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Issues with Food Distribution and Agriculture: The Violation of the Human Right to Food, and Environmentally Degrading Agricultural Practices

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Issues With Food Distribution and Agriculture: The Violation of the Human Right to
Food, and Environmentally Degrading Agricultural Practices

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Table of Contents

Introduction:	1
Background:	5
Food is a Human Right	5
Colonialism and the commodification of food	7
Industrialization of food	8
Where the Issues Stand Today:	12
Issues interfering with providing food as a right	12
Efforts to eliminate hunger in the United States	13
Hunger in Canada	17
Externalities associated with industrial agriculture	18
Food Sovereignty	19
Agroecology	20
The root of the hunger issue	22
Unsuccessful approach to giving the right to food	25
Communist China	25
Successful Implementation of Food as a Right	28
The Rainforest Alliance	28
Cuba: The Food Sovereignty Approach	31
Belo Horizonte—Right to Food Approach	36
Discussion	46
Suggestions	48
Project Analysis	50
Bibliography	51

Introduction:

The American Bill of Rights states that people have the right to life, liberty, and property. Just as people have a human right to clean air to breathe and safe water to drink, people also have a right to nutritional food to eat. Proper nutrition is required in order for a person to live a healthy life; therefore, it is their human right to have access to sufficient and healthy food (Article 25 of the United Declaration of Human Rights). When this right is denied and people are hungry, it is a violation of human rights. Food rights are among the most violated human rights. This right is so frequently violated that society does not question its existence and is not enraged by the fact that people do not have access to adequate nutrition and are going hungry. Society has become accustomed to the fact of hunger and has removed itself from the issue. There are estimated to be 870 million people worldwide, that are hungry and yet the issue largely goes un-pursued by citizens and the violation of this right is able to continue (Swaminatan, 2012).

In this thesis, I will evaluate food and hunger throughout different parts of the world in the past and the present from the perspective that every human being has a human right to sufficient, nutritional food by looking at both successful and unsuccessful attempts at reducing hunger. I seek to answer the questions of how current practices of food distribution can be improved so that everyone, is given the right to food, regardless of money, and current agricultural practices be improved at the same time so that they become more sustainable and less environmentally harmful. In order to best develop a viable and effective solution to these issues, I will look at how food has become such an important commodity in society through colonialism and industrialization. Then, I will look at policies that have been made that should provide everyone with food, and why they have largely been ignored and will take a closer look

at the U.S. and Canada. Next, I will look at food sovereignty and issues with potential implementation. I will then discuss agroecology and its many benefits. Then I will address the common belief that food production needs to be increased in order to solve the issue of hunger and explain why it is false. I will then evaluate Communist China's program that provided food as a right, and why it was not successful. Afterwards, I will look at places that have had success in reducing hunger, while helping to maintain the environment. These successes include the Rainforest Alliance, which places an emphasis on improving both the social and environmental issues of agriculture, Cuba, which has implemented food sovereignty, and Belo Horizonte in Brazil, which has provided food as a right. Lastly, I will discuss all of the information that I have collected and sum up my findings and give my personal suggestions for next steps in pursuing and solving these issues.

Today, most nations have agreed with this concept that food is a right and there is now nearly a universal consensus among nations that people do have a human right to adequate, nutritional food. According to the International Food Policy Research Institute, there have been over 120 international declarations, resolutions, and conventions since 1920 that address issues with the right to food (Shein, 2007). Article 25 of the United Declaration of Human Rights states that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control." However, these declarations have not been followed by the U.S., or virtually any other nations with a few exceptions. There have been many excuses as to why none of these attempts have created any obligation for states to follow through and provide food. The most common excuses are that: it is

too difficult to define the “right to food” in a legally enforceable way, it would be far too expensive to enforce, it would be too difficult to redistribute wealth without some sort of corruption, food rights lack official support at a regional level, and there is a lack of political will to create social policies that would enhance equity in income distribution (Shein, 2007). However, these excuses are allowing governments to neglect their duties and responsibilities to their people to provide them food.

One reason that more progress has not been made on this issue is that people have not given governments the push that they need to pursue new policies that could actually help to bring an end the violation of this critical human right. The main reason however, is that it is being approached from the wrong angle. It is a common belief that the reason that there are so many people who are hungry, is because there is not enough food available for everyone, and thus, the issue can be solved by simply producing more food—this however, is a myth, far from the truth (Lappé, 1998). The earth produces more than enough food to provide sufficient nutrition to each and every person living on it. There is more than enough food available for everyone and yet, one eighth of the world’s population still goes hungry. This phenomenon suggests that there is another underlying issue other than production. As the economist and Nobel Prize winner, Amartya Sen pointed out in his book, *Poverty and Famines*, the root cause of hunger is a crisis of power, not a crisis of agricultural productivity. Francis Moore-Lappé and Anna Lappé also address this perspective in their book, *Hope’s Edge*. Anna Lappé stated, “Hunger’s root cause is clearly not a scarcity of food, but a scarcity of democracy”. This concept of the root cause of food problems being unrelated to food directly is a progressive concept and addresses another issue in today’s society, which is poverty and the uneven distribution of wealth. The right to food entails that the individual have the means to produce it themselves (land), or

that they have the means to obtain it (money) and when an individual is unable to obtain food through either of these means, it is the responsibility and obligation of the government to provide food for them that is nutritious, culturally appropriate, and to do so in a way that does not destroy their dignity.

Thomas Robert Malthus published an essay in 1798 that stated that population will continue to grow exponentially until there are no longer enough resources to support this population growth. During the 1970's, it was observed that there were many people starving, and it was related back to the Malthus hypothesis that this must be because there was simply not enough food for everyone (Chapell, 2009). The Green Revolution began with this concept that more food needed to be produced in order to feed the growing population, which led to the rise of large-scale, industrial form of agriculture that is most commonly utilized today for in the U.S. (Chantrell, 2002). In 1972, Earl Butz implemented policies that opposed prior policies implemented by President Franklin D. Roosevelt during the Great Depression that favored small farms. Butz's primary concern was with increasing production as a means to increase the amount of money in the economy. Earl Butz was quoted to say, "Go big or get out!" This essentially set the stage for the mindset of the Green Revolution. The green revolution combines new technologies, including machinery used in farming, political policies that are aimed at supporting larger farms, as well as the mindset that maximizing output is the main objective of farming. At this time, farmers either had the option to expand and utilize the newly available technology or to get out, because they would likely not be able to compete with the farms that are following these new ideals of large, industrial farms. This resulted in the replacement of small, family farms with large-scale, industrial agriculture.

As industrial agriculture has developed and grown, it has become more and more harmful to the environment for the sake of producing more food, making it one of the top contributors to air pollution, water pollution, waste pollution, soil infertility and chemical resistance in weeds and pests. In addition, it has also led to a number of social issues; namely, it has contributed to the violation of the human right to food and has forced many small farmers to close their farms and has put them out of work. Many farmers who still do have their farms make little to no money off of them and live in poverty and sometimes do not have enough to eat.

There is not an issue with the production of food—it is with the distribution of food. This difference in distribution is due to the large gap between the wealthy and the poor. The wealthy are able to control this distribution and only distribute it to those with enough money to pay for it and therefore, the poor do not get their fair share of food. Food is a commodity, meaning that it is bought and sold for profit, and in today's society, it is a very important commodity and it makes up a large part of the global economy. This has led to more and more environmentally harmful practices, which in turn has led to the deprivation of food for those who either do not have enough money to buy it, or to buy the resources required to produce food for themselves.

Background:

Food is a Human Right

Perhaps the most unsettling issue in today's society is that ordinary citizens are being deprived of their right to food all around the world, and even in the wealthy countries such as the United States. People need food to live, just as they need air to breathe and water to drink. If a person were to be deprived of air, simply because they could not afford it, there would be outrage. Yet, this is exactly what is happening today with food. In the U.S., when clean air and

water were in jeopardy, the state stepped in and created the Clean Air Act and the Clean Water Act, to ensure people the right to clean air and water. It is shocking that people are being deprived of this necessity for life and the government is doing little to correct this.

Several attempts at ensuring the right to food have been made by governments; however, these were weak attempts and have not been successful. Many countries have signed agreements and laws that make food a human right, but have not enforced them. The right to food has not yet been achieved for several different reasons. Food relates to several different factors including economics, nutrition, agronomy, government control and ethics. It is most frequently looked at in terms of economics, nutrition and science and is rarely looked at in terms of human values (Van Esterik, 1999). The view of food as a human right is a Western perspective and has only become widely accepted within the last few decades. Today, there is an almost unanimous endorsement of governments that people have a right to food. In 1948, the Universal Declaration of Human rights affirmed the right to food; however, that document was not binding on governments. At the end of the 1974 World Food Conference in Rome, it was proclaimed that "...within a decade no child will go to bed hungry, that no family will fear for its next day's bread, and that no human being's future and capacities will be stunted by malnutrition" (Van Esterik, 1999). By 1976, the right to food was specified under article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), which was ratified by 118 states. Implementation and enforcement of this was left up to the individual national governments, and not surprisingly, was not successful.

In a 1983 study conducted by the Commission on Human Rights, it was found that there was a shift in the way that people view food and the right to food; whereas previously food was most commonly viewed as simply a basic need, people's view shifted and they began to realize

the moral right to food. The state has a duty to avoid depriving, to protect from depriving and to aid the deprived. Even prisoners are given the right to culturally appropriate food that will provide them sufficient nutrition, which is more than many innocent citizens that simply cannot afford to buy food for themselves. (Van Esterik, 1999).

Colonialism and the commodification of food

In the eighteenth century, Great Britain began developing an industrial society. Those who supplied what was to be consumed quickly learned that they created the conditions and the prices for the consumers. Landless people worked as farmers for those who owned land. Their hours, breaks, and their compensation were completely determined by those overseeing them. Emulation took over between landowners and they began trying to out-compete each other. This type of mindset prevailed in the U.S. from 1870 until 1930 and markets had sufficient. Karl Polanyi came up with a theory that states that to commodify land and labor, “is to attempt to disembed the universal conditions of society from the conscious and complex relations and practices of human beings” (Friedmann, 2005). The theory goes on to state that “full commodification of land and labor is a utopian project based on belief in the possibility and desirability of a self-regulating market and further, because the project is a utopia, eventually, attempts to expand and deepen the scope of markets cause serious damage to human beings and our habits” (Friedman, 2005). Polanyi built this theory on the premise that land and labor, (which are the human and natural substance of society) are commodified at our peril. This can be seen in the aftermath of markets having free rein throughout the U.S., when there was a collapse of international commerce and finance—the Great Depression—and the ecological crisis—the dust bowl—that resulted from over-working the soil for the sake of production.

Developing nations are now beginning this same process. Land is given to a small

number of citizens and is passed down to family or is sold, and not everyone has a chance to own land, and therefore, never has the opportunity to grow their own food. This leaves them in a position in which they must work for those who can afford to pay them, which is the landowners. This has resulted in largely uneven distribution of food and the exporting of food, while people within those countries need the food.

The U.S. has worked to prevent another depression and spike in the prices of food while working to support farmers by creating the New Deal among other policies. The New Deal centered price supports for agricultural commodities and included other factors such as controlling imports and subsidizing exports. The government also would begin providing subsidies to farmers for producing such crops as corn and wheat. These commodity crops have given farmers incentive to mass-produce these crops because they know that they will be able to sell them at a subsidized price. Therefore, with the new emerging technology, farmers chose to grow mostly these crops; whereas subsistence crops are grown for local consumption.

Industrialization of food

The Green Revolution began with good intentions in the 1940s. Its purpose was to increase agricultural yield, because there were many people who did not have enough food to eat. It promised to end hunger by introducing new technologies that would increase food production. They argued that food was already an issue for so many people and that because population is increasing so dramatically, the issue is only expected to get worse and will lead to more and more people without enough food. Their reasoning behind this change is logical—producing more food should lead to a higher availability of food for people and theoretically, farmers would be selling much more food; therefore, they would be making more money. However, once these new methods and the Green Revolution were put into practice, they were not as successful as

people had hoped. It did not solve the issue of hunger, and actually created a number of additional social issues (Collins, 2000).

The Green Revolution encouraged farms to grow, and caused many small farmers to lose their farms because they simply could not compete with the large farms. Earl Butz coined the phrase “Get big or get out!” (Harwood, 2013). Many farms adopted these new industrial practices and increased their size and production. This increased production caused a surplus of food, forcing the market price of food to go down. Farmers were forced to drop the prices for their crops in order to compete in the market. Oftentimes, the market prices were well below the cost of production for these crops. Even if farmers were able to sell their crops at these low prices, they would be losing money, but if they left their prices without dropping them, they would be losing even more money. The introduction of these new technologies forced more than half of US farms to close by the year 1970, just three decades after these technologies started being utilized. This led to increased level of poverty, especially in rural areas and very high levels of unemployment, which also led to increased rates of illiteracy and infant mortality (Harwood, 2013).

The new technologies such as tractors and other machines were quite expensive, and only farms producing more crops could afford to make this investment, because it did not make sense to have a tractor for only a few acres of land, and if they did purchase one, they would not be able to finance it with the small amount of profit that they are making from selling only a few crops. In addition, it was easier for manufacturers of food to buy from only one or two different farms, as opposed to having to buy from several different farms. The increase in production led to too much food being produced and there are not enough buyers; therefore, this food ends up going to waste, because it cannot be stored.

These new technologies used on farms, such as tractors consume petroleum and emit a great deal of air pollution. There is also petroleum-based chemicals in the fertilizers and pesticides used on industrial farms. In addition, food produced through this method often needs to travel to several different locations because it is being produced in only a small number of large farms; therefore, it needs to be dispersed to reach more people. The transportation of this food results in what is known as “food miles”. Industrial agriculture has caused a drastic increase in the number of food miles food must travel, which has resulted in a dramatic increase in fossil fuel use and air pollution (Climate, 2007). Further, the manufacturing of these foods often require processing, which also requires the use of petroleum and emit more pollutants into the air. Industrial agriculture has developed and now uses chemical pesticides and fertilizers and irrigation. These chemicals get washed away by rain and by watering crops and end up in the water as water pollution. Industrial agriculture also encourages mono-cropping because it is easier; however, in order to maintain soil fertility, crops are supposed to be rotated every few years, and even need rest time because different crops require different nutrients and if only one crop is grown in that soil, that nutrient will be depleted (Jacobs, 2013).

Feedlots have also become very popular and are the main source for meat in the United States. They as many animals as they can into a small space, so that they can produce as much meat as they can, the cheapest way that they can in order to make as much profit as they can. In the process of increasing production and focusing on profit, in the process, these feedlots have ignored environmental sustainability and have become one of the most polluting organizations. According to the EPA, estimates from the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2011, in the year 2011, agriculture was responsible for 8% of all greenhouse gas emissions produced by the economic sector. These emissions are responsible for approximately

20% of radiative forcing of climate change (Cole, 1997). In addition, they contribute to water pollution because their waste is washed into water sources. These cows, as well as other animals being raised for meat also require a very large amount of food and water, therefore, it is very inefficient to produce meat. It takes 2.5 pounds of grain to produce 1 pound of chicken, 4 pounds of grain to produce 1 pound of pork, and 8 pounds of grain to produce 1 pound of beef. More than half of the grain being produced is given to livestock (Lappé, 2003). Meat production also uses a lot of water. It takes 2,500 gallons of water to produce just one pound of beef; whereas it takes only 25 gallons of water to produce one pound of grain. This inefficient conversion of resources into meat contributes to the issue of hunger because the large amount of food being produced is essentially wasted as it is lost in the high conversion rates of grain into meat. Further, farming meat creates a lot of waste because not all of the parts are consumed. Farming meat is also highly fossil-fuel intensive; 54 fossil-fuel calories are burned to produce just one pound of steak—one pound of steak, which amounts to less than 1,000 calories, uses 45,000 fossil-fuel calories (Lappé, 2003). Production of meat results in very unequal distribution of food—the rich can purchase meat, while the poor cannot even afford to purchase the food that the meat consumes (Steinfeld, 2007).

Cows have also developed immunity to the antibiotics that they are being fed, which has led to problems for the people consuming them. In addition, the pesticides and fertilizers used for industrial agriculture have created resistance to these chemicals and have led to the need for harsher chemicals and even the rise of super-weeds and super-pests that have grown immune these chemicals and can then breed this trait into future generations. There are already many issues with the amount of chemicals used in agriculture today and the need for more and stronger chemicals will only lead to more issues associated with the use of chemicals in agriculture.

A study was conducted comparing the number of hungry people in the world in 1970 compared to 1990, during the two decades that major Green Revolution advances were made. The total amount of food available to each person in the world increased by eleven percent worldwide; however, if China is eliminated from the statistics, the number of hungry people in the rest of the world actually increased by more than eleven percent (Collins, 2000). This phenomenon is due to food's status as a commodity and its unequal distribution.

Where the Issues Stand Today:

Issues interfering with providing food as a right

This violation of human rights by not ensuring food to everyone has been able to continue for so long because international legislation of the right to food is viewed as too vague or cultural and would be too difficult and costly to enforce, as opposed to other civil and political rights, which are typically more straightforward and more easily enforced. With regard to human rights, the government has three obligations in which they are required to meet in order to uphold its people's rights (Anderson, 2013). First, the state has the obligation to respect its citizens. In terms of food, this can mean that the state needs to enhance people's resource base so that they have the means to produce their own food. This includes making sure people have access to land and water and that they have sufficient income to purchase food. Next, the state has the obligation to protect its citizens (Anderson, 2013). This means that the state is required to prevent people's right to food from being violated. Under this obligation, the government is required to protect the resource base and to refrain from acts that would cause deprivation of food. Lastly, the state has the obligation to fulfill; this means that the government is required to take measures to ensure that each person has the right to food. This can entail land reform,

redistribution of resources and even directly providing food to its people when they cannot (Anderson, 2013).

These obligations theoretically should prevent hunger; however, the problem with this current system is that there is nothing forcing the government to uphold this right. The moral right to food does not require any action against the offender in the case that they neglect to fulfill this duty. Therefore, if there is nothing forcing the government to uphold its duty to provide adequate food for its citizens, it is a matter of political will and thus, will require further additions in policy to be added to the current government obligations, and some convincing of the government.

The UNHCR even specifies the conditions necessary for prisoners' food. Prisoners are entitled to a meal that provides sufficient nutrition and that is culturally and religiously appropriate. It is unsettling that the United States gives this right to its criminals, but not its ordinary, innocent citizens. Prisoners' food rights are upheld because they are monitored and prisons are government regulated facilities. The food rights of the rest of Americans are not being monitored and are therefore not upheld nearly as thoroughly.

The countries and people that need food assistance are almost entirely poor people and developing countries. People fear that if assistance is offered to these countries and people, it will only contribute to the problem, because they will become dependent upon help and will not think twice before having more children or messing up at work and getting fired, because they know that they will still be able to get food, and it would be free of charge. Many people are also afraid of this idea because it sounds like communism if the government is simply splitting up resources such as food and handing them out.

Efforts to eliminate hunger in the United States

Today, one in six Americans is at risk of going hungry. Because food is a commodity and is bought and sold for a profit, there is a strong correlation between poverty and food insecurity. In 2012, 46.5 million people—15% of the population in the United States—were living in poverty (DeNavas, 2013). The same year, there were 49 million Americans living in food insecure households; 33.1 million of these were adults and 15.9 million were children. This means that 14.5% of American households were food insecure in 2012. Of these households, 20% were households that included children, 35.4% of these households were headed by single women, 23.6% were headed by single men, 24.6% of these households were black families and 23.3% of these households were Hispanic families (Coleman-Jensen, 2013). In 2011, there were 4.8 million seniors, or 8.4% of all seniors in the U.S., were food insecure (Ziliak, 2013). In the United States, domestic food insecurity is dealt with through various federally funded programs, however these programs are not enough and do not provide enough food for everyone. In 2012, only 59.4 percent of food-insecure households participated in at least one of the major government programs for food assistance (the Supplemental Nutrition Assistance Program, the National School Lunch Program and the Special Supplemental Nutrition Program for Women, Infants, and Children) (Cohen, 2010). Additional help is still needed after the assistance of these programs; therefore, the United States also relies on private non-governmental organizations (NGOs) such as food banks and food pantries. Together, both types of food assistance—governmental and private programs are still not enough to meet everyone's food needs or food rights. Although non-government organizations such as food banks help provide food to many hungry people, they also may be putting off an indefinite solution to hunger and food insecurity, because they deflect attention away from the government and take on some of the responsibility of the State to ensure food for people who cannot provide it themselves.

The Supplemental Nutrition Assistance Program, or SNAP, (formerly known as the Food Stamp Program, or FSP) is the most well-known and one of the largest government programs that provides food assistance to people. It is a public program that supplements the food buying ability of certain eligible, low-income families by providing them with a monthly allowance that can be used to purchase food that will assist in the provision of a nutritional and balanced diet. SNAP has not been completely successful in its aim to provide food to those who cannot afford it, because many people who qualify for the program, do not utilize it (Bougherara, 2007). One reason that it is not fully utilized is that the application process is long and complicated. The average length of the application is twelve pages, and can even be as long as thirty-six pages, in Minnesota. While it is important to be thorough to ensure that the program is not taken advantage of by fraud, it is excessive and is much longer than the application for a gun license (Bougherara, 2007). In addition, all but one state use certification statements written at a ninth or twelfth grade reading level, which is far above the reading level ability of many of the applicants. This obviously poses a problem because these people have no way of receiving help from any government program that requires paperwork that utilizes higher levels of reading ability.

Several studies conducted, found that participation has declined for many welfare programs including SNAP, but this decreased participation was not due to a decrease in the need for these programs. Of the eligible non-participants, twenty-three percent claimed pride as their primary reason for not applying. As stated in the United Declaration of Human Rights, not only is it the State's obligation to provide food for its people when they cannot provide it themselves, it is also their duty to make sure that they provide this assistance while maintaining the people's dignity (Anderson, 2013). Many American households who qualify for assistance from these programs choose not to participate because they claim that the application process is degrading

and embarrassing. This means that somehow the U.S. government is not fulfilling its duty to maintain the recipients of the program's assistance dignity. Among other reasons were: the lack of education about the program and people not knowing whether they qualified, the want to avoid dependence on the government for assistance, concern about the stigma of the program, and the perceived difficulty and hassle of applying, especially with language barriers and interference of work schedules and the times available to apply for the program (Anderson, 2013).

Because assistance is limited, in programs such as SNAP, it often forces people to purchase the cheapest foods possible, which tend to be heavily processed and unhealthy food. Industrial agriculture is able to produce food very cheaply at the expense of the environment. Food produced using these practices is so cheap because they do not internalize their impacts and they are able to get away with degrading the environment (Anderson, 2013). Another issue with these types of assistance is that they are individualistic; they focus on helping people on an individual basis as opposed to the underlying social problems that cause these individuals to need assistance. Another issue with the approach in the United States is that the programs available to help provide food are all supplemental, which means that they assume that the family or individual is able to provide at least some of their own food. This is not the case for many Americans who are homeless and have virtually no income coming in. Homelessness has also proved to be an issue for those applying for federal programs such as welfare and SNAP, because many of the program applications require a home address, or other factors that many people may not have. The applications are also difficult for those who do not speak English very well, or those without the mental capability of comprehending and properly filling out the forms.

One of the major questions is if industrialization of developing countries is a good

solution to their problems of poverty. The world's wealthiest countries are countries that are developed. This is controversial because it can lead to loss of culture and this type of industrialization and development leads to environmental problems and increase of pollution. Research shows that small-scale farming can actually be more productive than industrial farming in terms of calories produced per acre (Lappé, 1998).

Hunger in Canada

An article written in 1999 argues that the prevailing hunger in Canada was result of unemployment, low income, and inadequate welfare and the failure of the Canadian government to recognize and implement the human right to food. In its international human rights law, the federal and provincial governments in Canada recognized their obligation to guarantee the domestic right to food; however, during the time that this article was written, the government began strongly depoliticizing hunger (Riches, 1999). A number of issues in Canada, such as unemployment, child poverty and homelessness began to grow. In response, the Canadian government began to focus its attention on the need for adequate incomes and increasing employment and creating and improving social programs; this is sure to help improve the situation in Canada; however, they neglect to address the issue of food security or the human right to food. This can be attributed to the lack of criticism the government has received for neglecting to uphold its responsibility to provide food for its citizens who cannot afford it and therefore, the Canadian government does not feel obligated to begin working to fulfill their obligation (Riches, 1999).

The author of the article "Advancing the human right to food in Canada: Social policy and the politics of hunger, welfare, and food security", Graham Riches takes on the view of Francis Moore-Lappé that food security issues are the result of inequality and differences in

wealth, he also pushes that the failure to recognize and implement the human right to food is another very strong factor. He states that “not only are the forces of globalization reasserting the commodification of welfare whereby citizens’ rights to adequate social security are being increasingly denied, but, at the same time, the increasing corporatization of food is both creating and exacerbating conditions of food poverty in countries of the South and North, including Canada” (Riches, 1999). He argues that the failure of Canada’s government to provide a social policy that recognizes the significance of food as a social and cultural good that is vital to community health and wellbeing indicates that food security is far off and Canada is taking the wrong approach to solving the issue and any successful strategy towards the eradication of hunger must place the human right to food at the center of its social policies and only then can they work towards ecological, economic, and social justice (Riches, 1999).

Canada should recognize and uphold its people’s right to food because they ratified this right in 1976 in the *International Covenant on Economic, Social and the Cultural Rights*, and again in 1992 in the *International Convention on the Rights of the Child*, and the *World Declaration on Nutrition*, then again in 1995 with the *World Declaration on Social Development*, and then in 1996 in the *Declaration on World Food Security* (Riches, 1999). Canada acknowledges that there is a human right to food; however, they have failed to fulfill this right and have not followed up in any of the agreements or declarations it has made. This is yet another example of governments not keeping their word with regard to fulfilling their duty of providing it’s citizens with the right to food.

Externalities associated with industrial agriculture

Regardless of how much food is produced, there will always be people without access to this food. This paradox is due to three conditions, and as long as these conditions are present,

there will be people hungry. First, farmland is bought and sold like a commodity and therefore, if someone has the means to purchase more, they are allowed to, regardless of how much farmland they may already own. Second, the producers of food lack any sort of bargaining power over the suppliers of farm supplies, or over the buyers of their products such as the food processors or food retailers. This causing many problems for small farmers and gives no incentive for more people to become farmers. And third, the dominant technology in agriculture “destroys the very basis for future production” (Collins, 2000). Soil is being degraded and weed and pest resistance have will become even more difficult in the future to sustain yields.

Industrial agriculture tends to waste a lot of water and therefore, water levels are dropping at a rate that nature cannot keep up with and as a result, water supplies are very low and there are a number of water shortages throughout the country. Much of the water that is being used to water the crops is not actually being used and because there is too much water on the fields, it leads to agricultural runoff. The excess water will flow downhill until it reaches the nearest water source—a river or a lake; it carries with it the soil, which contains chemical fertilizers and pesticides. This leads to water pollution as well as soil degradation. This has become such a large issue that it has completely altered the ecosystem of the gulf in the Atlantic Ocean and has created a “dead zone” where the pollution has caused issues for plants and fish to breathe and grow.

Food Sovereignty

Food sovereignty is an approach to ensuring people the right to food, while maintaining environmental health, and while consciously connecting people with their food. People have become so alienated from their food nowadays that most of the time, they have no idea what all is in their food or where the ingredients were grown, much less the environmental consciousness

of the farm they were grown on, or how the workers who grew the food were treated. Food sovereignty seeks to reconnect people with agriculture and familiarize them with its growth, production and distribution. It uses agroecological methods, which have a minimal impact on the environment, but still maximize production by increasing the efficiency of the land being used (Beuchelt, 2012).

The issue with food sovereignty however, is that it is difficult to measure. While there are criteria that a food sovereign system must maximize its production and improve its environmental sustainability and social justice, there is not an official set of standards or strict criteria for being food sovereign. The U.S. already has difficulty legitimizing food as a right and would have even more difficulty legitimizing the sovereignty of food. While it is a great concept, until food as a right is grounded and the need for advancement is recognized, food sovereignty is likely not a viable solution for the U.S. to establish food rights to everyone (Beuchelt, 2012).

Agroecology

One practice of agriculture has great success in ensuring that its practices sustain and protect the environment, while maintaining a very high output of crops. This method can be described as cyclical, ecosystem-based agriculture. Farms that practice this method of farming tend to be much smaller in scale than typical farms that are utilized in the United States. This type of farming mimics the cycles that already occur in nature. Industrial agriculture is one of the largest producers of waste, which is one of the reasons why that method of farming is so unsustainable (Altieri, 1989). Cyclical farming uses no artificial inputs and creates virtually no waste. All of the “waste” that is provided is put back into the cycle as inputs. For example, a small farm will grow a variety of different crops on small portions of land, and will rotate these

crops and rotate some of them out of use every few years to let them rest. The farm will also raise chickens and pigs. The chickens will be allowed to graze in the fields and will be moved every day to graze a new section so that the field will not be over grazed. The chickens pick out certain types of grass that they need in order to be healthy and they excrete waste, which actually then serves as fertilizer for the grass and will allow it to reproduce itself after it has been grazed. Any waste that is produced from harvesting is put into the pig's pen and they stomp it until it becomes fertilizer, which can be put onto the fields, creating a closed cycle that renews itself.

In Agroecology, a great deal of emphasis is placed on the resilience of the agroecosystem—its ability to recover after a disturbance. In considering resilience and how to improve an agroecosystem's resilience, small-holder farmers often are able to develop effective mechanisms for coping with potential harmful climatic events or natural disasters. This is the same idea that is utilized by corporations that produce genetically modified crops; however, it is executed in the completely opposite way. Agroecology takes a natural approach and uses things that already exist to fix the problem and uses traditional farming practices, whereas genetic modification takes on a very unnatural approach and modifies the crops themselves. Agroecology utilizes science in order to produce the highest yield possible. Scientists have studied all of the principles of ecology in order to better understand ecosystems and agriculture and how to combine them in the most sustainable, yet efficient and productive manner possible (Worster, 1990). For instance, to prepare for a drought, agroecology would develop a mechanism that effectively harvests water and a corporation developing genetically modified organisms may prepare for a drought by creating a plant that requires hardly any water to grow.

It tends to be the case that smaller-scale farms are more productive than larger farms. Currently in the United states as well as other industrialized nations, productivity is measured in

net profit; however, if productivity were measured simply by total output per area, it is found that there is an inverse relationship between farm-size and productivity of land, meaning that the smaller the farm, the more productive the land should be (Perfecto, 2009). This notion was first pointed out by Nobel laureate Amartya Sen in the 1960s. One contributing factor may be that a farmer will know the land and its ecology better if they are dealing with a smaller area of land. Smaller-sized farms are also able to more easily plant a diverse range of crops because they do not rely on machinery that are designed for large areas of the same crop. This ensures that the soil stay fertile and productive (Worster, 1990).

The root of the hunger issue

The issue with the approaches that have been taken against food insecurity is that they only work to address the surface of the main, underlying issue. People are going hungry, but this is not the primary problem, this is simply the resulting issue of the large gap in social inequality in today's society. Only a few hundred individuals, which amounts of only 1% of the world's population, have more wealth than the bottom 95% of the population combined (Allison, 1999). These poor people are the ones who are going hungry, because they cannot afford to pay for food.

The issue of hunger today is unrelated to the amount of food produced. There is a common belief due to Robert Malthus' theory that the earth eventually will not be able to sustain the growing population. Many people believe that because the population is growing so rapidly, that the earth has reached its threshold because the land that is farmable is already being farmed, therefore, this land needs to be pushed to produce even more. This is known as the "Myth of Scarcity" (Lappé, 1998). In fact, there is more than enough food for everyone on the planet; the only issue is an issue of the distribution of this food. In fact, a lot of the food produced is lost in

the conversion of grain to meat. Particularly in the United States, some of the food that is grown is not even intended for consumption. Corn is grown for the production of ethanol fuel for cars or for the creation of plant-based plastic products. Food is a commodity, which means that it is bought and sold for profit. Therefore, if people cannot afford to buy food, they will likely go hungry without assistance from government or charity organizations. Unequal distribution of food is caused by the already deep, and still growing gap in inequality between the wealthy and the poor (Collins, 2000). Those that have their right taken away from them are primarily those who cannot afford to pay for it, which is why there is such a strong correlation between poverty and hunger. There is something very morally wrong about this situation—being poor should not determine whether someone gets to have their right to food. The amount of money someone possesses should not warrant them to starve and have their human rights to food and their well-being and right to a healthy life taken away from them.

The issue is a scarcity of democracy, not a scarcity of food. There is more than enough food in the world for everyone. Currently, the world produces enough grain alone to provide 3,500 calories per day per person (Lappe, 1998). This is more than the recommended daily intake of calories, and this is not even factoring any of the other food being produced. If all foods were considered, there would be enough food to provide a minimum of 4.3 pounds of food per person per day, way more food than any human being requires. In 1997, the American Association for the Advancement of Science (AAAS) found that 78% of children living in developing countries, who are hungry, live in countries that actually have surpluses of food (Lappé, 1998). In a democracy, without access to food, there is no democracy and things like voting and free presses are just wasted constitutional promises claim advocates such as Frances Moore Lappé, Joseph Collins, and Peter Rosset (Shein, 2007). People in the U.S. and other free countries may have

certain rights such as freedom to vote and freedom of speech; however, these rights mean nothing if it is their socioeconomic status that determines whether they are entitled to certain rights such as the right to food.

During times of famine, countries that have large agricultural economies, which tend to be poor and developing nations, will continue to export food, even while there is a shortage of food in their own country. In the early 1970s, Bangladesh went into a famine. At the same time however, Bangladesh was reported to be exporting enough to provide each person about one pound of grain per day, or 2,000 calories—experts say that this amount is severely under-reported however and that they were exporting even more than this (Moore, 2005). Countries of Sub-Saharan Africa, which has around 213 million chronically malnourished people, (25% of the total for all developing countries) export food even while they have so many in their own country hungry. The Sahelian countries of West Africa, which is known for its recurrent famines, have maintained their status as net exporters of food since the 1960s, even during times of severe drought such as the severe drought that occurred in 1982-1985 (Moore, 2005). Throughout the 1980s, exports from this region grew much more rapidly than their rates of imports and 11 countries from this region remained net exporters of food rather than importers. India ranked 16th in the world in 2013 for the highest rate of hunger with 21.3% of the population; however, while India continues to rank among the top Developing Countries for agricultural export (Moore, 2005). In 1994, Brazil had the second highest rate of export among developing countries with more than \$13 billion worth of food, while 70 million Brazilian citizens could not afford to buy food (Moore, 2005).

In the 1990s, there were more than 30 million Americans who could not afford to buy sufficient food; 8.5% of children were hungry and 20.1% more were at risk of going hungry.

During this time, in 1995, U.S. aid shipments abroad included more than 3 million metric tons of cereals and cereal products” (Moore, 2005). Again in contradiction with popular belief based on Robert Malthus that all of the land that can be used for food production is already being utilized, there is still enormous potential for unexploited land to grow food on in Africa. This land is estimated to produce 25-35% more grain than land utilized in Europe or North America (Moore, 2005). Therefore, the issue of hunger is not an issue of a shortage of food being produced, or a shortage of land to produce land on; it can all be attributed to food’s status as a commodity.

These countries are all demonstration of the phenomenon that is happening with regard to poor people’s food rights being ignored simply because they cannot afford it. Currently food distribution relies on either a three-tiered system or even a four-tiered system of production and distribution. First, there are the growers that actually grow the food, then there are the distributors who purchase the raw crops from the farmers, they then can sell the crops in larger quantities to distributors and manufacturers who prefer to purchase larger quantities from a fewer number of sellers rather than small quantities from several different sellers. The distributors then sells this food to either a manufacturer who will use these goods to further develop them into foods that require further production, or directly to a retailer, who will sell the food to consumers at grocery stores. Through this chain of buying and selling, farmers hold the least esteem and are most frequently the ones that are exploited. It is ironic that even small, rural farmers who are producing food do not have enough food to eat because the food that they grow, they need to sell in order to meet quotas and make money.

Unsuccessful approach to giving the right to food

Communist China

In Communist China, people are entitled to food, which provides assistance to many of its citizens and prevents them from going hungry. However, this entitlement is imbalanced and priority is given to those who live in urban areas as opposed to rural regions. During the large famine in 1959-1961, this contributed to the death of several million people. Estimates of the death toll of the famine range from 16.5 to 30 million people, which makes it the largest famine in recorded history. Due to the imbalance of the priority for food distribution the majority of these deaths were of urban peasants and farmers (Tao Yang 2008).

China utilized central planning, and under this approach, China had in place an effective, urban-biased rationing system. In this system, city residents were given certain rights to acquire certain amounts of food. In addition, this central planning required compulsory quotas of grain procurement on peasants. And under this requirement, peasants were only entitled to the residual grain output. At this time, weather conditions made growing difficult and food production in rural areas began to sharply decline. In order to meet production quotas, peasants were required to send all of their yields to reserves and there was insufficient food left for the farmers. This caused the caloric intake of many peasants to fail to meet the requirement for survival; therefore, this urban bias in food procurement and distribution caused a disproportionately high amount of rural residents to go hungry before urban residents. Another cause of this food shortage could be attributed to wasteful preparation and consumption of food. Food was distributed in the style of communal dining and this may have led to a “tragedy of the commons” situation in which people took advantage of the system and would take more food than they needed and ended up wasting it so that in time, there was not enough food for everyone (Tao Yang, 2008).

One case study, conducted by Chang and Wen in 1997 attributes the communal dining system as the primary source of the famine. Their primary evidence for this conclusion is the fact

that the national death rate began to rise in 1958, when food supplies were still abundant and harvest rates were high. 1958 was also the year that many communal dining halls were established. They claim that people began to over-consume and waste food and as a result, food supplies began to drop and then poor growing conditions contributed to the problem, and eventually the famine ensued and death rates continued to rise into 1959 and 1960. This conclusion is debated by many and is not the dominant belief. There are several issues with this rationalization because it is difficult to measure the amount of food that was wasted and how much food that was consumed was “excess” and how much of it was an acceptable amount for the person to consume. Although this conclusion is not proven, this thinking has contributed to the notion that governments cannot distribute food for free, because people will only take advantage of the system and create larger problems (Tao Yang, 2008).

Another contributing factor for the high number of hungry people could be the exporting of crops from provinces by zealous provincial leaders who wanted to show their loyalty to the government. Evidence for this is shown by two provincial leaders in Sichuan and Hunan, who were among the most cooperative and obedient leaders in the region. These leaders exported 2.24 and 0.44 million tons of grain and as a result, starvation increased in these provinces. In Sichuan, the province reached the highest level of export in its history, with 2.595 million tons of grain, despite the growing rate of starvation. Provinces such as Guangdong and Jilin however, decreased their amount of exported grain and as a result, only experienced a mild increase in deaths attributed to hunger. China’s net grain export reached its record high, with 4.2 million tons in the year 1959, and 2.7 million tons in the year 1960, the peak of the famine, when death rates were 25.4 per thousand people (Tao Yang, 2008).

The irony of China’s high rate of export during a time of famine is echoed by many poor

and developing countries in similar situations. This notion reinforces the fact that hunger is a political issue and can be attributed to the fact that food is a commodity and therefore the wealthy use food as a commodity to exploit the poor who cannot afford to purchase food for themselves. The priority of a country in famine should logically be to feed its people; however this is not the case. The country still aims to make a profit even if they need the resource that they are selling.

Successful Implementation of Food as a Right

The Rainforest Alliance

Rainforest Alliance Certification is a type of Environmental Management System that was created in 2007 by Kenyan tea farmers in order to promote sustainable tea production. The Rainforest Alliance takes the same concept that Fair Trade Coffee takes in ensuring that growers receive a fair price for their products, but it takes it a step further and focuses on the environmental impact of agriculture and requires that products are produced in a more environmentally friendly manner than is typically the case. Previously, tea farming was infamous for creating job insecurity and strenuous work conditions, employing children, and depleting environmental resources. The Rainforest Alliance was then created so that farmers could certify that they meet the standards set forth by the Alliance and they are utilizing environmentally just practices for workers and are minimizing their impact on the environment through their farming (Ochieng, 2013).

The Rainforest Alliance is present in fifty-three different countries and has certified thousands of corporate-owned, as well as independent farms, in addition to forestry and tourist operations. The certified members of the Rainforest Alliance are committed against a rigorous

set of standards that address both environmental and social issues. There are two hundred different sets of standards set by the Sustainable Agriculture Network (SAN) that members must adhere to. These standards include factors such as management system, ecosystem conservation, wildlife protection, water conservation, working conditions, occupational health, community relations, integrated crop management, soil conservation and integrated waste management (Ochieng, 2013).

Each farm must have both social and environmental management systems so that auditors can confirm that the farm is up to standard and is in compliance with SAN's regulations; this also allows for better-organized and more efficient farms. Farmers must also conserve the ecosystem they are working in as well as aid in the ecological restoration of critical areas by protecting waterways and wetlands from erosion or contamination, preventing logging and by preventing negative impacts on natural areas outside their farmlands. This type of conservation can be done by utilizing agroecological methods that mimic ecosystems and minimize environmental damage. Farms must also serve as refuge for wildlife; farms must monitor the wildlife species on the farm, particularly endangered species by educating workers, prohibiting hunting and protecting nesting places for these animals. Rainforest Alliance certified farms must keep track of their water sources and monitor their consumption; machinery may need to be modified and new technology may need to be installed to ensure minimal water consumption and to prevent water contamination. SAN requirements also require that farmers ensure good working conditions for all employees; these requirements are outlined by the United Nations and the International Labour Organization and include the prohibition of forced and child labor, discrimination, and abuse. Workers must be aware of their rights and there should be a clear, established salary, work schedule and list of benefits. In cases where housing is provided, they

must have access to water, sanitary facilities, healthcare and education. In order to become Rainforest Alliance certified, farms must also have occupational health and safety programs that reduce the risk of injuries and accidents. This means that workers must be educated on the machinery and agrochemicals used on the farm; infrastructure, machinery and other equipment must be in good condition as well. SAN also requires good community relations, meaning that farmers be good neighbors and inform the surrounding communities of their activities and their future plans. In addition, SAN encourages the complete elimination of chemical products that can be dangerous to people and the environment (Whelan, 2004). Farms must have minimal use of such chemicals but are encouraged to get rid of them altogether. Farmers must monitor pests and use biological or mechanical alternatives to chemical pesticides whenever possible. When these alternatives are simply not an option, they must use the safest and minimal amount of these chemicals possible and use every safeguard to protect human and environmental health. SAN's sustainable agriculture approach is aimed at the long-term improvement of soil; therefore, in order to be certified, farms must take steps to prevent soil erosion and must base fertilization on crop requirements and the soil characteristics of the soil on their farm (Whelan, 2004). They must use organic matter to enrich soil and maintain vegetative ground cover and mechanical weeding in order to reduce agrochemical use. Every year auditors from the Rainforest Alliance go out to inspect the members and make sure that they are following these regulations. Involvement in the Rainforest Alliance is completely voluntary as it is a non-governmental organization; therefore, many farms do not join because they may feel it is easier not to; however, Rainforest Alliance executive director, Tensie Whelan argues that there are many benefits and incentives for companies to join on with them (Whelan, 2004).

A study was conducted to see whether the Rainforest Alliance certification was having

success and if it was actually working to improve working conditions and agricultural practices. Farm managers and workers from farms that were a part of the Rainforest Alliance, and from farms that were not associated with the Alliance participated in the study. The results of this study found that the Rainforest Alliance has brought important social and environmental benefits to its farms that improved working conditions and helped to preserve natural resources; however, there was no difference reported for other important factors such as workers' access to health services and their living conditions on both types of farms (Ochieng, 2013).

Many big corporations have found that they actually save money by reducing their chemical use and recycling their products. It creates good public relations and draws in a certain market of consumers. Employees are happier and therefore are more productive and have higher retention. Many smaller producers have found that they can improve their efficiency of farm and forest management by using fewer inputs and therefore, larger companies are more interested in purchasing their products. Tensie explains that we live in a consumer, capitalist society and therefore, it is unrealistic to expect people to stop using things that are environmentally or socially damaging. People will continue to eat bananas and will still require wood in order to build the things that they need. Therefore, her approach is not how to get people to stop consuming, because this is very unlikely, but to figure out a way to make consumerism less harmful by transforming the way in which goods are produced (Whelan, 2004).

Cuba: The Food Sovereignty Approach

Food sovereignty was spearheaded by La Vía Campesina as well as a number of other rural social movements. Cuba has been one of the only countries able to successfully implement food sovereignty due to its mass organizations and popular participation in national policy by its citizens. This policy in Cuba helped to lessen the consequences of threats such as food price

fluctuations and natural disasters such as the hurricane that occurred in 2008. In order to implement food sovereignty correctly, Cuba has had to show “a profound commitment to agroecology, and an appreciation for smallholder farmer participation in increasing food production and the possibility to design, manage and implement such a model at the national level” (Reardon, 2010).

La Vía Campesina defines its framework of what they call ‘Food Sovereignty’ as: The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers. Food sovereignty prioritizes local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal—fishing, pastoralist-led grazing, and food production and consumption based on environmental, social and economic sustainability (Reardon, 2010).

In Cuba, this means localizing control of the food system, creating equity in access to and control of the natural resources that farmers need to continue to grow food effectively, as well as justice in the social relations within the national food systems. In order to successfully create a working agroecosystem, there must be an understanding that the ecosystem is being modified in order to benefit the people, and it has the ability to return to a state of equilibrium but this ability and the benefits that the agroecosystem can provide require the active participation of the people.

Cuba currently is a universal example of a large-scale conversion to sustainable agriculture. This was not an easy transition and has taken some time. Prior to the revolution in Cuba (pre-1959), 8% of landowners in Cuba controlled more than 70% of the total land and U.S. owners controlled 25% of Cuba’s land (Kost, 1998). Most of the crops being grown were cash crops and were produced for export by these major landowners. After the Cuban Revolution in 1959, land and industry were nationalized, which took some of the power from the Cuban and

American elites and brought them to the rest of the Cuban people. Land reform gave some land to the rural poor. The new Cuban government wished to solve some of its economic issues and thus, began expanding its large-scale industrial agriculture sector, which used chemicals and intensive agriculture method, which increased the amount of crops that they were exporting. At the time, Cuba was doing most of its trading with the Soviet Union—Cuba produces a lot of sugar cane in exchange for other food products, oil and hard currency from the Soviet Union. By the late 1980s, Cuba's agricultural production system was utilizing the technologies produced through the Green Revolution, which required many inputs such as machines, pesticides, fertilizers and seeds.

When the Soviet Union collapsed, Cuba no longer had a trading partner to provide it with the inputs necessary for industrialized agriculture. (The U.S. and many other countries refused to trade with Cuba at this time). In 1992 and 1996, the U.S. created a tight blockade around the island of Cuba, which further prevented them from getting their necessary resources to continue farming the way that they knew how. As a result, Cuba was producing far fewer crops for export as well as for local consumption. The Cuban government needed to increase agricultural production and thus, redistributed land to willing producers and provided them with credit as well as research on low-input agriculture and how this could be extended to a rural community in hopes of breaking free from the agro-export model that was previously utilized and that many countries are stuck in. Cuba's then revolutionary new government had implemented a radical agrarian reform, which prevented any attempts by the elite to reverse these new changes. The U.S. today still has a trade embargo against Cuba, which has forced and allowed it to continue to become more food sovereign.

During the first signs of the food crisis in the 1990s, Cuba's domestic policy-makers

expanded a pre-existing mandate that some land on every farm needed to be set aside for subsistence production and gave more land to those who were working in the field. Policy-makers also revitalized a program from the 1980s that linked small groups of agricultural workers to specified areas of land, which strengthened the relationship of the worker and the land that they worked. Policy-makers also changed food distribution systems in hopes that they would reduce gasoline consumption with reduced transportation needs by creating farmers markets, which reduced the need for unnecessary transport of food.

Cuba has continued with this vision and its goal has been to reduce imports to the absolute minimum possible. In 2008, Cuba spent over \$1 billion on food imports—in response, Decree Law 259 was enacted by Cuba’s National Assembly of Popular Power. This law authorizes the Agricultural Commissions to redistribute idle land to “any Cuban citizen physically fit for agricultural labor” (Yepe, 2008). Landless people could receive up to thirty-three acres of land and those who already participate in agricultural production could receive up to ninety-nine acres. Before this land is granted, the producer and State must make an agreement as to what will be produced and how their production will be managed. There are also limits to buying properties in Cuba. Land is referred to as “social property” as opposed to private property. Land for instance must maintain the socio-economic purpose that the Cuban Constitution defines it; therefore an individual is free to use, enjoy and transfer the land as they wish; however, they must maintain it as agricultural land if that is what they purchased it as. There is also a limit of 67 hectares per individual. This prevents one individual from purchasing a majority of land and forming a monopoly. Along with the effort to push the nation towards food sovereignty, Cuba’s National Strategy for Science, Technology and Innovation requires all scientific endeavors in agriculture to serve to protect and restore natural resources, and to help increase the production

of food to be consumed in Cuba.

In 2009, Miguel Altieri stated that no less than 60% of Cuba's farmland incorporated diversified cropping systems and biological controls and inputs and depend on minimal external inputs. In 2010, Orlando Lugo Fonte, President of Cuba's National Association of Small Farmers (ANAP) announced that over 120,000 rural producers in Cuba were operating entirely organic agroecosystems and 110,000 rural producers applied some form of agroecological principles on their farm. Cuba's National Association of Small Farmers coordinated a movement known as Cuba's Campesino to Campesino Agroecology Movement (MACAC). This mass organization is comprised of rural produces and has helped to move Cuba towards national food sovereignty. MACAC's aim is to support small rural farmers in adopting agroecology—they coordinate exchanges of agroecological experiences, small farmer to small farmer (campesino to campesino). Through sharing experiences, farmers can hear firsthand of successes and failures in practicing agroecology, which will help them in developing their own working form of agroecology on their farm. In these exchanges, farmers learn techniques such as drip-tape irrigation systems, raising beds for intensive organic vegetable production and skills such as how to build new infrastructure and what materials to use for fruit tree nurseries.

Food sovereignty is very difficult to measure as there is no objective scale or exact criteria. Food sovereignty includes factors from a number of different fields including economics and sustainability, which can be quite subjective and is very difficult to measure as well. Therefore, determining the level of food sovereignty is extremely complex. Researchers at the Universidad Central de Las Villas (UCLV) have taken it upon themselves to take on this challenge and have developed a set of indicators of food sovereignty that can be applied at the smallholder farm level. This method can provide that these factors are at least measured

according to the same criteria and therefore can give a more accurate idea of the sustainability of one place compared to another and can show how much progress is being made. The criteria includes factors such as “Integrated Agrobiodiversity”, “Functional Diversity”, “Land Equivalent Ratio”, “Household Food Production”, “Contribution to Community Food Supplies”, “Commitment to Social Good”, “Gender Equity”, and “Participation in MACAC”. These criteria cover the environmental, economic, and social aspects of food sovereignty.

Cuba has benefitted from its efforts to become completely food sovereign. It has saved money by reducing inputs that they previously needed in order to farm; it has also saved money by requiring fewer imports of food because they have been able to grow more of it on their own instead of needing to purchase it from other countries. Agroecology has demonstrated how effective it can be for a poor country in their aim towards becoming self-sufficient and food sovereign. Cuba has dedicated itself to the wellbeing of its people and has realized the importance of providing food for them locally. Cuba was forced to rely on inputs that could be produced locally and has come to understand the need to create resilient food systems. Cuba can serve as a great example of a food sovereign nation for other nations that wish to make this transition.

Belo Horizonte—Right to Food Approach

Belo Horizonte, a community in Brazil has been successful in reducing hunger by ensuring citizens the right to food. Belo Horizonte has been able to do this because there were a number of political changes that allowed them to redefine the disposition of municipal responsibilities and citizen rights. Now, the entire community is involved in administration efforts for things such as food aid (Shein, 2007). In a resolution entitled “Discourse on the Origins of Inequality” Jean-Jacques Rousseau describes the obligations of the powerful to

provide for the weak and explains how food insecurity is a derogation of the laws of nature. Just as it would be against the laws of nature for a blind man to lead a seeing man, or a child to lead an adult—it is against the laws of nature for the powerful government not to take care of its less powerful citizens. He also claims that it is against the laws of nature for “a handful of men to be glutted with superfluities while the starving multitude lacks necessities” (Shein, 2007). He comes to the conclusion that it is not enough for a state to merely “have” citizens and not provide them sustenance. “By this resolution, the Commission reaffirmed that hunger constitutes an outrage and a violation of human dignity, and, therefore, requires the adoption of urgent measures at national, regional and international levels for its elimination” (Shein, 2007).

Before they were able to change policies, first, Belo Horizonte achieved two levels of democratic expansion that were essential in creating an effective system of social programming. First, the government was strengthened, which opened up space for additional participation from larger areas of the outside community. Second, there was a continuous growth of the local involvement from this outside community in the government. This political decentralization of the government allows for innovations to be made and strengthens the community to create programs that will have strong administrative backing. The city has a population of 2.5 million people and virtually none of these people are hungry. Over the past fifteen years, the city and its Municipal Secretariat for Food Policy and Supply have built a unique alternative food system. The city utilizes a number of programs, which are specific for urban and rural areas and are flexible and able to respond to a number of possible factors, but the programs are committed to social justice and equitable access to food.

In the year 1993, Brazil underwent a complete political transformation and transitioned to a new, more liberal form of government. Secretaria Municipal Adjunta de Abastecimento, or

SMAAB was formed with three main purposes of action. First, it was to encompass policies that are aimed specifically at the poor members of the population and those at risk, and to supplement their nutritional needs. This section was taken care of under the Department for the Promotion of Food Consumption and Nutrition, and their aim was to reduce malnutrition, particularly in high-risk groups, as well as to promote healthy eating habits. The second focus for SMAAB was handled by the Department for Administration of Food Distribution and was focused on the private sector of food trade. This department partnered with different food vendors in order to bring food into areas that tend to have shortages of food. It created and enforced policies that would regulate food prices and ensure the quality of basic staple foods. The third goal of SMAAB was to increase food production and supply; this was the responsibility of the Department for Incentives to Basic Food Production. This department provided technical and financial incentives to small farmers for them to produce more, and created direct ties between these small rural producers and the urban consumers, and it promoted other forms of urban agriculture such as community gardens to the consumers.

Over the last fifteen years, after some trial and error and observation and correction, SMAAB has made some adjustments and improved itself. Now, SMAAB's Programs have six main "lines of work" on which they focus—subsidized food sales, food and nutrition assistance, supply and regulation of food markets, support to urban agriculture, education for food consumption, and job and income generation (including professional qualification). First, under the subsidized food sales line of work, SMAAB has established a program known as Resturante Popular ('Popular Restaurant'). As of 2008, Belo Horizonte had three of these restaurants already in use and a forth one being built. These 'popular restaurants' are also known as 'Food and Nutrition Units' and serve food in a cafeteria-style manner and are open to everyone. A

typical lunch will consist of rice, beans, meat, vegetables, salad and fruit or juice and costs around R\$1.00, which is equivalent to about \$0.45 U.S. dollars; breakfast costs R\$0.25, (about \$0.11 U.S. dollars) and a cup of soup for dinner costs R\$0.50 (or \$0.22 U.S. dollars). Also under this subsidized food sales initiative, is the Cestão Popular program ('Popular Big Basket' program). This program is restricted to low-income families that must be registered by the Secretariat of Social Services. This program gives families a magnetic card, which they can use to purchase subsidized food at a number of different locations (usually trucks or vans) throughout low-income areas that they live in.

The next line of focus is food and nutrition assistance. The programs under this line of focus are aimed primarily at children, the elderly, women who are pregnant and nursing, and homeless people because they are high-risk groups for malnutrition. In conjunction with other municipal departments and social assistance agencies, these programs address the specific needs of people and directly provide them with food. One of the largest programs under this initiative is the Merenda Escolar, or 'School Meals' Program. This program was first launched in 1955 and has continued to grow and provide food for 155,000 students in 2007. Federal funding for this program in 2008 cost Belo Horizonte just about R\$2.3 million (around \$1 million U.S. dollars). Another program oriented towards at risk groups, Prevenção e Combate à Desnutrição, ('Preventing and Fighting Malnutrition'), was developed after a study found "that in the early 1990s, 18% of the city's children below five years of age suffered some degree of malnutrition". (Lessa, 2009). Part of this program was that enriched flour would be distributed to pregnant and nursing women, and women of young children in poor communities. This flour contained "a mix of wheat flour, corn flour, wheat bran, ground egg-shells and manioc leaf powder", and is very rich in vitamins and minerals (Lessa, 2009). This program has been adjusted and now powdered

milk and cooking oil is distributed to these types of families. Belo Horizonte also utilizes a ‘Food Bank’, known as Banco de Alimentos. Its objective is to reduce food waste and provide additional food resources to those who need it. These food banks are funded by the government but also receive donations from the food industry. In the U.S., food banks typically supply non-perishable food items; however, the food banks in Belo Horizonte supply primarily fresh produce. This produce is collected from grocery stores and farmers markets instead of being thrown out and contributing to food waste. This produce is then cleaned and vacuum frozen.

The third component of SMAAB is supply and regulation of food markets, which works to ensure a supply of nutritious and good quality food for everyone. One method in which this is done is by increasing the number of places that people can buy good quality food at lower prices. SMAAB has partnered with a number of different private food suppliers (many of which are trucks and vans) and has brought them into areas that previously had no sellers at all and could be considered “food deserts”. The Secretariat sets prices of about 25 of the foods sold by these retailers at 20%-50% below market prices. The Direto Da Roça (“Straight from the Country”) and Armazém Da Roça (“The Country Store”) programs work to directly link small rural producers with their urban consumers. These programs hope to help rural families be comfortable in these rural areas so that they stay and continue to farm, instead of moving to urban areas, which has been a problem and led to increases in Belo Horizonte’s favelas (“shantytowns”). Another program, Pesquisa da Cesta Básica (“Basic Basket Research”) sends out a weekly list of the prices for basic household items and where to find them throughout the city. This is done in order to keep retailers prices competitive and to make sure that people are able to get the cheapest goods available to them. This component of SMAAB has also helped to support 49 different farmers markets and 7 organic farmers markets, some of which are open in

the evenings in order to accommodate customers who work all day and cannot shop during regular market hours.

The fourth tier of SMAAB is to support urban agriculture. This is done through participatory community involvement and a push toward sustainable, agro-ecological methods of farming. Programs include “Community Gardens” in which vegetables and medicinal plants are grown in communal spaces, “School Gardens” in which vegetables are grown at schools and used for school meals and for learning, the “Pro-Orchard Project” in which fruit trees are planted in both communal areas and at schools, and “Workshops for Planting in Alternative Spaces” in which techniques for planting vegetables, herbs and medicinal plants in easily found items such as pop bottles or wooden boxes, are taught. Urban agriculture utilizes practices of agroecology in order to produce as much as possible in the limited urban areas that are available for planting and helps to create a relationship between the people and their food. As of 2008, there were forty-four community gardens and sixty school gardens, sixty-two workshops were held and attended by more than 1,300 people and more than 1,600 fruit tree seedlings were distributed. According to a 2010 survey of 116 farmers, only 3% claim farming as their main occupation and 71% of those interviewed reported consuming something that they produced (Morais, 2012). This is due largely to the success of urban agriculture. The education of these growers about agroecology has led to an increase in species diversity in fields utilizing these methods which has led to increased soil fertility (Chapell, 2009). In addition, by growing food for themselves, families can save money and they will be eating healthily as well.

The fifth line of work of SMAAB is education for food consumption. As rates of obesity and more and more people becoming overweight, SMAAB decided to include a program that would educate the people how to eat healthily in hopes of reducing obesity. SMAAB partnered

with the Secretariats of Health, Education, and Social Policies and offered ninety-five workshops that covered topics such as healthy diets, safe storage of foods, safe manipulation of foods and cooking classes. These workshops were available to children in schools, the children's parents and teachers, and the employees of SMAAB's other programs. Informational manuals and pamphlets are also made so that people can easily obtain this information, which is also available on the city's website.

The last line of work of SMAAB—job and income generation, is achieved through all of the programs created by the other five lines of work. All of these programs have created new jobs for people. People need to teach the workshops, check the quality of food, and check that these programs are being run properly. In addition, a private sector has partnered with SMAAB to offer training for professional qualification surrounding the topic of food. This training has helped prepare people for these new jobs and has helped to ensure that all of the government programs are being run by people who know what they are doing and are educated about food. In 2007, more than 800 people were trained to work in bakeries alone and were taught things such as pastry-making skills.

In 2002, President Luis Inácio Lula Da Silva, of the Workers' Party was elected president of Brazil. He announced that the Fome Zero strategy would be the cornerstone of his social policy and in 2003, he began to look at implementing at a national level the revolutionary approach that Belo Horizonte had achieved at the local level. Fome Zero can be described as “a comprehensive strategy to reduce hunger and other manifestations of food and nutrition insecurity in the country” (Lessa, 2009). Its aims are similar to those of Belo Horizonte, but it includes components that are aimed to strengthen family agriculture and generating income for farmers as well as promoting partnerships between the private sector and civil society.

By far the largest program of Fome Zero is Bolsa Família “Family Grant”, which gives families money directly, which is to be used on food. This is the largest program of this type in the world and reaches 45 million people of 11.1 million families and in 2007, had a budget of more than \$4.1 billion U.S. dollars. Research has found that Bolsa Familia has reduced poverty by 19% and reduced income inequality by 21%. Research also found that Bolsa Familia has been successful in contributing to food and nutrition security and that 76% of the money distributed is being spent on food, which has helped these families to improve their diets.

Although Belo Horizonte has made progress in combating hunger, it is facing new issues of obesity. Belo Horizonte has an obesity rate of 12% and the percentage of overweight adults in the city is 44%. (Brazil’s obesity rate is 13% and the percentage of overweight adults is 43%.) Data shows that fruit consumption in Brazil is very low, though Belo Horizonte has a slightly higher rate of fruit consumption than the rest of the country. Research has also found that 40% of Belo Horizonte’s adults regularly consume fatty meats and 32% regularly drink sugary soft drinks. Belo Horizonte still remains one of the most unequal cities in the world, echoing the structural socioeconomic conditions of Brazil as a whole. Its Gini index in 2005 was 0.61, which indicates “extreme inequality”.

While some issues of food inequality are improving, Belo Horizonte faces other important issues such as infant mortality, which in 2005 infants living in Belo Horizonte ran risk 4.5 times greater than other areas in the world of dying within their first year of life. Belo Horizonte is facing a number of important issues, which unfortunately has pushed food policy lower on the city’s priority list. Despite its more than fifteen years of success in Belo Horizonte, SMAAB has not yet been guaranteed permanent existence. Although SMAAB’s budget has never been more than 2% of the city’s total budget, the city seems to prefer to give its funding to

more established government policies that aren't reliant upon outside partnerships such as SMAAB.

As the value for food and nutrition policy is rising throughout the country of Brazil with the Fome Zero strategy, Belo Horizonte citizens are hopeful that SMAAB will continue to be funded and strengthened. In 2005, the Right to Food was institutionalized for the first time in Brazil's history and the National Law on Food and Nutrition Security (LOSAN) was passed. This law makes the institutionalization of the Right to Food a matter of public policy and an obligation of the state. It states in Article 1 that "...the State, with the participation of organized civil society, will formulate and implement policies, plans, programmes and actions towards ensuring the human right to adequate food." (Brazil – National Congress, 2005: 1; author's translation).

Belo Horizonte's success with SMAAB and its numerous programs began with the unwavering support of Patrus Ananias, the popular mayor from the Workers Party in 1993-1996. SMAAB also owes its success to its very first director, Maria Regina Nabuco, an academic expert on food security issues and her team who was equally committed to making sure SMAAB took hold. The participation of civil society in the Municipal Council for Food Security was also crucial in mobilizing the early policies and programs of SMAAB. All of the participants created SMAAB and its associated programs under the notion that food is a human right and food insecurity is the result of market failures and therefore, government intervention is required to ensure this right and correct market failures that prevent it.

Belo Horizonte's food system is different because the government created it and continues to maintain it. Unfortunately, programs such as those of SMAAB would not have as much success if they were solely created by private parties because they would not have the

funding or the legitimacy of the government to get them started, nor the authority to enforce them. Prior to SMAAB, programs such as Popular Restaurants and School Meals were corrupt and seen as low quality and was known as “poor food for poor people”. Therefore, SMAAB and its creators had some work to do to convince people of its legitimacy and that it was different than previous programs. In order to do this, they had to make sure that SMAAB was an efficient new system free of corruption and was actually high quality food with good service that was not just for the poorest citizens, but was mainstreamed to accommodate anyone who needed it.

SMAAB has been able to maintain its respectable reputation and has been operating successfully for twenty-one years. The emphasis on ‘quality’ has been integral in SMAAB’s success because it is the reason that it has had so much support from citizens. Typically quality is not a top priority in government food programs, but Belo Horizonte has found that the focus is necessary in order to eradicate hunger and all of the other manifestations of food insecurity. In 2008, Carlos Henrique, Manager of the Popular Restaurant Program stated that:

Our secret is the ethics in our work, respect for the people we serve, a philosophy of work dedicated to the neediest population of the city, those who never had access or rights to anything... We wanted to show something new, something which would be ahead of its time from a social and democratic perspective. And this was something innovative, not only for the city, but for Brazil. We wanted to show the country that it was possible to do something of this nature, a good public enterprise (Lessa, 2009).

Belo Horizonte’s case can be used as an example of a “builder movement” that emerged from a municipal government’s initiative against an unjust and unsustainable food system, as opposed to entrepreneurial responses by the private sector. Belo Horizonte is a unique case and has used methods that work for them specifically and has worked to perfect and add to its methods. Belo Horizonte is also unique in that it took this action within the community itself and its policies were not implemented by the federal government; it works on a much more local and customized basis. This has made it easier for enforcing and improving upon itself, whereas if

SMAAB began across the entire country of Brazil, its effects would be harder to observe and it would have been more difficult to implement in the first place. In addition to just dealing with food, Belo Horizonte has worked on other issues of social justice such as poverty and inequality and social exclusion. Belo Horizonte does not just create policies that will cover the surface of issues—its solutions reach deeper. For instance, rural farmers are among the poorest of the city; Belo Horizonte's programs work to connect these rural farmers with urban customers, and ensures that they will have customers to sell their food to, which prevents them from migrating to the city's slums. It has created a number of different programs all addressing different aspects of the same main issue of food insecurity in hopes that each program will reach its target group and everyone will receive the help that they need. Arguably the most important aspect of Belo Horizonte's initiatives are its focus on the quality of SMAAB's programs, which have earned the respect and support of the people (Lessa, 2009).

Discussion

Just within the past couple of decades, the Right to Food has taken off and is on its way to becoming a reality, although this will require changes in attitude, policy, and the way that these policies are implemented. It will take work to make this right a reality for everyone; however, it is the responsibility and obligation of each government to ensure that their citizens will get this right. Many attempts have been made to provide this right to people, but none have been completely successful. Even in the most successful cases, such as Belo Horizonte, it is obvious that progress needs to be made, and at a much quicker pace than it has been. While the governments of most of the countries in the world have agreed to give their people food when they cannot provide it themselves, they have not been keeping this promise to their people and

they are able to do so because we are not holding them accountable. Unfortunately it is the case that the citizens need to make it made known to the governments what is important to them and to force them to do something about it. There are so many issues and without a strong push, the governments will continue to pursue other issues before the Right to Food is properly implemented.

Belo Horizonte has set a great example for the rest of the world by creating a policy that works for them. The general structure of their policy can serve as a template for the rest of the world; however, each individual country, or even city will need to create areas of focus, such as the six lines of work of SMAAB that address each region's specific issues. Belo Horizonte is the best example that currently exists for a system that could work to bring the right to food to everyone.

It is also important that agriculture be transformed into a more sustainable system. This means that artificial pesticides and fertilizers that degrade the earth's natural resources will need to stop being utilized. Small-scale, organic farming is a great alternative to industrial farming as it is much more sustainable and is just as productive, if not more productive. In this sense, if current agriculture systems were all to switch to small-scale, organic farms, production per acre would be increased, nutrition of the food being produced would be improved and environmental degradation would be decreased.

Food has many issues surrounding it besides food insecurity and unjust distribution; nutrition is another important component to the food crisis. It does not matter if people are getting as much food as they can eat if this food is bad for them and contributes to health issues. People need to eat food that is healthy for them. Industrial agriculture's goal is to simply produce as much food as is possible, with no regard paid to the quality of the food being produced.

Smaller-scale farming emphasizes the quality and nutrition of its food and this is why it can be more productive than industrial agriculture. Agroecology encourages healthy food, while maintaining the health of the environment.

Food stamps in the United States have many flaws, but they do help a number of people obtain the food that they need and thus, it is an important and a somewhat successful policy. The government needs to reevaluate this program and make changes so that it can be made more effective. This could possibly remain as one of the many programs that the U.S. can implement to combat hunger. Such as Belo Horizonte utilizes several different smaller programs that all work together to achieve the same overall result, the U.S. could do the same with changes to its current programs and creation of new programs.

It is important that governments work to solve the real root of the issues of hunger and food insecurity, which is inequality. Inequality is really the only reason that there are people going hungry. There is more than enough food for everyone; some just cannot get it because they cannot afford to pay for it. This is where the true injustice lies.

It is also an obligation of the government to maintain its people's personal dignity; therefore they must provide the right to food in a working, ethical and respectful manner. A good way to do this is to make sure that the recipients of the help do not feel like they are charity and to still provide them with quality food and friendly service. The cafés in Belo Horizonte for instance emphasize service and have been very successful; whereas the cafés in Communist China had infamously poor quality service and food and they ended up failing.

Suggestions

My suggestion is that each individual government needs to assess its own people's needs and work to develop a comprehensive strategy to implement different programs addressing each

issue, such as Belo Horizonte has done. Each population is different and they have different needs and different resources. The new programs should work on a trial and error basis and should be frequently evaluated during their early stages and improved upon accordingly. Belo Horizonte has had much success and should serve as a starting point for each government. In the meantime, until official laws are implemented and put into action, the ideals of the Rainforest Alliance should be utilized by other farmers in order to ensure fair treatment of employees as well as the environment while producing healthy food.

The first step to reversing the violation of the right to food is to recognize that production does not need to be increased. The real issue that is causing hunger is inequality; if equality is improved, more equal distribution of food is sure to ensue. Food rights need to be approached from this perspective, or else we will just continue increasing food waste while more people starve. Only once hunger is addressed from this mindset will any sort of major change in levels of hunger throughout the world.

I suggest that we as individuals take some responsibility and do what we can to improve our food system. Eating less meat and dairy or switching to a vegetarian or vegan diet altogether can greatly help to reduce agriculture's impact on the environment as well as help to maintain equality. If there is less demand for meat, some of the feed being produced for meat farming could go to feed people. Eating organic is also very helpful in reducing externalities of agriculture on the environment as it uses less chemicals. Eating local can further reduce agriculture's environmental damage because it uses less food miles and therefore uses less petroleum. Being sure to use environmentally conscious products such as Rainforest Alliance certified foods and other products is another small thing that people can do that can have a great impact. If a demand for environmentally friendly produced food and other products is shown, the

market will grow

Project Analysis

My project looked at several different aspects of food and the issues of hunger and agriculture. The purpose of this thesis was to look at past and present examples of hunger and how it is being helped or not being helped. The next step would be to look at a specific population—for example, the United States and use the collected information and collect additional research in order to determine a working solution to the issue of hunger and to ensure that people are given their human right to food and that the environment is sustained.

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