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The Future of Food in Guyana

The Situation

Rising food prices are affecting people around the world. Among those who are being hit the hardest are the low-income and poor in developing countries. Many are struggling to pay these higher prices with their already low incomes. Experts have called this growing food security crisis the "silent tsunami." Among the nations struggling to combat rapidly escalating food prices is the relatively small country of Guyana, located on the north coast of South America. Within Guyana's borders, roughly 40 percent of the population falls below the poverty line. This high percentage is the result of many factors. Small rural farmers are unable to climb out of poverty due to:

- Competitive marketing by corporations and government controlled industry
- Lack of government programs and assistance
- Population growth
- Limited resources such as arable land, and available financial aid

Meanwhile, the urban poor are caught in a never-ending cycle of too little income to pay their bills. Their low-paying jobs in factories and the sugar industry can't stave off hunger any longer. For a moment, let us focus on the evolving problems for a subsistence Guyanese farmer. Each day the farmer goes out to work in his fields which are located in the overcrowded coastal region of Guyana. Like his ancestors, he farms sugar and rice on his small plot of land. The majority of the sugar fields belong to the Guyanese government, leaving private farmers, like him, with the less fertile outlying lands. This means that he is hard pressed to be competitive with sugar prices in the local market, because his small acreage cannot produce nearly enough to cover the cost of the production if he sells at too low a price. It was difficult to make ends meet in the past, and now that food prices are on the rise, he doesn't know how his large family will survive. Each day is a constant battle to fight hunger and the ever present disease of AIDS. If something doesn't change, this farmer's entire life could change, and not for the better. In the past year alone, farmers have seen wheat prices rise 130 percent. As these alarming developments unfold, the government of Guyana has begun to react. The first step taken was to cut the tariffs on certain imported food items and to subsidize many food companies to prevent prices from rising on the consumer level. These actions may be benefiting the people of Guyana now and perhaps will continue to help them in the near future; however, these practices could prove to hurt the country in the long-term. By taking away taxes and putting more money into companies, the country will have even fewer funds at their disposal. This begs the question, "What can the people of Guyana do to protect themselves from food insecurity without producing long-term negative effects?"

The Causes

In order to properly answer that question, we must look at the reasons why food prices are escalating so quickly. Is there really a shortage? I do not believe that what the market is experiencing today is truly a food shortage. On the contrary, I believe that what is occurring is at least partially the result of market speculation, which drives up the cost of grain based food products. The price of grain on the futures market rises and falls day to day; much the same way the stock market does. I believe that the price of grain is continuing to increase due to the artificially inflated market rather than to actual food shortages. Emma Vandore of the Associated Press reports that "High oil prices, changing diets, urbanization, expanding populations, flawed trade policies, extreme weather, growth in biofuel production, and speculation have sent food prices soaring worldwide…". If the world were truly running short on grain, then the lack of food in some countries could be due to an imbalanced distribution of the grains. This would

cause the poorer, developing countries to be hit harder by hunger than larger, more developed countries. A third reason for rising food prices and increasing shortages is directly linked to the fuel market. As the price of gasoline rises, so does the cost of shipping food. In the past three years alone, fuel prices have risen 400 percent. In countries that are not able to produce all of their own food, the cost of getting food into the country has risen substantially. This brings to mind the current issue of food versus fuel. Using food sources for producing ethanol and bio-diesel has become controversial. Taking all of these factors into consideration, I feel that Guyana is highly vulnerable to price shock in the near future.

A country's infrastructure has an impact on the conditions that its population experiences. In order for a country to gain a firm foothold on the world stage and be sustainable, it has to change many times over. Let's take a look at America, for instance. When settlers first arrived in America, their main form of support was agriculture. Everything they did was tied back to agriculture. As more and more people came to America, there was no longer the need for everyone to live and work on the farm. Rural life gave way to urban life as people began moving to cities and taking jobs in factories. Tractors and more refined equipment took the place of the farm hands. Thus began the industrial age. Another shift occurred as America became more and more technologically advanced and large companies began moving overseas to profit from the developing world. The point is that America has evolved and changed many times since her inception, but Guyana has not. Back in the early 1600's when Dutch settlers arrived in Guyana they formed farming communities much like those in America. However, over the years Guyana has become stuck between the agricultural age and the industrial one. Many Guyanese people live in cities and work in factories, but the country remains mostly agricultural, and the government remains marginally effective as a catalyst for change. The solutions for Guyana will not be the same as those for America, but with time Guyana should be able to thrive as a well-developed and stable country.

The Solutions

There are many rich possibilities for Guyana. The country has many resources that often seem untapped. I believe that the approach Guyana should take encompasses a multi-faceted, broader solution:

- Loosely connected groups of producers coming together to market their wares in the form of "cottage industries"
- Replacing some of Guyana's current oil consumption with renewable energy sources such as wind energy and solar power
- Expanding and capitalizing on the rich bauxite industry within the country
- Improving agricultural infrastructure in the form of drainage and irrigation

A Cottage Industry

A cottage industry consists of loosely connected groups that work to produce a product that they can market as a whole. Around the world, there have been many successful cottage industries that have lifted the poor out of the ruins of poverty. For example, India currently has a very successful match industry. This industry has three tiers of production: mechanized, semi-mechanized, and handmade. The latter two methods employ 50,000 households. Most of these households consist of poor or low-income families that are able to do the work within their homes. This provides work, income, and matches for many Indian families. In order to protect the livelihood of these people, the government of India has placed high taxes on all imported matches. This provides the participants with a ready market in which to sell their wares. In much the same way, subsistence Guyanese farmers could implement and benefit from this same infrastructure.

Such enterprises would especially benefit Guyana due to the limited amount of arable land in the country. The narrow coastal strip is home to all of the cropland in the country and makes up only 2.23 percent of the country. Of that land, only .14 percent is suitable for productive crops. In a country with so little arable land, cottage industries could provide relief for struggling farmers. A few examples of suitable products include a unique candy made from remaining molasses or sorghum, handmade, decorative baskets woven from rice straw and sugar cane leaves, the use of small livestock and poultry, decorative rugs woven from the fibers left over after harvest, and many other things as well. The cottage industries that would benefit these families the most would be centered on a product or material that is already readily available for use. In this way, there would be little cost in the production and the farmers would reap almost 100 percent profit. If the industry became viable and continued to grow, the farmers could then approach the government for assistance in the form of taxes on the same imported goods, in order to help guarantee a market for their product. I believe that this would greatly benefit the small subsistence farmers of Guyana by contributing additional income to the family farm while requiring only a minimal cost and a limited amount of space.

A very unique possibility for a cottage industry in Guyana comes in the form of chickens. Why chickens? Poultry is in high demand in Guyana, and by capitalizing on this demand, small farmers could reap great benefits. This particular cottage industry is very diverse and has many options:

- Raising chickens for meat production, known as raising broilers
- Raising hens for egg production
- Using chicken by-products, including feathers and offal
- Producing fertilizer from chicken wastes

For families raising broilers or hens, feeding would account for 60-70 percent of the costs. In order to keep these expenses down, the families could feed the chickens with left-overs from their family gardens, allowing them to free-range for the rest of the time. As they expand, they could seek out corporations that end up with copious quantities of food wastes. A few examples of such wastes in Guyana that would still have enough nutritional value to raise chickens include potato peels, trimmings from cabbages, pak choi, cassava, unused molasses from sugar refineries, and the left-over fiber after the production of coconut milk. Housing for the chickens could be very basic, as chickens do not require much area. The time needed to grow broilers is very minimal, taking only 7-8 weeks. This would afford farmers a very quick turnaround between the time when they spent money on the birds and the time that they see the profits. On the other hand, egg-laying hens will remain productive and fertile for as long as 3 years.

Aside from producing eggs and meat, chickens afford the possibility for other enterprises as well. After butchering, there are left-over parts, including the entrails which are commonly called offal. Offal is used in the production of animal feeds, fertilizers, and fuels. To make the most of their chickens after butchering, the farmers could sell this additional product to companies that are able to process it, bringing the farmers additional revenue. Another form of offal is a chicken's feathers. The farmer could take these feathers and separate them into down and outer feathers. Down, the soft under feathers, could be made into a product such as pillows or sold to other farmers for their use. Yet another way these foul could benefit the families is by the use of the chicken wastes as a fertilizer. The market price for fertilizer has risen steeply within the past year. This makes it increasingly hard for small subsistence farmers to buy the fertilizer that is necessary to enrich their cropland. By using the chicken's wastes as a form of fertilizer that is rich in nutrients, these farmers could increase their crop yields over time. This would in turn lead to increased revenue that would allow them to improve both their poultry enterprise and their crop production. By expanding their poultry, they could begin to form a

viable and profitable fertilizer product that could be marketed locally to other struggling farmers. In this cycle, the farmer gains from year to year whether he is selling meat, eggs, by-products, feathers, down, or fertilizer, all originating from the same source.

Fuel for Guyana

Another issue occurring world wide, is the sharp increase in the cost of fuels. Small countries like Guyana who do not produce their own fuels are dramatically affected. By relying on foreign businesses, the government of Guyana is highly susceptible to price shock. Each day Guyana consumes 10,500 barrels of oil. Out of these barrels, 10,070 are imported from foreign markets. On top of that, 99.4 percent of Guyana's power is derived from fossil fuels. The remaining .6 percent is powered by hydro-electricity. The effect on the public in Guyana is that their electricity bills are rising quickly. In fact, on April 14, 2008, 1500 sugar workers marched, protesting the high electricity bills and rising food prices. This demonstrates the need for another energy source in Guyana. There are several options for diversified energy sources, including wind energy, solar power, and hydro-electricity.

Due to Guyana's heavy winds and coastal location, the country could benefit the most by implementing wind farms. These wind farms would be equipped with turbines that harness the energy of the wind and convert it into electricity. The next most viable solution would be solar power. As the technology becomes more and more refined, solar power has become more affordable. The last option is hydro-electricity. This option would rely on Guyana's many rivers and sources of fast moving water. There are already several such operations in use, including one at Amalia Falls. In just this one project, there is an estimated potential for 7,000 megawatts. By relieving the country of the huge fuel bills, the population would begin to see the prices settle back down. This would allow each family to spend less on electricity and more on other important aspects of life: health, food, and clothing.

Rising fuel prices again bring to mind the issue of food versus fuel. Many countries have begun to use their grain supplies for the production of ethanol and bio-diesel. By using a food source for fuel, prices of certain commodities have risen substantially. There is great potential for biofuels in Guyana due to its plentiful sugar cane crop; however, I do not believe that producing biofuels will prove to be the long-term solution for Guyana. While it would replace some of the imported fuels, unless new cellulose technologies were made viable, Guyana should not use its sugar cane crop for the production of fuels. If cellulose biofuels were made profitable, Guyana could greatly benefit from this source of fuels. Until that day, food wins the battle of food versus fuel in my mind.

Gaining Market Strength Through Increased Exports

A third possibility for Guyana is to help stimulate the economy by increasing the country's exports. Currently Guyana spends $563.1 million on imports to the country, and receives $494.9 million on exports. These statistics leave Guyana with a national debt of $68.2 million. In order to alleviate this debt, the country will have to increase their exports. One possible venue for profit is Guyana's already successful bauxite energy. Bauxite is a mineral that is mined in order to form aluminum. This industry in Guyana could be expanded and capitalized on in order to increase its profitability. The bauxite is sold in its raw form to markets. If the bauxite were sorted and smelted down into aluminum, it could then be manufactured, made into a reproducible product, and sold for a higher price. This would create a new industry for Guyana as well as open up many jobs for Guyanese workers. By increasing their national exports and lowering their debt, the government of Guyana could then afford to spend more money balancing the economy of the country with regard to both agriculture and manufacturing.

Agricultural Productivity

A very basic approach can be taken for what I see as the last area to be taken into consideration. With most of the country being agricultural, Guyana needs to perfect its farming practices until it runs like a well-oiled machine. Currently the government has been implementing a program called "Grow More Food" which promotes an emphasis on agricultural development in order to combat food insecurity. One of Guyana's problems lies in the drainage and irrigation of its croplands. Recent floods have taken their toll on the average farmer. Kurt Jordan, a long time resident of Guyana agrees that, "We struggle with changing weather patterns and lapses in the maintenance of our drainage and irrigation systems." This lapse in the maintenance of these systems results in flooding and imbalanced growth throughout the crops. If World Bank or the Inter-American Development Bank (IDB) were to step in and fund getting these systems back into working order, the farmers would experience a much higher degree of success. The other factor that has a negative effect on the farmers of Guyana is their limited clout in the market. If these individual farmers were to join together into an agricultural cooperative, they could benefit from the increased output and their resulting position of greater strength in the market. The combination of these two solutions would provide the greatest and fastest relief for the struggling farmers of Guyana.

Summary

Food insecurity has swept through the world at alarming speeds, but there are ways to combat this crisis. To the poor, hunger seems unconquerable and the "silent tsunami" all too loud. To the hungry, it seems to never end. In small countries like Guyana, as with most problems, there are many factors to be considered and many solutions to be mulled over. To me it seems like a puzzle with pieces that fit together intricately. My research has answered some of my questions while also leading to additional ones. Unfortunately, there is no single magical solution for Guyana; rather, I believe there is a multi-faceted approach which encompasses many pieces of the puzzle and a broader view. The first piece of the puzzle comes in the form of cottage industries. These industries could be implemented swiftly and easily. By diligently utilizing their natural resources and capabilities, Guyanese farmers could become successful entrepreneurs. The second piece focuses on the rising cost of living due to sky-rocketing fuel prices. These prices have a ripple effect that reaches into nearly every aspect of life, not simply at the pump. The use of renewable energy sources in Guyana could lessen the strain on Guyana's already suffering pocket book by reducing dependence on fossil fuels. Improving and expanding the country's current exports is the third piece. As food and fuel prices escalate, Guyana continues to see a trend of increasing debt to foreign nations. By strengthening its exports, Guyana could hope to regain some precious lost footing. The fourth, but certainly not the final, piece of the puzzle is shaped by the field of agriculture. A remodeled and modernized drainage and irrigation system is needed in order to keep Guyana's agricultural industry alive. Also within that field lies the possibility for Guyanese farmers to form agricultural cooperatives in order to gain greater market strength. I have come to the conclusion that when all of these different and unique pieces are put together, they form a solution especially well-suited for Guyana. Each piece that fits together with the one before paints a brighter future and brings the world a few steps closer to the international goal of a world without hunger and poverty.

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