculture for domestic consumption

1. Cuba's "Special Period" Example and Vietnams growth as rice producing powerhouse.

III. Conclusion: A call to action.

Abstract

A number of factors led up to the global food crisis of 2008, culminating in the latest spike in worldwide hunger levels. Such a crisis needs to be understood from a structural perspective; relevant information must taken into account to design adequate responses, and certain mechanisms need to be put in place to bolster the most vulnerable groups from the terrible scourge of hunger. This paper examines the latest global food crisis, looking at the problem from a number of angles: supply-and-demand forces, socio-economic factors, and the effects of international trade policies on global hunger levels. Hunger is a recurring theme to human existence, but the current food crisis provides ample examples of how international development can be redefined and restructured in order to meet the needs of the hungry billion who now walk the earth.

I. Hunger in Haiti: A Local Introduction to a Global Problem

In Haiti they are eating dirt. Recent global economic turmoil has hit this small island nation particularly hard, forcing millions of impoverished people to rely on "cookies made of dirt, salt, and vegetable shortening" (Katz 2008). These cookies sell for about 5 cents apiece, considerably cheaper than rice at 30 cents a cup, a 50% increase in price from a year ago (Katz 2008). According to reports by the Haitian Health Ministry, PBS, and National Geographic, eating these cookies is dangerous, as they may contain "toxins and germs" and relying solely on them will lead to malnutrition and death (PBS 2009; Katz 2008). Yet with food prices at their current levels, rice is a luxury that millions here cannot afford. Haiti has a staggering amount of citizens living in abject poverty, with at least 50% of its population surviving on less than one dollar a day

(Dorcilus & Roebling 2008). And so these people find themselves eating little more than a couple of dirt cookies and maybe a mouthful of rice every day. In fact, before this most recent rise in food prices these cookies sold for less than 3 cents apiece; even the cost of dirt has increased (Katz 2008).

The hunger problems in Haiti are not a localized phenomenon. Current estimates on global hunger put the total at around one billion people worldwide (WorldHunger.org 2009). This is not a failure on the part of the hungry individuals, or even the fault of any single state with swollen ranks of starving citizens. This is a global problem with global implications, and it is affecting every single country in the world.

Global hunger not only reduces the quality of life for the billions who feel its effects, it also creates a state of social turmoil for any country caught in its grasp. The last couple of years have seen large scale food riots in "Haiti and Egypt and a general strike in Burkina Faso" (NPR 2008). These food riots threaten existing social order and create negative feedback loops, as efforts to combat rising hunger rates are stymied by civil unrest. As a result, more and more individuals are pulled down into the ranks of the hungry. Today, we face record numbers of hungry individuals. Therefore it is more important than ever to reevaluate the global food system; to examine the mistakes that have been made and the actions that have proven beneficial. Only by making a concerted effort towards a more equitable and sustainable model of development will we be able to remove the terrible scourge of hunger that afflicts over one billion human beings.

There are myriad reasons for the problems inherent in the dysfunctional nature of the world food system. An interconnected, interdependent, perpetually-moving system, mounted to provide a never-ending supply of food for the worlds 6.7 billion people is

incredibly complex. Add to the equation the negative effects of human error, from volatile commodity markets to geo-political strife, and we are presented with a recipe for disaster the effects of which kill millions of people every year. Such death's are absolutely preventable; the amount of calories produced by the veritable juggernaut that is the world food system is more than adequate to feed the world's current population; if the worldwide grain harvest was equally distributed to everyone on earth, each individual would receive more than is necessary to maintain an active lifestyle (Evans 2007). The problem lies not in production, but in allocation, access, and gainful employment. In order to get adequate food to the one-billion hungry people there are a number of key structural and theoretical changes that need to be made to the system at large.

The Global Food Crisis of 2008

In the first months of 2006, international agricultural commodity prices began to sharply rise, and by "March 2008 the international food price index [had] nearly doubled" (FAO 2008, 6). This resultant rise in food prices thrust the global food system, and the billions of people who depend on it, into turmoil, contributing "to a worsening of hunger and malnutrition in many parts of the world" (The Chicago Council 2009, 33). To those 900 million people across the face of the earth who were already suffering from the ill effects of hunger such a jump in world food prices proved to be disastrous (Bread.org 2008). Within a couple of months many of the world's poorest individuals, primarily rural peoples in developing countries, were feeling the ever increasing pressures of starvation and malnutrition. Jump to today, nearly two years later, and the world is still reeling from the latest global food crisis. In fact, the results of this latest crisis has seen an increase in the total number of undernourished people in the world, with 80 million

more hungry "than in 1990-92, the base period for the World Food Summit hunger reduction target" (FAO 2008, 6). The important strides that were taken leading up to this crisis have been undone, and the proportion of hungry in the world is hovering at around 17% (FAO 2008).

II. Global Food Insecurity: Forces, Factors and Policy Effects

This latest food crisis was not the result of any single cause; the spike in worldwide commodity prices was the outcome of a number of factors. According to the Food and Agricultural Organization's report, *The State of Food Insecurity in the World 2008*, "long-term structural trends underlying growth in demand for food have coincided with short-term cyclical or temporary factors adversely affecting food supply" (FAO 2008, 9). As such, socio-economic concerns, global trade policies, and supply and demand-side forces have combined to create "a situation where growth in demand for food commodities continues to outstrip growth in their supply" (FAO 2008, 9).

Supply & Demand-Side Forces

The international commodity market is in the process of "a fundamental shift in global supply and demand" (World Bank 2009). A number of supply and demand-side forces, working in concert, have recently congregated, resulting in a state of crisis for those hundreds of millions of people without secure access to food. Among the most important of these forces has been a stagnating global economy, volatile commodity markets, as well as "increased biofuel production, higher energy prices…and increased food consumption in emerging markets" (World Bank 2009). It is important to

understand each of these forces in order to better meet the challenges that they impose on the world. Food prices have stabilized somewhat in the last year, but "medium-term projections indicate that…they will remain above their pre-2004 trend level for the foreseeable future" (FAO 2008, *9).*

Energy-related concerns have been a major factor in world hunger, directly leading to the recent spike in international commodity prices. The rising cost of petroleum and an increased demand for alternative energy sources have been among the most problematic issues in global food security. According to the Food and Agriculture Organization, energy prices more than tripled from 2003-2008 (FAO 2008). Such an increase in the price of petroleum indirectly increased the price of food, "as fertilizer prices nearly tripled and transport costs doubled in 2006-2008" (FAO 2008, *10).*

The recent increase in energy prices is especially troublesome to small-scale farmers, an integral backbone to global food production. Small-holders are incredibly important to local and global food production. The small-holders in Asia alone account for over half the world's fertilizer use and almost 90 percent of India's farmland is tilled by farmers with plots of 25 acres or less (Byerlee & De Janvry 2009). Unfortunately, many small-holders are among the poorest of individuals, and an increase in the price of production is often an extra burden millions cannot afford. The failure of these individuals' to produce enough food effects more than themselves and their immediate family, it reverberates through their communities. A robust, localized market is a necessity for sustainable food security, and as "75 percent of the world's poor live in rural

areas…they mainly depend on agriculture and related activities for their livelihoods" (Byerlee & De Janvry 2009).

Concerns over the rising price of petroleum have forced many to consider shifting to alternative energy sources. Biofuels have been of growing importance to this alternative energy debate, and for good reason. They can basically be produced anywhere suitable crops will grow, and biofuels are generally considered to be a more sustainable energy source than finite petroleum reserves. However, a growing demand for biofuel has proven to be a disaster for the hundreds of millions of individuals throughout the world without secure access to food. The demand for commodities tied to "the emerging biofuel market…such as sugar, maize, cassace, oilseeds, and palm oil…caused a surge in their prices in world markets, which in turn has led to higher food prices" (FAO 2008, 10-11). This, in itself, is not necessarily a bad thing. The higher costs for some of these commodities translate into increased profits for the farmers who grow and sell them. Unfortunately, such price spikes tend to increase hunger among the majority of farmers, while offering a select few an increase in living standards.

Corn crops around the world are increasingly being diverted to the production of biofuel. From 2006-2008 United States corn prices more than doubled, leading World Bank President Robert Zoellick to remark that "biofuel is no doubt a significant contributor…it is clearly the case that programs in Europe and the United States that have increased biofuel production have contributed to the added demand for food" (NPR 2008). In fact, "more than 40 percent of the increase in global maize consumption from 2000 to 2007 was due to biofuel use in the United States" (World Bank 2009). The production of corn into biofuel is diverting food from hungry mouths to gas tanks; by

2010 30 percent of the U.S. corn crop will go towards ethanol production (World Bank 2009).

These recent agricultural commodity price spikes have become an attractive gambit for new investors, especially in light of recent global economic turmoil; as such, more and more investors are becoming involved in agricultural commodity markets (FAO 2008). This increased speculation has more than doubled "global trading activity in futures and options combined…in the last five years" leading many analysts to see this as a "significant factor in soaring food prices" (FAO 2008, 11).

Being in the midst of a global recession has proven to be problematic in the fight to end world hunger. While globalization has increased developing countries integration into the world economy it has also made them vulnerable to volatile international markets. This increased integration, coupled with the effects of the current, global economic crisis has aided in the destruction of "short term financial credits which poor countries need to buy food on the market" (Vallely 2009). A recent study published by the Latin American and Caribbean Economic System (SELA 2009) has shown how the increased worldwide unemployment, a byproduct of the global recession, has reduced the flow of remittances from the U.S. to Latin American countries by 5 billion dollars from 2008 to 2009. The effects of this decrease will cause a 65-70% drop in earnings for about one million households (SELA 2009, 3). Most of these people desperately need this money; without it they will only add to the ranks of hungry in the world, already a billion mouths strong.

Even as the world economy feels the effects of global recession, the long-term trends of economic development in a few countries have accounted for some of the increases in agricultural commodity prices. Of particular concern to this issue is the emergence of India and China as powerful economic forces. Tied to these countries economic growth is a shift in their populations' consumption patterns, especially along dietary lines. As economic development has increased the "purchasing power of millions of people…so has their overall demand for food. This new wealth has also led to changes in diet, especially greater consumption of meat" (FAO 2008, 11). According to an article published in *The Independent* (2009), the demand for meat since 1980 is up 40 percent in India, and 150 percent in China . This has had a direct effect on the price of cereals as more and more of it is diverted to feed livestock.

Effects of Global Trade Policies

There are a number of global trade policies that have had negative effects on the livelihoods of individuals struggling with hunger. Most of these policies have to do with long-term, structural forces, especially a push towards greater trade liberalization in the international marketplace. In theory, such policies are beneficial to the worlds poor. Kym Anderson and Will Martin (2008) find that reform of agricultural policy, in the form of increased global liberalization, is an important source of welfare gains for developing countries. Such gains follow "from the greater degree of trade distortion in agriculture, and points to the market access pillar being the most important source of potential welfare gain" (Chambers & Sampson 2008, 3). This makes sense in light of misguided agricultural subsidy programs that developed countries, especially the United States, run.

By providing government subsidies to domestic producers, the United States government keeps food prices artificially low. U.S. farmers are able to produce food and sell it on the international market for prices that are below production value. By itself, this is a good thing; lower prices for agricultural commodities can help to increase food security among the poorest individuals. However, it has two unintended consequences for world hunger. First, it reduces the income poor farmers earn by selling their crops in local markets; second, it slowly forces local producers out of domestic markets. The case of Mexico and domestic corn production is an excellent example of the effects that uneven market liberalization has on local producers' livelihood.

Due to a number of factors in the 1980s, Mexico was forced to ask for money from the World Bank and the IMF. As a precondition to this borrowing, Mexico had to "eliminate high tariffs, state regulations, and government support institutions, which neoliberal doctrine identified as barriers to economic efficiency" (Bello 2008). The results of such eliminations saw "the dismantling of state credit, government-subsidized agricultural inputs, price supports, state marketing boards and extension services" (Bello 2008). These structural reforms undermined peasant producers as heavily subsidized U.S. corn flooded in, reducing corn prices by half, destroying the domestic corn sector, and establishing Mexico as "net food importer" (Bello 2008). All of this in the land where corn was domesticated. The benefits that subsidized producers, primarily in the United States, have in corn cultivation have forced millions of smallholders off their land, out of work and into the depths of hunger (Bello 2008).

Mexico is not a rare example of the negative effects that one-sided trade liberalization has on developing economies. The rice economy in the Philippines, milk

and banana production in Jamaica, and countless other examples come to mind. By maintaining their agricultural subsidies while dismantling those of developing states, "richer countries perpetuate their advantages…even as they advocate 'free trade' and 'open markets,' giving more than $300 billion to their farmers and thus depriving poor-country farmers of the opportunity to compete on the global 'level playing field' they claim to envision" (de Blij & Muller 2007, 20).

The consequences of one-sided trade liberalization are potent; food crises hit nations with weak domestic agricultural production particularly hard. Local producers in developing countries cannot match the agricultural prices of subsidized crops from the developing world. Because of this they are forced to sell their produce for prices below the cost of production, which eventually forces them out of business. Small-scale producers are extremely important to local agricultural production, but the farm subsidy programs of the developing world are having extremely negative effects on their livelihoods.

Farm subsidy programs run counter to true global trade liberalization. To see the benefits that such market liberalization will create will require a focused effort, as "the political sensitivity of farm support programmes complicates reaching agreement" (Chambers & Sampson 2008, 3). The benefits cannot be achieved if some actors don't follow the rules. This means the U.S. and other developed countries must give up their agricultural subsidy programs if they wish to live in a more equitable global community. If such changes are not made, which seems likely, than the prevailing macroeconomic development strategies being used to pull the developing world out of poverty must be reconsidered. As it stands now, the current system that proclaims the benefits of neo-

liberal trading policies, free-markets and "export agriculture at the expense of agricultural production for the domestic market" has only deepened the rift between the global north and south, leading to an increasingly volatile global food system (Timms 2009, 102). Therefore, the models of economic growth must change before any real hope of sustainable development can be achieved.

The aforementioned trade policies had to do with long-term, structural trends. On the other side are short-term, situational policies made by individual states, which have added to the current hunger crisis. In particular, these are policies growing out of mounting concerns about global supply, and generally are linked to ideas of domestic protectionism. As we are well aware of, no country is immune from the effects of hunger. Because of this, some entities, including "governments and private sector actors" have adopted "export restrictions and bans" which "have at times exacerbated the effects of the above-mentioned underlying trends on food prices in international markets" (FAO 2008, 11). Such actions have "reduced global supply, aggravated shortages and eroded trust among trading partners" as well as reduced "farmers incentives to respond to higher international prices" (FAO 2008, 11). As such, international prices continue to rise, and high prices persist, deepening the problem of global hunger.

Socio-Economic Factors

Many so-called development strategies have had negative effects on the world's poorest populations. This has had serious consequences for global hunger levels, particularly with regards to socio-economic factors and their links to purchasing power. Rising food prices are certainly a large part of the current global hunger problem, but

starvation and malnutrition are not recent phenomena. Even before the food crisis of 2008 there were hundreds of millions of individuals across the globe feeling the negative effects of hunger. These people could not afford to adequately feed themselves even when prices were relatively low. For them, hunger was not the result of price spikes due volatile commodity markets, or shifts in global supply and demand; it was an issue of poverty, and their inability to earn, and maintain, a living wage.

There are a number of socio-economic factors that have contributed to global food insecurity. However, a disproportionate share of the worlds undernourished "live in the developing world…home to 832 million chronically hungry people in 2003-05" (FAO 2008, 11). It is the persistence of poverty, especially in the developing world, coupled with development strategies that often increase economic inequalities, which have deepened the current hunger crisis. To understand the prevalence of poverty in the world, especially among people living in developing countries, it is important to understand the historical development of the current world system, especially in regards to third-world agriculture.

The Development of Underdevelopment

The latest spike in global food prices was chiefly due to a number of supply-side forces. However, the current problem with global food security has its roots in the historic persistence of socio-economic inequalities in the developing world. The current legacy of underdevelopment needs to be understood as but a link in the chain of historical trends aimed at keeping the global south dependant upon the north. From mercantilism to colonialism, through plantation economies, dependencia and economic imperialism,

and finally to the current problems associated with globalization and neo-liberalism, the problems of the present can be traced to the errors of the past. Many of the past, and current, development strategies have lacked foresight, but the hindsight that history gives us can surely help us from making the same mistakes. Therefore, it is imperative we have an understanding of the history of development that has led to the present circumstances, especially in regards to food security.

III. Emergence of the World System: Setting the Stage for European Dominance

Agriculture, as we know it today, was the result of tens of thousands of years of trial and error. Man's evolution from hunter-gatherer to basic subsistence farmer alone took the majority of his existence. Conservative estimates put the advent of agriculture somewhere around 10,000 B.C., but it would take another eleven-thousand years before such practical knowledge would form anything even approximating the global food system of today (Symons; Diamond). For a number of reasons, the European continent gained an early advantage in the emerging world system. Jared Diamond (1997), points to a number of geographical determinants that paved the way for early Western European dominance. Perhaps the most important developments in Europe were the early flow of domesticated animals to this burgeoning civilization, and the volatile geo-political situation in the region for much of its early history; these two developments would give Europeans, especially Western Europeans, a global upper hand in the 15th and 16th centuries, as rapid exploration, expansion and colonization was taking place (Diamond 1997). The events that would follow have shaped the current world system, and are

among the most important reasons behind the current legacy of underdevelopment in much of the world today.

From Mercantilism to Colonialism

In the 15th century Europe began to go through a transformation, as "powerful monarchies began to lay the foundations of modern states" (de Blij & Muller 2008, 36-37). Global exploration was soon to follow, and with it "the discovery of continents and riches across the oceans" (de Blij & Muller 2008, 37). A new economic mindset was born out of such discoveries, that of "the competitive accumulation of wealth" or mercantilism (de Blij & Muller 2008, 37). By the 16th century, European nation-states would begin sending expeditions around the world with the express purpose of returning home laden with raw materials. Usually this meant gold and silver, but other raw materials, including foodstuffs, found their way back to Europe just as often. This continued for a few hundred years, in a very simple form; European states would set up outposts in productive regions, all the while collecting valuable raw materials that would then be shipped back home. Those productive regions, and the natives who called such places home, were harvested for their natural wealth, with Europe reaping all the benefits; "Europe was on its way to colonial expansion and world domination" (de Blij & Muller 2008, 37).

Mercantilism continued in this simple form for some time, but slowly it gave way to new economic realities, and Colonialism began flourishing. Colonialism was not a new idea; for thousands of years humans had been setting up colonies in places far from their homeland, working the local lands, and sending back a share of their productivity in

the form of raw materials. What was different about this round of colonial expansion was the sheer scope of it. Western European powers, in particular the British, Spanish, German, and Dutch, began to rapidly colonize newly "discovered" lands. What we know today as India, the Americas, the Philippines, and the periphery of Africa, as well as countless other areas, began to fall under the control of these European powers. These were not empty tracts of land, but well populated areas, full of native peoples with distinct cultures. This should come as no surprise to anyone, as the areas most sought after by these European colonists would have been the most agriculturally productive lands, capable of supporting large populations.

For the purposes of this discussion, I will focus on the development of the agricultural system in the Americas from the 16th century until today. The evolution of the world economic system, especially the progression of agricultural economies, followed a similar sequence around the globe; although the Americas had a number of different characteristics that led to its development, its economic evolution was similar to that of the rest of the developing world.

When European's set out to colonize the Americas they brought with them more than just their hopes and dreams. New, deadly diseases were among the first things that native populations faced. In a few years, indigenous populations withered away as tens of millions of people among the many islands of the Caribbean and across the American continents died; those lucky enough to survive were often put to work, harvesting raw materials for their new colonial masters. Beyond disease, the Europeans brought many other cultural advantages with them; years of wealth accumulation and infighting on the continent had provided the impetus for defensive development, so much so that most of

the native peoples had little chance of standing up to these "guests" (Diamond 1997). Most of the wealth that was accumulated in these colonies was sent back to Europe. The Spanish, in particular, were truly adept at draining the native wealth of their colonized lands, taking "silver, gold, cacao, cochineal, and indigo from the New World, and (returning) with high-priced manufactured and luxury goods" (Wolf 1982, 141). What remained in the colonies went almost exclusively to the colonists; ostentatious churches were erected and extravagant banquets held. All the while little to no relevant local development was being undertaken.

Plantation Economics and the Creation of Dependent States

Over time, the colonial system began to take on new facets; a few hundred years of capital accumulation in some of the colonial areas begun to lead to the development of large scale farming enterprises. These were estate farms, plantations "established by European capital and enterprise with the intention of producing export-oriented commercial crops for consumption in temperate lands" (Wheeler, et. al. 1970, 43). A top-down system of benefits was incurred on those who participated in such practices, with the vast majority of the wealth going to the exclusively European landholders; much of this wealth usually found its way back to European shores, at the expense of local development. Indigenous peoples made up the majority of the labor force, in conditions little better than slavery. And in a sense, they were slaves; they had hard choices to make, as more and more of the most productive land was being diverted to feed growing European populations thousands of miles away. Many indigenous people continued to work their small-holdings, but as time went on they were forced to more and more

marginalized lands. Driving through the country-side in many Latin American countries today will provide ample proof of the historic effects of this marginalization; many family farms, growing food for personal consumption, are forced to use every bit of land available to them, oftentimes going so far as to plant crops on steep hillsides overlooking precipitous drops.

Estate farms continued to produce enormous amounts of food for the world, enormous amounts of wealth for their owners, and enormous disadvantages for local peoples. Beyond the growing marginalization of available land, these estate farms could very easily out-produce any type of small-scale, local agricultural economy. As such, development in these types of undertaking lagged far behind the development of large scale commercial enterprises like plantation agriculture. With such a lag in development, many local peoples had no choice but to work on plantations. As time went on, the working standards improved, but only slightly. Wages remained extremely low, abuses by managers and owners continued, and thanks to the relationship between plantation owners and the polity in many of these places, such hardships were generally overlooked. All the while the importance of plantation economies, at least for the ruling class, grew.

The growth of plantation economies, and their importance to wealthy nations, continued into the 19th and 20th centuries. As a source of cheaply produced food, these economies were invaluable to the growing world system. Unfortunately, Europeans almost exclusively reaped the dividends, and local development of agriculture for domestic consumption stagnated. The plantation economy was extremely capable of producing large amounts of luxury food for export, but not very good at feeding local

population groups; many of the colonized regions "became specialized in the production of some raw material, food crop, or stimulant" that was grown exclusively for export (Wolf 1982, 310). This had negative effects on the food security of local peoples, as domestic agriculture remained underdeveloped, being used primarily for "familial consumption and informal trade" (Timms 2009, 103). There was some development of small-scale, local production, but as the 19th century drew to a close many regions were becoming extremely dependent on imported food (Timms 2009).

The pace and current of development in these areas continued in the same vein for another century. Independence movements in a number of countries saw the old shackles of colonialism removed; such geopolitical developments hardly mattered to the majority of people, however, as they were still under the thumb of the ruling class, as well as an increasingly powerful world economic system. Colonial bonds would shortly be replaced by economic ties, and a new form of imperialism began to take control in these regions.

Economic Imperialism in the 20th century

After World War II many colonial powers could no longer maintain official hold of their colonies. This became a time of political, social, and economic upheaval, as many new countries found themselves to be their own masters, or so they thought. Many of these regions continued to maintain the same economic models, focusing on plantation agriculture, perpetuating regional reliance on imported foodstuff. Although they no longer ruled these regions, the former colonial powers still exercised some control over the economic affairs of these new states. The economies of these emerging nations were still reliant on the inflow of foreign capital. Money continued to flow in; the cheap labor

available in many of these nations proved to be extremely attractive for some burgeoning businesses. But foreign capital meant foreign control, and the development that came along with such investment was not equally dispersed among the population. The majority of agricultural development went towards increasing the productivity of the plantation systems, while local, small-scale agriculture continued to be marginalized.

As this pace of development increased more capital began to flow into development projects in the Americas. These projects were primarily concerned with turning profits, which would then retreat back to the countries from which the capital was supplied. Little relevant local development was undertaken, and the majority of people in these countries suffered for it. Foreign investment increased foreign control, and soon Western powers began dictating terms to developing economies; on a number of occasions foreign trained military personnel would settle disputes concerning agricultural development projects. Western powers began to interfere more and more in the economic issues of nations to which they no longer had any legitimate claim, all for the sake of expanding their capital accumulation. Governments were overthrown, as coups were staged in order to get sympathetic voices into office. Profit margins were the measuring-stick of development, even as rural peoples continued to starve because of limited access to productive land. Yet these were free nations, and their people began clamoring for some sort of response. Unfortunately, the mechanisms of international lending institutions, and the debt that such lending incurred, would prove to be a force that would overcome such hopes.

In order to break free from the colonial legacy of underdevelopment, these nations would have to disentangle themselves from the traditional aspects of development

prescribed by the leaders of the world system. Unfortunately, because of the lack of relevant local development of the agricultural sector, except for that in plantation systems, breaking from traditional models proved extremely challenging. It also proved to be extremely costly. Initially, the plan was to discourage foreign capital, and thus control, and to concentrate on relevant development of the domestic economy, especially in terms of local production (Timms 2009). The hope was to create a more balanced economic system, one that was no longer reliant on Western powers; the economic imperative of these countries would then be driven by domestic processes (Timms 2009). To accomplish these things would require a total shift in the economic realities of the present time, a "breaking the plantation legacy of a perpetual reliance on imported foodstuffs for consumption, paid for by earnings from exports" (Timms 2009, 105). The most important factor in this shift in development would prove to be the small-scale farmers. However, the legacy of plantation systems had marginalized this group, and in order to reap the benefits of their production capabilities they would "have to be provided with support services and initial protection from cheap imports as they built productive capacity" (Timms 2009, 106).

A number of external factors thwarted many of these efforts, and the developing economies began defaulting on loans to international lending institutions. This led to further problems for the burgeoning domestic agriculture sector, as these lending institutions began prescribing treatments on how to cut spending and thus reduce debt. A number of structural adjustment programs were put into place, many of which were to the detriment of local development. One of the biggest blows to the emerging domestic agriculture sector came with the removal of farming subsidies. These measures basically

destroyed the steps that were taken in strengthening the emerging domestic agriculture sector, "as government spending gutted agricultural research, development, and extension services" (Timms 2009, 107). This was an enormous blow to small-scale producers, who had proved to be incredibly important to maintaining food security. On top of all of this, it more firmly entrenched the export-based agricultural system.

Neo-Liberalism and the IMF

Pointing to inefficiencies in the current economic system, international lending institutions, primarily the International Monetary Fund, began to further restructure Latin American economies. The IMF could do this because they were the ones providing all the capital with which these countries were developing; these emerging economies were once again dependent on foreign powers. In an effort to increase efficiency, trade regulations were further liberalized; domestic subsidies and trade barriers were reduced in an effort "to create an environment whereby highly competitive producers excel while those less productive would be assimilated into other competitive sectors of the economy" (Timms 2009, 107). This basically meant the destruction of domestic agriculture, which although was good at feeding local populations, was not as "internationally competitive" in making money as export-based plantation agriculture. To the powers that be, any questions about local "food security were answered with the availability of cheap and, assumed, stable imports" (Timms 2009, 108). In light of past food crises, these answers have proved to be incredibly inefficient at best, criminal at worst.

` As trade liberalization increased, what remained of domestic agriculture was further damaged. Local production could not stand up to foreign produced items, which had an artificially low price due to being heavily subsidized. Not only that, but without relevant domestic food production, developing countries were at the total mercy of international commodity markets. Take the example of Jamaica, and the growth and decline of domestic milk production in the last part of the 20th century.

At one point Jamaica produced an abundance of milk. Due to economic intervention on the part of the IMF, trade was further liberalized in the region. This allowed for an explosion of imported, subsidized, powdered milk from the U.S. and Europe, which effectively killed the Jamaican milk production (Timms 2009). Milk was available at a cheaper price for the short term, but the cost was food security in the long term. When the price of milk rose in 2008, many Jamaicans could not afford it. This prompted the Jamaican government to "announce plans to import dairy cows and begin the rebuilding of the domestic dairy industry" (Timms 2009, 108).

The negative effects of neoliberalism can be seen in a number of developing economies. The programs aimed at reducing national debt and increasing agricultural productivity have only increased that debt, while making many nations more reliant than ever on foreign imports. This has made many areas "even more susceptible to volatility in global commodity markets" (Timms 2009, 109). No clearer example could be offered than the global food crisis of 2008.

The emergence of the international economy in the 16th century has followed a 400-year progression that has seen the accumulation of capital flow into the hands of a few wealthy nations. The current economic system is only a slightly revamped system of

that put in place 400-years ago; we are still living in a global empire, only the face of that empire is an international-capitalistic system. Capital still flows out of the developing world, just as it did in the days of mercantilism; people are not any better off in many parts of the world even though they no longer wear the shackles of traditional colonialism. As long as the developed world dictates terms to the worlds poorer nations there will be an inherently uneven playing field, and global poverty will continue to persist. As long as global poverty persists, the scourge of global hunger will never be defeated. The answer lies in domestic determinism, especially in regards to the development of a strong, local agricultural sector focused on production for the domestic market. Such development will be incredibly difficult as long as international lending institutions dictate economic terms to developing countries, but it is not impossible.

IV. The Problems of Today: Local Solutions to Global Problems

As has already been discussed, the world has recently gone through a food crisis, which is still affecting over one billion people. A number of forces and factors that led to the current situation have been examined, as well as an overview of the prevailing development trends that have led to the creation of the contemporary global economy. Yet, a number of questions remain: what can be done to reverse the historical trends that led to this point? What can be done to compensate for the negative factors that lead to global food crises, and how can we effectively reinforce the food security of the most vulnerable populations? There is no simple answer to this question, but recurring food crises, both local and global, provide some clear indications as to what can be done to lessen the effects of such events.

Promotion of Local Agriculture for Domestic Consumption

Perhaps the single most important and effective move any government can make to increase local food security is to promote local agriculture for domestic consumption. By promoting such practices developing economies, and their peoples, benefit in a number of ways. First, it helps pull rural farmers out of poverty while allowing them to maintain their traditional lifestyles. This has manifold benefits; it reduces emigration to cities, as productive and fulfilling lifestyles can be maintained in the country-side, and it increases the standard of living for the poorest individuals, typically rural farmers, by increasing the wealth they can generate from their agricultural activities. Second, it strengthens the domestic economy while weakening the overwhelming reliance on international imports. A number of cases provide examples of the benefits of such undertakings; Cuba's "Special Period" is one of the best examples of the effects that the promotion of local agriculture for domestic consumption can have on national food security.

Cuba's "Special Period"

In 1990 Cuba found itself in a difficult position. The Cold War had ended, the Soviet Union was no more and the "collapse of trade relations with former socialist bloc countries plunged Cuba into economic and food crisis" (Rosset 1997, 19). Without access to international trade on the level it had previously enjoyed, both oil and grain imports plunged, both dropping below 50% of pervious levels (Rosset 1997). This presented a potential crisis situation; without access to large amounts of petroleum by-products agricultural production would falter. At the same time, a reduction in food

imports would deal a severe blow to domestic food security. This meant that Cuba would have to rely almost exclusively on domestic production to supply its population. Prior to these events, Cuba was in a similar position, developmentally, as the rest of the Caribbean; agricultural development over the years had led to a system primarily concerned plantation-type mono-cropping (Rosset 1997). In light of these events, Cuban leadership announced "a 'Special Period in Peacetime' in which food self-sufficiency was to be paramount" (Torres, et. al. 2007, 53).

In response to this looming crisis large scale projects were undertaken; there was major restructuring of the agricultural sector, as "much land previously used for export crops…was turned over to production for domestic consumption" (Torres, et. al. 2007, 53). By launching "a national effort to convert the nation's agricultural sector from high-input agriculture to low-input self-reliant farming practices" Cuba hoped to combat the emerging crisis (Rosset 1997, 21). Luckily, Cuban peasants were familiar with the nuances of low-input production; such techniques had remained part of their cultural heritage across the years (Rosset 1997, 21). Productivity of these sectors rose, as government backing helped poor farmers weather the crisis; by 1995 "the vast majority of the population no longer faced drastic reductions of their basic food supply" (Rosset 1997, 22).

Small-scale farmers' access to local markets also increased in Cuba during the "Special Period". The creation of hundreds of farmers markets provided venues where local producers could sell their crops; this had the dual benefit of providing the population with adequate food while at the same time helping rural farmers earn a living wage. Such markets improved the variety of food choices for Cubans, lowered overall

prices, and stimulated local agricultural production (Torres, et. al. 2007). As a result, "these markets have had a significant positive impact on Cuban food consumption, with per capita caloric intake rising more than 40 percent since 1994" (Torres, et. al. 2007, 62).

It must be noted that the Cuban example is an exceptional one. Cuba was almost entirely cut off from foreign trade when the Soviet Union collapsed, so they were absolutely reliant on a revamped system of domestic production. Such factors, however, should not detract from the progress that was made. With rising oil prices and volatile commodity markets, it is more important than ever to design adequate mechanisms to feed domestic populations in times of potential crisis. We have seen the results of what happens when there is a lack of development of this sector; millions go hungry as food prices drift out of their reach. The Cuban example provides a salient response to this growing problem, but it was in a local context, with unilateral decision making. To address the hunger issues of the entire world will require similar efforts as those made in Cuba, but on a much, much larger scale.

Development Reconsidered: The Importance of Small-Holders

The benefits accrued through the promotion of local agriculture for domestic consumption are many. However, for the majority of people to reap these benefits a number of changes to current global, and local, economic systems must be made. The problem of rural poverty is one of the chief reasons behind the prevalence of hunger in the world. In order to address these problems, there needs to be increased development of the small-farming sector, as this is one of the most important areas for local economies

especially in regard to increased socio-economic benefits for the majority of hungry individuals in the world.

By increasing the productivity of the small-farming sector in developing economies, primarily "through access to education, improved crop varieties and animal breeds, essential inputs…and a rural infrastructure that connects them to urban markets" many local areas will benefit immensely (The Chicago Council 2009, 34). Without such improvements the poor will remain poor, and hungry, regardless of the work they do, as the cycle of poverty continues (The Chicago Council 2009). Although the models of evolutionary development are much different between the now developing nations of the world economy and those of the developed world, there are still some prescriptions for development that we can take from the latter.

The developed nations of the world today have, for the most part, solved the problems of rural poverty. The successes that these countries have seen have almost all started with the creation of strong agricultural sectors which allowed for the emergence of powerful industrial societies (The Chicago Council 2009). Rural poverty and hunger will not be defeated by economic growth in cities alone; industrial development needs to follow from the development of resilient local agricultural production. According to the Chicago Council on Global Affairs, the rapid decline of rural poverty in East and Southeast Asia in the 1990s was mostly due to improved conditions for rural populations and that "80 percent of the decline in rural poverty during this period was attributed to better conditions in rural areas, where agriculture was a source of livelihood for 86 percent of all rural peoples" (The Chicago Council 2009, 34). These statistics clearly indicate that a global shift in development thinking is the only way that hunger can be

reduced on a global scale. By providing better opportunities to rural peoples, especially farmers, we bolster local food supplies and promote food security, while at the same time providing a boost to local economies.

The difficulty that the world faces is not a question of what needs to be done. It is a question of whether the global community, especially the economic powerhouses of the developed world, has the will to change the typical order of things. Without a concerted effort towards change these benefits will never be realized. A revamped system of international development and aid needs to be designed, focusing on the development of local agricultural production for the domestic market. Current developmental models that favor industrial agriculture at the expense of small-scale operations usually result in "fewer (and less meaningful) jobs, less local spending, and a hemorrhagic flow of profits to absentee landowners and distant suppliers" meaning "that industrial farms can actually be a net drain on the local economy" (Halweil 2004, 68-69). Increasing small-holders integration into local markets "can contribute to a country's economic growth and food security" as such farmers are often "are often very efficient in terms of production per hectare, and they have tremendous potential for growth" (IFAD 2009). Take the case of Vietnam, once a major food importer, now the world's second largest rice importer. Such accomplishments were made possible through robust development of its small-holder farming sector, primarily in rural areas where 73% of the Vietnamese population lives (IFAD 2009). In these areas agriculture is the main source of income, and because of these developments the "poverty rate in Vietnam fell below 15 per cent (in 2007), compared to 58 per cent in 1979" (IFAD 2009).

By improving small-holders access to markets the world will be in a better position to combat hunger. First, small-holders need more secure access to land and water, as many of these groups tend to work the most marginalized lands; second, a number of extension services need to be made more readily available to rural areas; and third, infrastructure needs to be more fully developed linking rural areas with metropoles, so that small-holders can gain better access to larger markets (IFAD 2009). For these developments to be made will require long-term, concerted effort on the part of the small-holders themselves, as well as local governments "and the international community, backed up by greater investment" (IFAD 2009). As it stands now, international aid to agriculture is far below levels needed to make a relevant difference. From 1979 to 2006 this aid has fallen from 18 percent of total assistance to only 2.9 percent (IFAD 2009). By rejuvenating international aid to agriculture the global community will be better able to combat hunger, increase local, and thereby global, food security, and improve the lives of hundreds of millions of people around the world; but only so long as it follows the prescriptions of success stories like Vietnam and Cuba, and pursue meaningful development of local agriculture for domestic consumption.

V. Conclusion: A Call to Action

There are a number of reasons for the volatile nature of the global food system. By examining a number of the forces, factors and effects of the global food crisis of 2008, this paper has sought to outline the structural inadequacies of the current food system and the ineffective modes of development that have gotten us to this point. The development of historical inequalities between nations, coupled with the uneven

development of local agricultural sectors in much of the developing world, set the stage for recurring food crises. The rise of a world economic system has made nations extremely dependant upon one another, with the developing world at a clear disadvantage in a number of ways, especially in regards to continued food security. By promoting a break from traditional models of development, these nations can increase their food security, break the cycle of dependence on developed nations, and improve the life chances for their poorest populations. To do so will require an incredible amount of perseverance, and an enormous amount of political will. The prevailing ideas of development typically focus on macro-level systems; this needs to be changed if we hope for a more equitable future.

Food security is of paramount importance to the relevant development of any state. Without adequate access to food there is social turmoil and unrest. In order to build a truly equitable global society we must take account of the myriad problems inherent in current global food system. The development of local agriculture sectors for domestic consumption must become a societal imperative for many nations following global food crises. Those in the global community in positions of power must become more aware of the inherent, structural problems of the current system, and be proactive in their attempts at change. Without a concerted, lasting effort towards change millions more will die every year from the lingering effects of hunger and malnutrition.

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