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Guyana, Factor 2: Water Scarcity

Guyana: Land of Many Waters

Guyana is a beautiful country home to diversity in all forms, with savannahs, lush rainforests, rivers, lakes, ocean shores and more. The people of Guyana find themselves in these environments, under a developing nation and government. The nation has a long history of colonization and has only been a free nation since 1966. Since then, it has experienced its fair share of growing pains and is still very much a developing country. Guyana has endured through these struggles for independence and stable freedom and has over time formed into many communities across the country, the largest being the nation's capital, Georgetown. Many of these communities are intertwined with farming, as the Guyanese farmers run small farms using traditional simple farming practices. These crops are on the whole consumed domestically, one of the reasons why maintaining security in the farming industry of Guyana is vital for everyone inhabiting the nation (Guyana).

Overall, the majority of Guyanese people endure a very modest lifestyle and work to improve access to healthcare, education. The country currently has adequate food security, but many still suffer from hunger and malnutrition. This is especially apparent in the rural areas of the country with little infrastructure. The Guyanese average three-point-five persons per family, a number that is gradually declining (Thomas). While these families possess good access to education compared to other developing nations, there is significant growth needed, especially for that of secondary schooling (Improving). Furthermore, the health systems of Guyana are inadequate in many ways, one example being that only twenty-one doctors exist for every one-hundred thousand people in the nation (Health). Guyana is making steady progress towards betterment in these areas but faces many challenges in its path. One group that is arguably one of the most important for the growth and development of the nation is its farmers. Guyanese farmers are best described as small scale. In fact, the average farm is less than 10 acres in size (Peasant). Guyanese farmers utilize mostly traditional farming techniques, with common and cost-effective hand tools and straight labor. While exports such as “Demerara Sugar” are becoming more important economically for the country, food staples like rice and wheat are still grown across Guyana for the purpose of domestic consumption (Guyana). Additionally, cassava plants exist as a highly valued crop to the native people of Guyana. Cassava exists as a major source of food and nutrients for many Amerindian communities, yet also is in need of support to continue to thrive in these areas (Arbogast). The majority of crops grown in Guyana are consumed directly by the people of Guyana. This idea of “home-grown, home-consumed food” is a general attempt to stress the fact that Guyanese farming has a large and direct impact on the health and hunger of the people of Guyana.

Farmers are suffering throughout the nation because the water infrastructures present do not meet the needs of the crops grown in Guyana. These crops are damaged more and more from drought and flooding. Also, the country is facing problems resulting from climate change. Historically, agriculturalists have been able to rely on rainfall for much of their crop water source, but as of the past few decades, extreme weather is becoming more extreme. Floods and droughts are becoming increasingly prevalent in Guyana. This damage inflicted upon the farmland of the country is caused as a direct result of the degrading water management system found throughout the farming communities. All over the country, established canals and waterways are crumbling from a general lack of maintenance. Because of the large spread of these farming communities, these systems crumble as there is simply not enough raw labor and materials to maintain major waterways (Arbogast). Therefore, resolving these problems that are growing in scale

comes down to the farmers. The farmers of Guyana have a need to join together in a “cooperative” of sorts, in order to help each other restore the water infrastructure of the country and combat the effects of climate change. By assisting each other in regaining a secure source of water and working to maintain farm stability, Guyanese farmers can help each other regain farming security in the country, for the benefit of the country.

Water scarcity in Guyana is a result of the poor water infrastructure in the country and is causing harmful effects not just for the livelihoods of Guyanese farmers, but the Guyanese people as a whole. For farmers, crops are dying. An increased level of floods and droughts has wreaked havoc on much of what remains an important food source for the country and has caused the existing system of canals and waterways to be diminished even further. Crops simply cannot be sustained without a steady and stable water source. This problem is only getting worse, as climate change trends become even more erratic and extreme weather rises (Arbogast). Although this issue may not seem to have a huge impact, as explained previously, the farming and urban areas are directly connected, as staple crops grown in Guyana are consumed in Guyana. A decrease in these crops is also a decrease in the consumption of these crops in more urban areas, which has a negative impact on the hunger and malnutrition rates of the country. With improvements in the area of water transportation systems, the agriculturalists of Guyana would be able to all-in-all experience growth. Crop output would rise, which in turn would boost the country's economy. For more urban populations, hunger and malnutrition rates would fall as agriculture improved, because there would be better access to food throughout the country. Guyana struggles with the transportation of the goods and materials it needs, and therefore food grown domestically is truly the best way to feed the Guyanese people.

Water pollution is a huge and notably growing issue in Guyana and is linked directly to the runoff of various chemicals, fertilizers and more from farms. This happens as a result of the defunct water movement systems in place in the country and has been shown to be a problem not just for the people of Guyana, but also for the remote and pristine natural environment (Guyana). The water-related problems in the country impact and threaten all forms of life within the country. If water infrastructure was improved, the current farming structures in place and the negative effects accompanying them such as water pollution would slowly, but steadily be reversed. Solving these problems such as the crumbling canals or lack of water in dry seasons would help stiffen resulting problems such as runoff.

The best way for the farmers of Guyana to create and sustain a functioning farming system is to quite simply band together. One reasonable avenue for them to do this is through an organization, a group, of "farmers helping farmers," the *Collective Farmers of Guyana* or *CFG*. This group would be established and run in several locations throughout the country, as there are many growers in need in many locations. The group would hold the goal to help each other in the creation and establishment of functioning water systems. One great example that would be highly beneficial to many farming communities is that of water collection ponds. Guyanese ranch owner Julio Perreira maintains a large pond on his farm that fills up during the rainy season, and can then be used throughout the drought periods to sustain crops. Already, many other villages have requested that he help them create a similar system (Writer). This shows that not only are there new ways to irrigate crops that work more effectively in Guyana, but there is a high level of interest in these new irrigation systems. While this specific initiative might not work in all scenarios, it is a great example of what a group like the CFG could accomplish. This kind of simple idea is one that could easily be scaled up but needs people. Guyana lacks the transportation network and individual farmers lack the complex machinery to be able to build large lakes for farms, but with pure labor and tools as simple as shovels, Guyanese farmers could establish simple systems like this in order to make strides in increasing their and their communities farming productivity.

The purpose of the *CFG* Organization would be to help create, set up and when possible, restore water systems, with farmers simply helping other farmers. Farmers who are helped are then obligated/highly encouraged to help others nearby reach their goals. While this honor system of sorts would not be fault-proof, growers would only be helped if deemed trustworthy and responsible by the organization, minimizing potential problems. They would be helping see through initiatives to restore order on a local scale, such as the restoration of water canals and ponds commonly used for rice/grain growing and more. It would also be able to promote further beneficial farm practices. One possible example of this would be to establish certain guidelines for membership, such as having or working towards a farm with very little chemical/fertilizer runoff into major waterways. This would be an effective way of encouraging safe water use.

The *Collective Farmers of Guyana* would be open to any members, providing they meet farming requirements set by the group (as described previously). Farmers would be compelled to join on a needing-basis; the fact that they are in need of help from others, or also if they are simply trying to make positive change and assist others with labor and farming techniques. As Perreira shows, many such growers exist already in Guyana. Also, the group could help support community garden efforts. Unhealthy processed foods are very prevalent throughout the populated areas of the country, but could be countered through the support of community-led initiatives to grow healthy food. The *CFG* would function as a head organizer for the gardens, with a particular focus on the efficiency of water distribution within these gardens.

While the goals of this initiative mainly revolve around restoring the water infrastructure with the direct effect of maintaining food security, the project would also have many other indirect but similarly beneficial effects. One major problem in Guyana, as previously described, is the limited access to adequate health care systems. While the *CFG* Organization would mainly work to improve water/farm systems, a result of improving these areas would be an increase in productivity and economic activity in these rural areas. As more and more people and goods move from and through an area, that area experiences growth. This would lead to both population and economic growth, and would, as a result, create a higher demand for health centers that feature adequate staffing and as well as infrastructure fit for proper care. Guyana has many remote areas in need of health care, but as the *CFG* works to improve farming, the whole of the community benefits. These communities in need will be able to create and maintain health centers, and will do so much more effectively than an outside group, as only the community itself knows what it needs.

To address climate change at the root, the group could set out air quality standards that farms would have to meet, centered around machinery usage, but even more importantly livestock. Methane and other pollutants produced from livestock and processes involved in raising livestock are huge contributors to climate change. Globally, the raising of farm animals contributes to 18% of greenhouse gas emissions (Livestock). The *CFG* would help minimize the impacts of livestock in Guyana by putting in place motivations to push for grain/crop production over animal raising. These motivations could take the form of monetary compensation as well as increased aid to these specific farmers.

Within the *CFG*, high levels of communication would be necessary. The group would spread ideas on farm management and receive and answer requests for farming assistance. Founding members and later leaders of the organization such as possibly Perreira would lead the group in different major regions of the country, and would help lead these types of initiatives. The organization would be officially under the Guyanese government, but organizations like the UN or the World Bank could provide the relatively low operating costs of the group. The Food for the Poor organization could also assist in funding and labor, as they are already playing a large role in aid for the Guyanese people (FOOD). Funds needed for the

organization would mostly center on spaces for meetings, living salaries for group organizers, transportation costs, possible laborer costs, tools, etc. The *CFG* would also work to streamline the process of getting food grown in Guyana to the Guyanese people. While exports of grown goods like sugar and rice remain important to the country economically, efforts to improve farming will only benefit the country as a whole if all have access to these foods, as opposed to the largely unhealthy processed foods that are common in the villages and towns throughout the country. The group will help major growers mesh with major distributors in the country by serving as the middleman of these often-complex business interactions. They will also make sure that distributors have the economic means to purchase these homegrown goods and that these farmers have the means to sell them. The *CFG* will do this with the intention to bridge the “farm to fork” gap that exists in Guyana (Arbogast).

Guyana is overall a fascinating and complex country, which I personally have been lucky enough to spend two years living in. Through this, I have discovered the substantial challenges facing the country, but I have hope. The people of Guyana are resilient and seem very unafraid of toil. They know fully well that these large challenges facing them are not overcome overnight, but over long time periods of gradual change. One of the challenges they face is of agricultural development, and possibly the most important factor in this, access to water. Guyana faces many challenges in its water infrastructure. The system by which the people and the growers of Guyana receive water is in utter disrepair, whether it is the crumbling canals or eroding riverbanks. There is a need for change. A large community of farmers working together to combat problems and bring about change seems the most logical in this situation. It would be a way for the country to sustainably regain farming security through community action. In Guyana, for the benefit of all of Guyana.

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