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São Tomé and Príncipe, Malnutrition

Food Insecurity in São Tomé and Príncipe

Two hundred miles off the coast of Central Africa lies two tiny, volcanic islands named São Tome, Portuguese for Saint Thomas, and Príncipe, meaning prince (São Toméans). Together, the islands create a small republic home to 215,056 people and an area of 400 square miles (São Tomé and Príncipe: Government; São Tomeans).

The two mountainous islands lie on the equator and are thus tropical with distinct wet and dry seasons. The mountains on the islands rise up to two thousand meters, leading to rivers rolling down the mountains, through forests, and across farmland. Along the coastal areas, the islands are hot and humid, and the rivers empty into the Atlantic Ocean. Due to the tropical climate, there is heavy rainfall, but mainly during the wet season. And when it comes, the rainfall can be as much as 500 centimeters (São Toméans).

In terms of food, fish is the most popular source of protein due to the islands being in the middle of the Atlantic Ocean. It is commonly eaten with locally grown tropical foods such as yams, cassava, plantains, and bananas. These foods thrive on the islands due to the tropical environment and the volcanic soil, alongside tropical fruits such as mangoes, guava, papayas, and citrus fruits. Palm trees also grow on the island, allowing for the creation of palm oil stew, a favorite among the São Toméans (São Toméans).

When preparing meals, a large diversity of spices and vegetables are used. Besides fish, other meats include goat, lamb, beef, chicken, and wild monkey. These meats are often served with rice, spices, raisins, almonds, and honey. One common dish is a chicken stew with a sauce made from peanuts and tomatoes, or you could marinate the chicken in a mixture of onions and mustard. The islands were once a Portuguese colony, and you can see the influence when the São Toméans prepare great, lavish dishes for occasions such as weddings, baptisms, and funerals. On these occasions, the poor drink locally made palm wine and cane alcohol, while the rich drink bottled beverages and wine. The latter drinks are imported, as much of their food is (São Toméans).

When it comes to the economy, the main activities are agriculture and fishing. There are few industrial activities, with the only factories on the islands making soap, beverages, and processing food. The timber industry helps the economy by logging; however, this negatively affects the islands through deforestation. The natural beauty of the islands could create a massive tourism economy, but due to unreliable air travel, this goal is not yet acquirable. The international community also has yet to learn of the islands, due to zero news about them, and certainly no travel brochures. There is, however, a small investment in hotels and other parts of the tourism industry (São Toméans).

The general economy is highly dependent on exports of plantation crops such as cocoa, coffee, coconuts, and palm kernels. The agriculture of the islands takes up 46% of the total area (Agricultural Land - São Tomé and Príncipe). The economy mainly focuses on cocoa, which accounts for ninety percent of their foreign exchanges (São Toméans). However, due to droughts and mismanagement of plantations, the

cocoa harvest has been failing recently, which is hurting the economy (Causes of Poverty in São Tomé, Wessel).

The country imports rice, beans, and salted fish to feed the plantation workers, who get an average of 6,990,000 São Tomé Dobra a month (Average Salary in São Tomé and Príncipe 2021). This seems like a lot, but it is only worth about 330 U.S. dollars. Not really enough to take care of an average household of four people (São Tomé and Príncipe: Final report.). The São Toméans live in abject poverty, with the poor living in shanty towns with few amenities and houses made from mud, wooden planks, bricks, and cinderblocks with iron sheets for roofing. They also live in old, run-down buildings. The poverty throughout the islands puts consumer goods in short supply, and causes petty theft. However, billions of barrels of oil have been discovered off the coast of the two islands. This could give the islands a major economic boost, and make everyone wealthier. Drilling has already begun. Not only that, but the drilling will require more reliable air travel to get to, meaning more people will be able to reach the islands, which can create the tourist haven. Unfortunately, corruption stands in the way of giving everyone a fair share of the newfound wealth (São Toméans).

The education system of the islands is patterned after the Portuguese system of primary school, secondary school, and university. Primary school is available everywhere and enforced, yet only 78% of children are enrolled in the school system. A major challenge to the education system is unequal fund distribution between rural and urban areas. Unequal funds mean children in urban areas have much better schooling than children in rural areas, leading to much higher education standards in urban areas. 68% of all children finish elementary school, but there is a very high drop-out rate afterwards due to rural areas not having any secondary schools. If rural families wish for their children to attend secondary school, they may send them to relatives in urban areas so that way they may complete their schooling. The islands also have to face the challenge of rebuilding many of their crumbling schools and other educational infrastructure. Despite all of these challenges, 79% of all São Toméans can read and write, which is one of the highest percentages in Africa. Gender-parity in schools is very close to equal, with the girls-to-boys ratio being only 0.92% in the year 2000. Formerly, there were no universities or colleges on the islands, and students would have had to go abroad, which many did not have the money to do. Recently, though, the São Tomé and Príncipe Ministry of Education has established two institutions of higher learning; one private, and one public (São Toméans).

One main problem on the islands is food insecurity. The majority of food eaten on the islands needs to be imported. Many of the people on the islands are subsistence farmers, providing their families with minimum, inadequate amounts of food. As a result of this, a small population of the islands suffers from malnutrition. This food insecurity is a direct result of the plantation-based farming system that was introduced deep in the past during the colonial times, and continues up to this very day, where big, money-making crops such as cocoa and coffee are deemed more important than food production (São Toméans).

Around one third of the people on the islands live on less than one dollar and ninety cents per day, and two-thirds live on less than three dollars twenty cents. The country faces significant challenges to ending poverty, socio-economic development constraints, and malnutrition such as insularity, remoteness of the islands which makes for higher prices on imports, and their irregular terrain. Land surface and workers are very limited, which does not allow for diversity in the economy and makes it vulnerable to terms-of-trade shocks. Not only that, but the islands are vulnerable to natural hazards and the effects of climate change, both of which destroy crops, block transportation, and affect infrastructure. The limited number of qualified workers is also an obstacle to the production of commercial goods and services to meet economic demand. High unemployment rates, weak agricultural, fishing, and livestock industries, and natural hazards prevent the nation's food production from meeting the needs of the population. The availability of food and the stability of markets are also unpredictable due to the county's limited

infrastructure and poor market access. The heavy reliance on imported food causes large fluctuations in food prices (São Tomé and Príncipe).

A possible solution to these problems is to form a charity group or a non-profit organization that has a goal of raising money to plant larger gardens on the islands. Some of these will be grown around rural communities to help give them better food and lower their reliance on food transported from elsewhere on the islands. Other gardens will be grown in urban areas so that people in cities will be able to get good food as well. This non-profit group will also work to fix up the local markets, so that people will be able to sell their food, and give people better food no matter where they live. It will hire citizens of the country to help do these jobs, so that they will gain more money and hopefully live on, at bare minimum, five dollars a day. Hopefully we can get them much higher than that, as we want everyone to earn as much money as possible so they may better feed their families, and even get better homes. This will also lessen theft throughout the islands.

However, planting and managing these gardens will have many problems we will need to work around. First come the common problems when making a garden; growth of weeds, sunlight levels, and irrigation. Sunlight and irrigation are easy enough, with the tropical sun giving the plants what they need, showers of rain, common in the tropical regions, can provide water to the gardens, and the locals will be paid to collect weeds from the gardens. However, there are some much larger problems in the garden planting. Large tropical storms can wash away the gardens, or drown the plants in floods. We will have to constantly manage the gardens in order to keep them from washing away, or we can find safe spots to plant them. Either way, we can utilize the help of the locals, so that they may receive both good food and good pay.

We must also raise charity to remake a lot of the crumbling infrastructure. If we can do this, then there will be a lot more resources open to the public. Again, we can hire local citizens to help rebuild the infrastructure. This will give people better security, medical care, and education. The more resources the public has, they will live better lives. We must also build schools and hospitals in areas that do not have any, as secondary schooling should be available everywhere, not just in urban areas. Building secondary schools in rural areas will allow more children to get their necessary schooling, and help them get better jobs. We should also help create more institutes of higher learning, which will let people get better jobs still, which will drastically lower the poverty rates of the islands. As more people get better education, this will help make a greater diversity in the economy, which will lessen the need for plantation-based crops. Then, more people will be able to spend more time growing their own food, which will help feed their families and gain money by selling food.

The new education system will also help people design machinery to drill out the oil near the islands, which will boost their economy. The government will sell the oil to foreign nations, making it a whole lot wealthier. The government will then use its newfound wealth to create new systems and infrastructure, which will then give a lot of money to building companies, and as the employees use their share to buy things, this new wealth will spread throughout the economy, bringing hundreds out of poverty. The wealth from the oil, along with the knowledge from the new schooling systems, can help design better air transportation to the islands. This will allow for more people to come to the islands, spreading more knowledge about them, and letting people know about their natural wonders. This will create a great haven in the tourism industry, and could boost the economy quite a lot, giving the islands much more wealth, bringing hundreds out of poverty.

There is, however, some weaknesses in the idea of the oil. First comes the question of where the government will get the money to drill out the oil. Hopefully, by all the money we have paid the citizens to help with our projects, the economy of the islands has become wealthier, and the government will have enough money to fully drill it all out. Next comes the question of transportation. It will be quite difficult to bring in the machinery, or bring out the oil. Hopefully the wealth we brought to the islands can also pay to fix the transportation.

Now comes the environmental issues. The oil will be a great boost to the economy, but oil is a fossil fuel, and in order to get the power from fossil fuels, we need to burn them, which contributes to climate change. Also, there is a chance of oil spills happening, which is absolutely terrible for aquatic life. We do need to look into much greener energy sources, but until we can spread green energy worldwide, we must temporarily use fossil fuels. Also, if we are to drill and ship the oil, we must use well-designed machinery to make sure that none of the oil can spill out into the environment.

There are also some political-economic constraints to the wealth collected from the drilling. Wealthier citizens could use their funds to build their own oil drills, and some of the wealth that is supposed to be used in helping the general economy would go to those who don't need it. And with the added wealth, they would build more drills, and would only become richer. The government would need to enforce oil drilling laws in order for this plan to work.

A lot of the ideas written above must be balanced with the protection of the environment. For instance, the gardens must be grown in an already open spot, so that we would not have to cut down many trees for them to grow. The crumbling government infrastructure must be rebuilt, easy enough. However, if we choose to build new structures, we would need to think about the space where we are building it. Is it relatively unused, or does it serve a purpose? Is it in an urban or rural area, or is it a wild space? These are all questions we must ask before building our structures.

This plan is a long-term plan, but with a simple beginning. The first thing we must accomplish, however, is raising enough money to plant the gardens. Perhaps we could create a web browser where we would plant a garden for every five searches. In the gardens, we should plant food that will grow well in the tropical environment such as yams, bananas, citrus fruits, and mangoes. This way, the food we plant will be able to grow well on the islands, and many people will be able to get the foods that they are used to. People will be able to plant or harvest anything they want, and will be able to keep some of the seeds to themselves. They will be able to plant those seeds in their own gardens for their own families. Then, we must work on rebuilding some of the markets, so people will be able to buy and sell locally grown foods. We should have farmer's markets where people can set up stands to sell their food, along with small grocery stores where people can buy locally-grown foods. This will create a circle of people growing and selling their own food, which could help people get their own jobs, lessening the burden of poverty. The economy would then be firmer in local agriculture, and be less dependent on exporting plantation crops. This would lower the scale at which plantations would be planted, opening up more land for people to grow food. This would continue until the plantation system is a thing of the past. Instead, a community of farmers would take its place. This will bring about a lot more food security, and would also diversify the country's exports, as any unneeded food could be exported out of the country.

The idea of collecting funds for the project from foreign aid requires some extra thought. Collecting funding from donors is a good way to fund our projects; however, we might need some help from our government. We would need to have public speakers raise awareness about the islands, so that the public can understand what is happening so they can all pitch in to help. Then, we can also work to convince the government to give the islands some foreign aid so that several organizations can complete their goals for the islands. However, there might be some people who state that we should solve all of our own problems before moving on to other people's problems. A good argument for this is that if we help others solve their problems, they would be more willing to help us solve our own problems.

These are the first parts of the plan, and the crucial steps to eradicating malnutrition in the country. These parts will help make it so that completing the other steps will be much easier by creating an economy less dependent on exports of plantation crops, and more dependent on locally grown foods. Everyone will receive a lot more money from their own farms, and the government, along with the nonprofit charity organization, will be able to move on to the next part of the plan, constructing new infrastructure and reconstructing old. The economy will already have a boost, which will help create the new infrastructure, including education. The improved education system will help people get better jobs, creating an even

bigger economic boost. This boost, along with the knowledge from the new education system, will be used to drill out the nearby oil, creating a bigger boost still. Shipping out the oil will help the international community learn about the islands, which will spread knowledge about them and have people visit. The knowledge from the education system and the wealth from the oil will then create a more reliable air transport system. This, along with the new knowledge of the two islands, will launch the islands into a major tourist haven, which will give the islands incredible wealth, which the government can then use to solve any remaining problems. This plans all centers around helping feed the islanders better.

There are a few weaknesses to this plan, however. The international community does not know about the islands, meaning that they probably will not fund the planting of the gardens at first. However, the non-profit group can donate some of their own money to create some advertisements about our goals. This could help fund the group a little better.

Another weakness is that the problems we are trying to eliminate are also the problems standing in our way. Air transport is unreliable, meaning it could be difficult to get us to the islands so that we can solve these problems. The islands are also remote, meaning reaching the islands by boat will be challenging, and getting our supplies to the islands by either air or boat will be even more so. Not only that, but the vulnerability to the natural hazards that constantly strike the islands could tear down everything we build. We could help fix the air transport problem and build structures to lessen the impact of natural hazards as part of our work, but that would take a lot of funding.

The world food program is currently working on the islands' problems as well. They believe that education is the key to poverty reduction, and have been working to give children in the school system hot meals. They have also been slowly giving the responsibility of feeding the schoolchildren over to the government of the islands. Eventually, the government will be fully in charge of feeding schoolchildren. The children will be well fed, and will be able to learn better on a full stomach, becoming the keys to the success of the islands. This is a lot like the second phase to the plan written here, and would be a very good thing for the non-profit group to help accomplish.

Unfortunately, there are not any organizations working on creating community gardens on the islands at the moment, meaning there is nobody we can turn to in order to receive knowledge or assistance in this specific area. However, we can turn to other non-profit groups so that they could help us, and we could help them. The collective knowledge between the several groups can help pool our recourses in order to end malnutrition on the islands.

There we have it. We have our current plan, we have the long-term goal, we know what stands in our way, and we know what others are doing. Now let's put all of this knowledge together and use it to save São Tomé and Príncipe from the evil that is food insecurity.

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