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Improving Life in Madagascar by Better Utilizing Current Resources

Smaller countries usually struggle in big world times; they need allies and money to trade worldwide. Smaller countries typically need to control the population because they cannot sustain enough people. But smaller countries usually have better governments only because they make harsh laws against the populations. Madagascar, located on the coast of Africa, struggles with poverty which could be helped by using carbon sequestration to regenerate healthy soil capable of producing healthy crops (World Bank). Madagascar has harsh laws like unlawful or arbitrary killings and extreme prison conditions in the UK. Madagascar trades a lot with things like vanilla, clothing, and types of fish. Madagascar's population is tiny, with only 28 million people on the island. The beautiful island also includes over 200,000 different species of animals. Thirty-nine percent is urban, while the rest is rural (World Bank).

Madagascar has excellent allies. The allies include multiple first-world countries, like Europe and Japan. Still, Madagascar has the highest poverty rates in the world. More than 75% of Madagascar's population is living in poverty. The average person spends \$1.90 daily on resources like food and water (World Bank).

The government in Madagascar is corrupt and has arbitrary killings and unjust prison conditions. The government consists of the executive, judicial, and legislative branches. The executive branch is similar to the United States, where majority votes win to elect a president or, in their case, the prime minister. The judicial branch is where the president picks the Supreme Court and certain branches. The president's choices often lead to favoritism. The legislative branch is where the president decides half, and the regional legislators pick half (World Bank).

Madagascar has multiple central prisons with one nationwide prison. The Antanimora prison is one of the harshest prisons in the world, with overcrowding, rats, parasites, and life-threatening diseases. The prison system is also sexist towards women. Women often serve longer sentences than men. Prison cells built to house only one person often contain more than one person. Malagasy is another harsh prison. The prisoners receive no food; instead, they rely on their families to bring food daily. Prisoners that have no family members go days and weeks starving for food. Many people have died in this jail because of malnutrition. Children with moms and dads in prison live with their parents in jail. Female inmates and children engage in prostitution with guards, and there are multiple cases of rape. Various crimes can lead to execution. Sometimes forced labor and, in worse cases, slavery. The laws are from the Old French penal laws (World Bank).

Seventy-one percent of Madagascar is cultivated land, and the rest is forest. Almost 80% of the people there participate in agriculture through farming or crop growing. Farming rice was a dominant occupation until a cyclone destroyed most of the land for rice. Now, rice growing is challenging. Crushed rice production resulted in malnutrition in Madagascar. Madagascar is now the 5th most malnourished country in the world. Cassava and potatoes are their primary diet. Malnutrition stunted 47% of kid's growth. The main exports of Madagascar are vanilla, cassava, clothes, materials, and sweet potatoes (World Bank).

The average land size per person is 1.3 acres compared to the 445 acres in the US. The reason is that most of Madagascar is mountainous terrain, and farms with big terrain sell for over \$100,000. Most people in this country can barely afford to pay over \$5. Farmland constantly shifts with them using the slash-and-burning method. They slash down all the small bushes so they can burn away. The reason they do this is to create more space (World Bank).

The climate in Madagascar is hot and rainy, with occasional trade winds. It rains there more than any country. It has a maximum of 3,700 mm of rain annually. The five regions of this country are the central highlands, Tsaratanana Massif, the west coast, the south, and the east. The world's largest canal, Canal des Pangalanes, is used for transportation and fishing (World Bank).

The average size of a Madagascar family is about 4 to 5 people. There are 8,000 households in Madagascar. The most common job in Madagascar is agriculture, which includes farming and crops. Mineral resources like nickel, chromium, and cobalt are in Madagascar. Nickel is the most abundant in the world and one of this country's biggest exports. Diamonds, rubies, sapphires, and emeralds are precious gemstones (World Bank).

People there get food through fishing, farming, and trading. Food is cooked on wood-burning stoves using charcoal or wood, but many meals are prepared by boiling. Smoking is another method to preserve food and save it for consumption later. Salting is another method used for curing food. Bamboo containers keep the food sealed (World Bank).

The current education system provides primary schooling for five years, from ages six to eleven. Secondary education lasts seven years, four years for the junior secondary level, from ages twelve to fifteen. A senior secondary level of three years from ages sixteen to eighteen, where the equivalent of a high school diploma is received (Wild Madagascar).

Education is free from ages 6 to 11, a benefit to low-income families. The literacy rate is one of the lowest in the world. The costs of schools are affordable if you have an average job (Wild Madagascar).

Health care is only readily available to some because of the expense. Sixty percent of people are less than 5 kilometers away from various health care services. Even though healthcare services are nearby, unfortunately, they run out of supplies, and restocking happens slowly. People who don't have direct access to a hospital travel by way of the river or need to buy an airplane ticket in a state of emergency. Healthcare costs \$20, but the average income is \$140 annually (Wild Madagascar).

Only 50% of people have access to safe drinking water in Madagascar. The southern part of Madagascar is the most susceptible to droughts and wildfires. The donation of over 2.5 million toilets solved the problem of lack of access to toilets. Before this access, the people would defecate on the ground. These toilet installations changed the lives of the people and their country. Bathrooms also helped 570,000 people with safe water (Wild Madagascar).

Only 33% of Madagascar has sufficient electricity. Ranking 13th in the world for the lowest electric supply, over 18 million people in Madagascar live without electricity. The primary source of electricity

there is hydropower. Hydropower uses moving water to turn the blades in a turbine to power the generator to produce electricity. The moving water source for Madagascar is the Indian Ocean. The telephones in Madagascar are fast and efficient. Most homes have two phones, one for the internet and photos and the second for calling and texting. A passport is required to purchase a SIM card. Madagascar has some of the least developed bad roads in the world. Most roads are just dirt. 17 million rural residents walk to get access to one another. Natural occurrences like tornadoes, hurricanes, and cyclones can all damage the few roads in place, causing potholes and other damages. The local markets in Madagascar have a variety of colorful fruits (Wild Madagascar).

Madagascar is not up to its full potential with all the resources they have available. A lot of their exports can grow tremendously with over 60% of the land cultivated. The main buyers for the local markets are South Africa, India, China, and France. This all severely changed during and after Covid-19. The disease caused multiple bankruptcies and lots of job layoffs (Wild Madagascar).

Madagascar could do a lot better with the resources they have. With over 60% of land being cultivated, a solution to this is soil carbon sequestration. Soil carbon sequestration is when the soil captures the carbon out of the air and puts it back into the soil. The reason this helps is because it is better for the soil and better for us. Carbon is the 4th most abundant element on the planet. More carbon increases global warming but more carbon dioxide for the soil enhances fertility and growth. When crops are growing they remove carbon dioxide from the earth and when they die the carbon goes into the soil (Stein).

Soil carbon sequestration leads to regenerative agriculture. Regenerative agriculture uses the principles to regenerate healthy soil. Regenerative agriculture can produce very healthy soil and is capable of producing healthy crops. This practice can change current degrading land to rich and cultivated land. Healthy soil can support other things in the environment like water health and air health. Without this method Madagascar could end up losing tons of untapped soil due to negligence (Ayoo).

Another solution is raising income in homes to reduce the amount of poverty there. A way Madagascar can raise more money is by promoting agricultural production which is promoting more crops. Madagascar should invest more in high value crops and cash crops. These crops will need water so a need to have a more expanded irrigation system. There is also a need for easy access to these crops so fully developed roads are in place for easy access (Ayoo).

The trade also should be a solution to rebuilding. We need to work on our trading system and agricultural production to increase the money growth. The money could go to education and household income. Helping the trade could help with starting new friendships with different countries and helping in future needs. Trading could help with acquiring materials that are not as abundant in Madagascar but more somewhere else.

Soil carbon sequestration would give Madagascar healthy crops to feed their people and the ability to export which would then generate income for the impoverished area. By using soil carbon sequestration Madagascar could focus on growing cash crops such as coffee, tea, vanilla, and spices. Selling cash crops could help break down barriers for people in poverty and improve daily household income in Madagascar.

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