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November, 2009

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Available at: <https://works.bepress.com/jmazzeo/1/>

LAVICHÈ: HAITI'S VULNERABILITY TO THE GLOBAL FOOD CRISIS

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In April 2008, the global rise in food prices reached a breaking point in Haiti where a series of food riots swept across the country. The majority of Haitians depend on the marketplace for food, especially imported rice. The dependence on the marketplace for food and the rise in prices has caused households to reduce purchases leading to growing hunger especially among the rural poor. Haiti's vulnerability to the food crisis is not a problem of supply; it's because of the high cost of living, lavichè in Haitian Creole. This article poses the question, why is Haiti, a country rooted in peasant agricultural production, vulnerable to the rise in global food prices. I propose that answers to the current crisis come from an understanding of rural livelihoods, strategies for accessing food, and global food policies. Rural households are not subsistence producers. Ironically, they have suffered most from the rise in prices because of their dependence on the marketplace. Changing consumption patterns relying on imported rather than domestic staples have increased vulnerability to rising prices. Additionally, economic policies surrounding the import and marketing of food have further increased Haiti's dependence on imports. Understanding the trends leading to Haiti's current food crisis will help to inform policies and programs aimed at providing temporary food assistance and hopefully lead to more effective development programs. This article is based on research conducted in rural Haiti during the summer of 2008, part of which was for World Vision International as it prepared to mitigate the crisis through food assistance programs.

Keywords: Haiti, food security, livelihoods, development

A convergence of events, including bad weather, mediocre harvests, rising oil prices, inflation, and government-subsidized ethanol programs, have resulted in skyrocketing grain prices across the globe, leading to a global food crisis. The rise in food prices reached a breaking point in Haiti leading to a series of food riots in several cities during April 2008. Haiti's growing dependence on foreign food imports and the recent spike in food prices has caused households to further reduce food purchases, which has led to growing hunger especially among the poor. Since 2004, there has been growing opposition to Haiti's government from both right wing and popular positions. The soaring cost of food in early 2008 and the Préval government's lack of action led to series of food riots that continued there until a plan was introduced to partially subsidize the cost of rice. Riots carried out in the southern city of Les Cayes and the capital city of Port-au-Prince further destabilized the government. Public protest over the high cost of living, lavichè in Haitian Creole, and accusations of mishandling the government's

response to the food crisis contributed to the decision of Haiti's Prime Minister to resign (Seelke and Hornbeck 2008). Following the food riots in April, three large storms hitting Haiti during the 2008 hurricane season further intensified the food crisis. The storms destroyed gardens, killed livestock, further damaged roads, and directly affected 850,000 people mostly in the Department of the North. Of those affected, 262,463 were displaced from their homes and 473 killed or gone missing (USAID 2008).

The Haitian food riots were in response to the high cost of rice, a staple for nearly all households. The majority of Haitians, rural and urban, depend on the marketplace for food, especially imported rice. The dependence on the marketplace for food and the rise in prices has caused households to reduce purchases leading to growing hunger especially among the poor. Haiti's vulnerability to the food crisis is not a problem of supply; it's because of the high cost of living or *lavichè*. *Lavichè* refers to the high cost of living and describes the day-to-day struggles they face to purchase food, send their children to school, pay for housing, or purchase medications. Last year's dramatic rise in food prices and the tumultuous outcomes in Haiti, as well as Burkina Faso, Cameroon, and Egypt, should raise concerns about the impact of future food crises on the political stability of nations.

This article offers some insights on the reasons for Haiti's vulnerability to the food crisis. It highlights the complexity of Haiti's vulnerability as a combination of factors including a growing dependence on imported staples, the ongoing decline of its peasant agricultural sector, as well as domestic and international policies that have prevented the country from achieving greater food self sufficiency. Rural households are not subsistence oriented and have suffered greatly from the rise in prices because of their dependence on the marketplace for staples. Changing consumption behaviors favoring imported and processed foods have also increased their dependency on the market and vulnerability to price fluctuations. Finally, international food policies, such as U.S. rice subsidies, and unsuccessful development policy have further increased Haiti's dependence on imported food.

The urban poor, especially those living in Les Cayes and Port-au-Prince where the riots occurred, are the most visibly affected population by Haiti's food crisis. Making a living in Haiti's urban centers is accomplished largely through informal wage labor or small-scale marketing and virtually all food is purchased on the market. Urban populations not only have to contend with the rising cost of food but also with the rising costs housing and transportation, both essential to an urban lifestyle. However, this article examines Haiti's food crisis from the vantage point of rural populations. It highlights the vulnerability of rural areas to food and livelihood insecurity during the 2008 food crisis despite the perception that rural populations have the advantage of own-account agricultural production to buffer the impact of rising food prices.

SETTING AND METHODS: PRACTICING ANTHROPOLOGY IN RURAL HAITI TO ADDRESS FOOD SECURITY

This article is based on recent fieldwork in rural Haiti during the summer of 2008 following the April food riots. This research was conducted for two different NGOs that

TABLE 1. Comparative Summary of Food Security Related Characteristics of the Three Field Sites

Locality	Department	Agro-Ecological Conditions	Access to Markets	Food Insecurity
Balan	North	Good	High	Low
Borgne	North	Moderate	Moderate	Moderate
Ti Palmiste	West	Poor	Low	High

implement programs to address health and livelihood security in rural Haiti. The objective of each NGO was to conduct an assessment of program activities and to identify ways in which they could better address increasing food and livelihood insecurity. Research was conducted at Ti Palmiste in the Department of the North and one on the Island of Gonâve. A brief comparative summary (see Table 1) of the localities visited will help to identify some of the contributing factors toward food insecurity during the 2008 food crisis. Information about food security, food aid programs, and coping strategies were collected from community members and key informants using several rapid assessment techniques including household interviews, focus group discussion, and key informant interviews. The findings of this research were summarized in an assessment report for each NGO and offered recommendations on food security and livelihood programming.

The 2008 global food crisis quickly transformed into a general food emergency for Haiti because of already faced high levels of poverty making it difficult to cope with increased food prices. Haiti is classified among countries with the lowest human development level, ranked 148 out of 179 countries (UN Development Programme 2008). It is considered to be the poorest country in the Western Hemisphere and the only LDA (Less Developed Country) of the Caribbean region. Between 59 and 82 percent of the population live under extreme poverty. Seventy-six percent of the population lives on less than \$2 per day, while 55 percent live on less than \$1 per day. In January 2008, the price of 110 lb bag of rice rose to \$51, making it difficult for most households to afford the purchase of this popular staple (Egset and Sletten 2003).

Decreasing affordability of imported food further exacerbated high rates of malnutrition. Haiti ranks along with Afghanistan and Somalia as one of the three countries of the world with the worst daily caloric deficit per inhabitant. Malnutrition in rural Haiti is an outcome of the complex synergism between common diseases such as malaria and parasitic infections combined with chronic shortages of food and low food diversity. Approximately 70 percent of rural households eat one meal a day. Chronic malnutrition presents a problem to the health and development of rural children. The malnutrition rate for rural children is 27 percent, compared to 12 percent for urban children. Half of all Haitian children are underweight as a result of malnutrition; nearly one-quarter of children 6 to 59 months are stunted, 3.6 percent are wasted and 22 percent are underweight (World Food Program [WFP] 2008). In response to Haiti's growing food crisis, WFP stepped up its operations in July 2008 to provide emergency food aid to its most vulnerable population. World Vision was one of the implementing partners for the

emergency food distribution and organized general food distributions in its operating areas.

Declining food security as a result of the 2008 food crisis has fueled the biological interaction between these common diseases and chronic malnutrition (in the form of caloric as well as micronutrients) to create a syndemic (Singer 2009). Malnutrition and the high prevalence of chronic infections, including HIV/AIDS, combined with poor access to health care are responsible for Haiti's high morbidity and mortality. Maternal mortality between the years 1994–2000 averaged 523 deaths per 100,000 births and the mortality rate for infants is 57 per 1,000 live births. HIV/AIDS is the leading cause of adult deaths. Haiti is the worst affected country outside of sub-Saharan Africa with adult (15–49 years old) prevalence of 2.2 percent in 2006 with men aged 40–44 at 4.4 percent (Ministère de la Santé Publique et de la Population 2006). The majority of the rural population lives more than 5 km from any health establishment and the poor condition of most health centers cannot offer effective preventative or primary care. Additionally, lack of clean drinking water and sanitation create an environment where parasitic and other infections are common. The majority of rural people get their drinking water directly from unprotected sources such as an uncapped spring or a river and few households have access to a latrine or other sanitation facility. Based on data from a hospital in one of the field sites, the three most common diseases affecting rural populations diagnosed between 1996 and 2001 are parasitic infections (20 percent of patients), malaria (18 percent) and respiratory illnesses (13 percent; $n = 20,074$). The case studies examined in this article all suffer from the levels of poverty, food insecurity, and health problems described above.

One of the case studies from this article is drawn from my ongoing work with project HOPE (Haiti Outreach *Pwoje Espwa*), a small community-based organization operating in the commune of Borgne on Haiti's northern coast. I have been working with HOPE since 1996 documenting their efforts to improve rural livelihood security and address problems of nutrition and access to primary health care. I spent the most of my fieldwork time in Borgne and was able to observe the growing severity of the food crisis first hand. One of its most successful programs, a mobile clinic, brings a team of health care workers and basic medications to remote localities in the surrounding countryside. Many of these localities are only accessible by a several hour walk into the mountains. Medications and lab equipment are hauled on the back of a mule and none of the localities have ever been served by a local clinic. Part of my responsibilities with project HOPE took me to remote rural areas in the commune to observe a rural health care team provide treatment. My discussions with the team highlighted the awareness of how the current food crisis was affecting the health of their patients. They acknowledged the increasing number of malnourishment cases and explained that malnutrition in rural parts of Borgne is fueled by a synergism between the growing shortage of food and the nutritional drain created by chronic infections.

After working with project HOPE, I returned to Haiti in August to work with World Vision Haiti, one of the largest international organizations working in Haiti and a key partner of WFP and USAID in the delivery of food aid. World Vision contracted me to conduct an assessment of school feeding programs and how food aid could be used as a

resource for development. In particular, they were interested in ways to use food to help support the running of vocational training, health and hygiene programs, HIV/AIDS education, and community gardening activities. I visited three of World Vision sites, two near Cap Haitian, Balan and Bordes, and Ti Palmiste on the island of La Gonâve. Each of these sites is a recipient of a general food aid distribution initiated in September 2008. My research in the World Vision localities relied solely on rapid assessment techniques whereas my work in Borgne represents years of data collection and work with local peasant organizations.

VULNERABILITY TO THE GLOBAL FOOD CRISIS: HAITI’S DEPENDENCE ON FOOD IMPORTS

Haiti’s growing dependence on staple food imports was the greatest contributing factor to the 2008 food crisis and still presents a significant problem in terms of food security. In 2006, domestic food production covered less than half (45 percent) of the nation’s food needs, while imports of food met half of national demand and food aid contributed the remaining 5 percent (National Food Security Coordination 2007). Although most of Haiti’s population is engaged in agricultural production, domestic food production does not meet national demand. Imports of U.S. rice and wheat products over the past five years shows a dramatic increase in levels of dependency on foreign food imports (see Table 2). Haiti imported 283,408 metric tons of rice and 142,619 metric tons of wheat between June 2007 and 2008. The quantity of imports has increased and more than doubled over the past five years alone (2003–09) while Haiti’s population has only grown by 7.2 percent during this same period.

The history of international financial aid to Haiti, beginning in the 1970s, was based on a neoclassical development philosophy of “trickle-down” economics that relies primarily on the construction of physical infrastructure and the promotion of export-led industries to achieve their goals. Policies directed at effecting a reduction in poverty have produced a worsening of conditions and an increase in migration as a logical response to economic crisis (Besteman 1995; DeWind and Kinley 1988). According to international donors, Haiti has “comparative advantages” in industry by possessing a hard-working, low-cost labor force, and in export-led agriculture because of Haiti’s proximity to the U.S. and a climate that is favorable to yearlong cultivation. It was anticipated that agricultural and light industrial export-led policies based on these comparative advantages would

TABLE 2. Imports of U.S. Rice and Wheat Products (2003–09), Metric Tons

Imports of US Food	2003–4	2004–5	2005–6	2006–7	2007–8	2008–9
All Rice Products	144,350	157,933	249,673	297,579	283,408	304,355
All Wheat Products	48,258	75,956	129,767	27,996	142,619	110,225

Source: Foreign Agricultural Service 2009.

promote migration from rural areas to urban to fill needed industrial wage labor positions. Stimulating export-led industrialization draws migrants from the rural areas, thereby reducing the amount of labor in these areas, driving up wages, and freeing up land for the commercialization of agriculture. Even though these policies have created new urban opportunities, international competition is likely to keep employment levels and incomes at too low a level to effectively reduce poverty in Haiti (DeWind and Kinley 1988).

Haiti remains the third largest recipient of U.S. foreign aid in the Western Hemisphere at roughly \$246 million or 12 percent of all funds requested for the hemisphere (USAID 2009). However, development policies have done little to improve Haiti's food sovereignty—the ability of farmers to control and invest in the necessary agricultural resources for the purposes of encouraging domestic food security (Windfuhr and Jonsén 2005). Prior to the 1990s, Haitians produced the bulk of the rice it consumed. In 1985, Haiti produced 163,296 metric tons of rice and imported only 7,337 metric tons of U.S. rice. A series of economic policies during the 1990s developed by the International Monetary Fund (IMF) and World Bank encouraged trade liberalization with the aim of reducing food costs in the long term. In 1995, Haiti's tariffs on rice imports were reduced from 35 to 3 percent exposing peasant rice producers to an open market dominated by cheaper, subsidized U.S. rice. Since 1985, domestic production has declined while U.S. imports have steadily grown and in 1992, U.S. imports surpassed domestic production. Currently, domestic rice production contributes a small proportion of the rice that is consumed (Georges 2004).

Haiti's dependence on imported rice and the dramatic rise in global rice prices between April 2007 and 2008 was the greatest shock to its already struggling population. During the year prior to the April 2008 food riots, the price of rice on the international market more than tripled from about \$300 to \$1,000 per metric ton with most of this increase occurring between January and April. Similar to rice, the international price of wheat more than doubled from approximately \$200 to \$450 per metric ton. Since April 2008, the international market prices of rice and wheat have come down, but rice still remain elevated at \$600 per metric ton in January 2009 compared to \$400 in January 2008 (IndexMundi 2009).

The rising cost of rice and wheat on the international market was reflected in Haiti's internal marketplace as consumers watched their household food expenditures climb. In April 2008, the consumer price of rice in the Port-au-Prince marketplace reached \$3.50 per pound. The rise in market prices also coincided with Haiti's main hunger season, April to June, the months preceding the main summer harvest. Household consumption foods purchased on the marketplace peaks during the hunger season making them more vulnerable to increases in food prices. Rice prices continued to rise until August 2008 and peaked at \$5.25 per pound. Prices have since declined but in January 2009 the price of rice remained slightly higher (\$3.70 per pound) than prices in April when the riots occurred. Although the price of rice on the Haitian marketplace increased along with international prices, the consumer price of rice in Haiti has not dropped at the same pace (USAID 2009).

Haiti's dependence on imported staples and the rise in global food prices described above has threatened the food security of rural households. This section examines why the Haitian peasantry has been particularly vulnerable to the rise in global food prices. Rural households are not subsistence producers. Ironically, they have suffered most from the rise in prices because of their dependence on the marketplace. Changing consumption patterns relying on imported rather than domestic staples have increased vulnerability to rising prices. This section examines the how the organization of rural livelihoods and household strategies for accessing food have increased vulnerability to the impact of the Haitian food crisis on household food security.

A household livelihood system consists of the means, relations, and processes of production surrounding one or more specific productive activities. Rural Haitian livelihood systems differ according to the range of activities practiced. The types of activities that constitute a household livelihood system are important, because they determine the resources employed, the timing and duration of required tasks, and the quantity of goods or cash they generate. In rural Haiti, household decision makers coordinate these activities with respect to available resources and output goals, of which food security is the most significant. Household livelihood strategies are deliberate action plans that are implemented to help maintain a positive balance of income against expenditure.

The integration of rural households into the market economy and their dependence on imported food commodities made them highly vulnerable to the rising price of food. Rural households in each of the localities visited during this fieldwork depend largely on the local market for staple food purchases. Haitian households rely on a mixed livelihood system of agriculture and commerce with a dual orientation to meet consumption needs and to generate revenue. Peasant agricultural production is cash rather than subsistence oriented relying on local market sales to generate an income, rather than meeting subsistence needs. Household food security is generated partly from consuming what they produce and from cash purchases of food. Typically, agriculture and the sale of farm goods is the principal revenue stream for the majority of rural households but is also supplemented by other types of commercial trade, fishing, animal husbandry, remittances, wage labor, and charcoaling.

Households strive to meet some food needs through own-account agricultural production and meet the other material needs and remaining food needs by generating a cash income. The value of agricultural commodities at the marketplace and the need for cash give agriculture both subsistence and an exchange function. As a result, Haitian households neither produce everything they consume, nor consume all that they produce. Rural Haitian households must perform a precarious balancing act to match sporadic income against steady expenditures for food, education, health care, and what they take to be other necessities (Woodson 1997). Prior to the 2008 food crisis, few households were able to maintain this balance and after the rise in food prices food expenditures quickly consumed most of the cash available to a household for other necessities.

Haitian agriculture is diversified in its range of crops, intensive in its use of land, subject to high seasonal labor demands, and utilizes low technological sophistication (Murray 1977, Jaffe 1990, Woodson 1990). Agricultural production occurs in small, dispersed, rain-fed gardens where low technology and labor-intensive farming practices produce a variety of crops for direct consumption and market exchange. Two major constraints on agricultural production are shortages of arable land because of population pressure and a degraded environment. A third constraint is control over an adequate supply of agricultural labor during seasons of high activity. Weeding, soil preparation, and repairing drainage canals are regular activities often requiring more labor in a period of time than the individual cultivator can provide. Households may rely on children to supplement the labor of adults. This might delay some children enrolled in school from beginning classes on time.

Commerce is divided into an external marketing system (export oriented) and internal marketing system (marketplace situations). The internal marketing activities serve as an outlet for peasant surplus production, oftentimes surplus that is acquired outside of what surplus is produced by the household. Women dominate internal marketing and this sector is also characterized by low capital, high labor, intense competition, and narrow profit margins (Woodson 1990). Commerce is nearly as common a livelihood activity as agriculture and generates a substantial amount of cash for peasant households. Commerce refers to the buying and reselling of food and consumer staples in Haiti's internal marketplaces. It is the domain of women, because they possess the necessary skills, knowledge, and social connections. Like agriculture, marketing is a labor-intensive activity that exhibits seasonal peaks corresponding to harvests and fluctuating consumer demand. In addition many other factors, such as market size and the purchasing power of customers, scarcity of trading capital is the most likely the greatest barrier to profitable petty commerce. In addition, Haiti's national infrastructure of roads is in decay and the vast majority of the country is only accessible by footpaths. These conditions have made it difficult for rural farmers and merchants to bring goods to market. In some parts of the country, produce spoils because it cannot be transported to markets or the price of transport exceeds the value of the crop.

Haiti's rural livelihood system is in a state of crisis. Food production has been declining for decades and households have increasingly turned to the market to meet staple food needs. Population growth, increasing pressure on the productive capacity of the land, agricultural technologies that require high labor input, and the predatory nature of government are the primary causes of the crisis affecting rural Haiti (Lundahl 1979, 1983, 1992). The crisis in agriculture is a problem of limited arable land and mounting population pressure on a limited land base that encourages intensive production on marginal lands. For a rural population of approximately 3,811,852, households on the average, hold from 0.5 to 1.5 hectares of land in discontinuous plots and of varying productivity (Lundahl 1983). Soil degradation is also caused by the charcoal production, the primary source of cooking fuel in rural Haiti. In response to shrinking supplies of arable land and an increasingly fragmented land base, innovative land holding patterns encourages the continuous exchange of land through sales to meet funerary expenses

(Murray 1977). The implication is that many rural households turn to temporary wage labor when they no longer have access to land for agriculture. Landless households are the most vulnerable to food insecurity caused by rising food prices because of their complete dependence on the market.

Additionally, the role of the Haitian state as an extractive mechanism for siphoning rural production has also contributed the lack of sustainability among rural livelihoods. Trouillot (1990) aptly describes Haiti's ongoing political and economic crisis as a result of the collusion among a powerful merchant class and a predatory state to exploit the peasantry and keep them powerless. The Haitian state has done little in terms of investment to stem the long-term damage inflicted onto the rural landscape. Rather, the state's importance comes from its ability to extract and redistribute peasant production.

A limited and deteriorating arable land base pressured by a growing agrarian population, and the stagnation of rural market prices for agricultural products have been attributed as some of the primary reasons for the low levels of rural productivity that promote many to migrate (Laguerre 1987). Out migration and the remittances sent by family members living abroad offer an effective way of coping with the high food prices. Approximately one in five households receive remittances and the average annual amount sent by remittance companies is \$2,000 (Orozco 2006).

Migration constitutes a substantial part of the economic growth model of the Haitian State. The state views migration as a solution to unemployment and critical to survival. Despite international pressure to limit the flow of migrants, the Haitian government refuses to address the issue and instead uses migration as a way of dealing with unemployment and population pressure, as well as providing a source of income for the country's economy. In 2001, remittances were estimated at \$672,000,000 and in 2006 are estimated at just over \$1 billion. In 2003, remittances accounted for 30 percent of Haiti's GDP. This figure still doesn't account for cash sent through unofficial channels and for commodities. Most relatives live in either the United States or the Dominican Republic. About half of all remittances are sent to rural areas most of these in the Department of the West (Orozco 2006). However, the global economic slowdown has dampened the amount of remittances being sent home. Recent data indicates that remittances are slightly lower in January 2009 than a year earlier, falling from \$71 million to \$69 million (USAID 2009).

CASE STUDIES IN RURAL FOOD SECURITY

The structural obstacles to rural food security and the changing patterns of food consumption described in the above sections have contributed to Haiti's vulnerability to the recent global food crisis. Solutions to Haiti's food crisis that address these structural obstacles are made more complex because of significant variation between localities, for example local ecological conditions, access to markets, and the availability of social support, making a one-size-fits-all intervention nearly impossible to design. The research conducted over the summer of 2008 in collaboration with two NGOs assessed

community and household vulnerability to the current food crisis and examined the prospects for improving long-term food security.

The following section presents summaries of case studies based my work with project HOPE in Borgne and World Vision in Bordes, Balan, and Ti Palmiste. The two case studies offer a description of key characteristics that highlight sources of vulnerability and how these have influenced local food crises stemming from the national rise in food prices. These case studies address some of the themes raised in earlier sections of this article: the means by which the population access food, either imported or own production, the obstacles to food security, and the role that development and relief efforts have played in improving food security. The discussion of Borgne is the most developed because of my ongoing research in the area since 1996 with HOPE. Also, the discussion of Borgne is based on findings from several different rural localities whereas the other two case studies are limited to a single locality. The World Vision case study offers useful points of comparison, but my knowledge of community history and conditions of food production are more limited given the shorter duration of my fieldwork.

A common finding among all of the study sites is that household vulnerability to the food crisis depends on the position of the household in the marketplace, its ability to diversify income sources, and its access to food from its own account production. Discussions with households in all of the field sites revealed the range of extraordinary survival strategies adopted during this ‘abnormal or crisis’ period that permitted them to ride out the food crisis. Given the current ongoing nature of the food crisis, some “temporary” survival strategies may become permanent. When I talked to individuals about how they were coping with food prices, many would begin the discussion by sucking their teeth and shaking their head as they explained how they had been trying to make ends meet despite *lavichè*. In rural areas, coping strategies are centered on the purchase of food using credit and loans, as well as labor migration within and outside the country, sale of animals, sale of land, and reduction in the quantity of food consumed and other expenditures. The long-term livelihood impacts of these coping strategies will further entrench households into poverty and further exacerbate malnutrition.

The first case is the commune of Borgne, a rural area located along the coast in the Department of the North approximately two hours west of Cap Haitien, Haiti’s second largest city. The commune has two small semiurban centers, each with a central marketplace where locally grown produce is purchased and sold alongside imported commodities including rice, beans, cooking oil, wheat flour, pasta, and other basic foodstuffs. The majority of the population is engaged in peasant agricultural production and the resale of these goods in the nearby markets. The ecology of Borgne is diverse. A fertile river valley contains the most productive lands, but most of the terrain in Borgne is rugged and many households cultivate gardens on marginal lands characterized by thin soils and located on steep mountain slopes. Many of these gardens are showing signs of severe soil degradation and erosion because of continuous, intensive cultivation. Because Borgne is located along the coast, it was also prone to massive flooding during the storms that hit Haiti between August and September causing many gardens to be heavily damaged. Staple crop production includes maize, roots, and tubers such taro and

yams as well as a variety of plantain. Few peasants cultivate rice, besides those who have access to land in the river valley and coastal plains. Rice is the staple in Borgne, but has to be purchased. Few households consume maize or other staple crops as they do rice or in some cases pasta. Other staple food crops are typically boiled and served along with rice or eaten as a substitute when rice is not available.

There is little opportunity for income diversification or wage labor employment outside of agriculture. However, many residents in the area have family living overseas and benefit from remittances. Borgne's location on the northern coast makes it a strategic launching point for boats destined for the Bahamas. The remoteness of Borgne and the high cost of transport have also limited the ability of farmers to access larger markets in Cap Haitien where they can earn more on the sale of their crops. As a result, many farmers sell their produce to market intermediaries who purchase bulk goods and transport them for resale in larger cities. These intermediaries often use the cash earned to purchase rice and other imported foods for resale in Borgne. As a result, the cost of imported food in Borgne is higher than in larger urban areas. The cost of imported food in Borgne reflects transaction costs during resale, the limited availability of imports in the area, and the high cost of transport.

Interviews with residents during June 2008, the peak of food prices in Haiti, revealed that most households had cut back on the purchase of rice and were consuming other, although less preferred, staple crops such as boiled plantain. However, the timing of the food crisis, during the hunger months, limited the range of foods that were available for consumption. In some cases, households were digging up immature taro plants to remove small sections of root to stave off hunger. If the rise in food prices had occurred after the main harvest, households would have been in a better position to rely on their gardens for food. As a result, many of the residents I talked with discussed the fact that they had no choice other than to purchase imported food for the time being. As a result, some households were considering not sending their children to primary school in the approaching fall if food prices did not subside.

Remittances are especially important in Borgne where almost everyone knows someone who lives abroad in the United States, Dominican Republic, or the Bahamas. Cell phones and money transfer services enabled families living in Borgne to ask relatives for assistance. Asking for help or calling in favors was the most effective way of coping with the crisis. Several merchants in town offer money transfer services and where relatives can wire cash and it can be collected and immediately used to purchase food or pay for other expenses such as school fees. When available, calling on help through remittances was the first choice for households as a way to cope with the food crisis.

There have been significant efforts by grassroots organizations to address the long-term processes that lead to chronic food insecurity and dependency on food imports. Borgne has benefited from ongoing partnership between the project HOPE and a highly active peasant movement (GPB—Gwoupman Peyizan Borgne). Borgne has never benefited from any significant distributions of food aid and the majority of development work in Borgne has been at the grassroots level. Over the past ten years, project HOPE has worked with community based organizations part of the broader peasant movement on

income generative initiatives such as a processing mill, a bakery, a women's marketing group, a microcredit program, and, most recently, a reforestation project. The ability of project HOPE to continue making strides after more than ten years has much to do with its ability to work collaboratively with the GPB and benefit from GPB's ability to mobilize satellite groups in all of the commune's zones.

The goals of the reforestation project, managed by GPB and funded by project HOPE, address many of the obstacles to rural food security including the value of trees for soil conservation (trees represented a long-term agricultural investment), the value of fruit as a food source, and the wealth generated by precious hardwoods such as mahogany. A total of 13,000 seedlings grown from locally produced seeds were distributed to over 100 participants from localities throughout the commune. Participation in this project was especially active because it offered participants a way to respond to the current food crisis by planning for an uncertain future. The goal of the project is to eventually increase forest cover in Borgne by 10 percent and to offer peasant households another way of coping with crisis.

In August 2008, I returned to Haiti a second time to work with World Vision International. The following case studies are based on a rapid assessment of food aid programs in three different localities. Vulnerability to food insecurity among the rural populations living at the World Vision sites is characterized by insufficient access to basic health care, lack of drinking water coupled with poor hygiene practices, causing parasitic diseases. The sites visited include Bordes and Balan, also located in the Department of the North, and Ti Palmiste located at the center of the island of La Gonâve. In comparison to project HOPE in Borgne, World Vision possesses significantly greater financial resources for development and is implementing various food aid assistance projects. Similar to project HOPE, World Vision also depends on local participation, however its projects are often generated and funded from the outside. Additionally, there is less collaboration between World Vision staff and community organizations than the kind of relationship project HOPE has with GPB.

Peasant agricultural production in Bordes and Balan benefits from fertile soils, flat terrain, and sufficient rainfall. These two localities receive similar amounts of rainfall as Borgne, but are not threatened by the storms that affect the coastal areas because they are located far enough inland. Although households could likely achieve self-sufficiency in Balan and Bordes, they have a market oriented agricultural strategy and remain dependent on the market for staple foods. Balan's proximity to Cap Haitien creates a demand for locally grown agricultural commodities and transportation costs are low. Households stand the greatest chance to efficiently transform crops into cash because they don't depend as heavily on market intermediaries as more remote rural areas. Additionally, the demand for skilled and unskilled labor in Cap Haitien offers another means to households for earning cash outside of agriculture.

Ti Palmiste, a rocky three-hour drive east of Anse-A-Galets, is the only urban center on La Gonâve and is much smaller than Cap Haitien. In contrast to the other World Vision sited visited, Ti Palmiste is the most ecologically unsound locality with poor soil fertility, thin topsoil, sporadic rainfall and seasonal droughts. Compared to the rest of La

Gonâve, Ti Palmiste is actually better off in terms of its ecology. Areas around town of Anse-A-Galets are virtual deserts with rocky soils making agriculture extremely difficult. World Vision has had to introduce drip irrigation systems in its community gardens on La Gonâve to protect them against drought. Generally poor production in Ti Palmiste has increased the dependency of its inhabitants on imported foods. Levels of poverty are higher compared to Balan or Bordes because of poor agriculture, the lack of informal employment, and the higher cost of living because of the price of food. Rice and other imported foods have to be shipped to La Gonâve and then transported to Ti Palmiste. At the same time, the cost of shipping crops off the island make it nearly impossible for peasants to compete in the large markets of Port-au-Prince. Therefore, most crops that are sold are done so on Island's internal marketplace and consumed locally. Additionally, there is little opportunity for income diversification outside of agriculture. As a result, households in Ti Palmiste have little means for coping with *lavichè*. Of all the sites, Ti Palmiste has the highest levels of food insecurity and is most vulnerable to the food crisis.

CONCLUSIONS: REDUCING VULNERABILITY TO A FUTURE GLOBAL FOOD CRISIS

The convergence of several long-term processes affecting rural food security in Haiti, most importantly declining agricultural production and increasing dependence on foreign staples, left rural populations vulnerable to the dramatic increase in food prices that culminated in the April 2008 food riots. This goal of this article has been to shed some light on the factors that have contributed to Haiti's vulnerability to the current food crisis and the strategies rural populations have employed to cope with *lavichè*. If these long-term trends go unabated, Haiti's vulnerability to future global food crises will continue to deepen and a greater proportion of the rural poor will be unable to cope. This research was conducted in collaboration with project HOPE and World Vision Haiti to help inform programs aimed at assessing the viability of safety net programs and for improving the sustainability of rural food security.

This article has argued that more attention should be paid to the food crisis affecting rural populations. Of those at greatest risk are the landless poor who depend heavily on the market for their food. Peasant livelihoods in Haiti are market oriented and households do not grow crops for subsistence consumption. Cash generated from crop sales is an important component for ensuring household food security. The loss of agricultural productivity because of ecological degradation stems from cultivation of marginal lands with little investment in soil fertility and the use of trees for charcoal. Population pressure on a limited land base and the need to earn a living from crop sales has intensified production. Increasing population pressure on the land has encouraged some to migrate overseas or to Haiti's densely populated urban areas. The assistance from relatives during the 2008 food crisis was invaluable in coping with the high price of food. Households that did not benefit from remittances had to turn to livestock sales or possibly land sales to meet their immediate expenditure needs. These strategies depleted already limited

sources of capital and savings. The result was a loss of long-term livelihood security and increased vulnerability to a future food crises.

Food aid was an essential component in the alleviation of hunger associated with *lavichè* following the 2008 food crisis. World Vision Haiti was a major partner in the distribution of food aid provided by World Vision, but the organization recognizes that food aid is not a solution to chronic food insecurity in Haiti. It is neither sustainable nor does it address any of the long-term processes creating vulnerability. It also has the potential to further damage Haiti's already struggling agricultural sector by flooding markets with free food. However, to date there are few viable solutions proposed by the largest aid organizations for reducing Haiti's vulnerability to a future global food crisis. Existing development models have proven to be ineffective or slow working at best. However, the best cases of success can be found in the work of small NGOs that work closely with existing social organizations. For example, project HOPE has made significant strides in improving health care and developing a sustainable model of primary care outreach. However, these collaborations often lack resources for project implementation and encounter difficulties in replicating their successes in different localities. However, the lesson learned from this type of work is that more development approaches need to make long-term investments in rural livelihoods and to prevent further damage to the environment.

Since April 2008, USAID reports food availability and access as improving. The estimated number of food insecure has gradually dropped from 3 million to approximately 2.8 million or roughly approximately one-third of the population. Alleviation of the food crisis has largely to do with the decline in staple food prices. Assuming household income sources have remained stable, food access is predicted to improve. However, annual crop production from the spring and fall was lower than the previous year and commercial imports are expected to play a significant role in helping most Haitians to meet their food needs in 2009 (USAID 2008).

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