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 Madagascar, Factor

While researching Madagascar, I learned several factors play a large role in the lack of agricultural productivity in Madagascar. Many of these factors have to do with tradition. Several of these are also closely related to a lack of education. Women in Madagascar are not educated, as well as most of the men. One of these factors is their farming technique. Madagascar is a relatively large, (92276.657 square miles) but rural island. The climate is dominated by southeastern trade winds that originate in the Indian Ocean Anticyclone, a center of high atmospheric pressure that seasonally changes its position over the ocean. The climate causes Madagascar to have two seasons: a hot, rainy season from November until April and a cooler dry season from May to October. The population is small (only 23 million people) and the population considered above the poverty line is even smaller (only 8 million.) In Madagascar, if a family does not raise their own food they might not be getting any. Those that farm do not utilize the land that they have and due to poor agricultural practices produce very low yields. All of these are factors that contribute to the lifestyle they lead. A typical family size in Madagascar might consist of both parents and around six children; their home however might only have one or two rooms. The typical family spends around 61% of their income on food, 4% on fuel and 2% on healthcare and education. Rice is a staple ingredient in almost every family on the island. Near the coast many people eat a lot of shellfish and fish. People near the coast also use coconuts in their daily diet. The health care system in is great on paper, but in practice not so much. All health care is free; but the supplies like bed sheets, medicines, and even Band-Aids are not. These expenses add up very quickly, if they are even able to access the hospitals. Due to the country's lack of infrastructure, people often cannot get to hospitals and turn to local healers instead. People's healthcare in Madagascar is not the only thing affected by the country's lack of infrastructure, the farmers that are able to grow a surplus often have trouble getting their excess crops to market. In this essay I will be evaluating all of these problems and maybe finding a few solutions along the way. ("Economy of Madagascar") ("Food and Daily Life")

An average farm in Madagascar is usually a subsistence farm. This farm will typically be around 1.2 hectares (approximately 3 acres.) The typical U.S. family's farm size is 80, acres and a commercial farm is typically around 1,100 acres. Madagascar's farmers do not have a lot of land to work with; that means they need to take advantage of every inch that they have available. The typical crops that are grown by subsistence farmers are rice, cassava, corn, and sweet potatoes. There are several different agricultural practices common on Madagascar. These practices depend on the region. Many however use *tavy*, a method that uses slash and burn techniques. The farmer will cut down an area of the forest and burn it. The burning method releases nutrients into the soil from the burned plants. The farmers will then farm this land for roughly two to three years. Then the farmers will move on and repeat the process in another area of the forest. The farmers will then leave the previous land to sit as they continue using different land. Then in around twenty years when the land is covered in grasses and shrubs, the farmer will repeat the process. The problem with this method of farming is that over time more and more people come to the area and the population increases. These people then require more farmland. Eventually they run out of land to move on to and so the land does not get as long of time to recover from the previous farming. Over time this method of farming can cause the land to become exhausted and eventually barren. (Macdonald 5-6)

Tavy is just one of many barriers that block their ability to improve agricultural productivity, one of these being their tradition. Tradition is big in their cultures. Tavy is one of these traditions. To get them to stop using this farming method, they would have to get them to go against their cultures and their traditions. Another is a lack of education. No one really teaches new and improved farming methods or ones that will help them to take care of the soil. This means they continue to use the same agricultural

practices as they did when their ancestors first inhabited the island. There are also several barriers to getting their food to market if they have a surplus. Their country's infrastructure is very undeveloped and limits the mobility of its people and crops. This causes the food to often spoil before the farmer can get it to market. The farmer then does not earn any extra money, and people that could have potentially bought that food no longer will be able to eat the produce (Biowatch).

Their farming techniques are very outdated and hard to sustain. If they updated their farming style they would be able to produce more food and maintain the land and its fertility. Their current farming style does not care for the land and quickly wears the land out. When the land becomes infertile, nothing grows on it. Then the cycle of reusing abandoning the land to let it become covered in brush and then returning to it later becomes interrupted. They are eventually unable to return to the land. That is why I would introduce the people of Madagascar to crops that take and return nutrients to the soil, such as potatoes and corn. If we could get them on board with growing these crops, then their soil would last longer; eventually they would need to use some sort of fertilizer on the land. That means the program would also have to teach how to use and manage fertilizers without polluting the land. It would also be beneficial if the program was to educate them on using natural fertilizers, such as manure. This would keep the costs down while also being able to avoid polluting the land. They do not take full advantage of the land and what land they do use they mistreat it. (Kremen) If they continue on this trend, they will eventually run out of farmable land. With the population on the island continuing to increase, they need all the land they can use.

Women in this country are also at a disadvantage. They do not receive a proper education and no one holds them accountable for their education. They are expected to stay home and take care of the house and the family. "Educating Women Key to Sustainable Farming in Africa." The schools are also very hard for some people on the island to reach, due to the country's lack of infrastructure. This causes them to never receive a proper education and learn how to take care of themselves. They must rely on their husband, or family, to care for them. What happens if their husband or family is no longer able to care for them? Then they are no longer cared for and must learn to care for themselves. If they do not, these women will either die or become beggars. This is an extreme disadvantage for women in Madagascar, yet it is not the only disadvantage that they face. Their lack of education and literacy can hold them back from achieving their full potential. If more women were educated then they would be able to help manage the use of the soil and farms. Who knows what they might be capable of if they were to reach their full potential? If we were to hold the women of the island accountable for their education and encourage them to get one, then they have a better chance to reach their full potential. This might also give them more influence and power in their house, which means that if they were take care of the crops as well, they might be able to help make better choices about their family's farming practices. In the program I would implement, women's education would play a very large roll in helping their agricultural practices. ("Educating Women Key to Sustainable Farming in Africa")

Although there have been efforts to help resolve the lack of sustainable farming, the ever increasing population is making this work even harder. Due to the efforts of the government and its people, this trend has slowed. It still, however, continues to be a problem and the number of people that do not have adequate food increases each year as the population grows. By solving this problem many people will have adequate food for the first time in their lives. They will be able to farm their land for many more years than they currently can. Solving this problem will also allow their economy to grow. If the entire population is no longer concerned on growing their own food this can open up new industries on the island. These new industries would then allow the island to increase their exports and that would increase their economy. A higher economy means a higher quality of life for those under said economy. Women that are not currently receiving an education because they are too busy taking care of their crops and working would now have time to. A higher education means a higher quality of life for the people of Madagascar. That is the main goal of my program, a higher quality of life. This would be one of the goals

of the program I would implement to help the country's agricultural stability. While the goal would be aimed at mostly women and girls, it would also help with the overall education of the people of Madagascar.

One problem standing in the way of achieving this goal is population growth. We cannot yet feed all of the people on this planet, yet the population is still growing. Imagine how hard it will be if we try to feed everyone in the future. That is why I think that we should start working on this problem right now. Another goal for the programs I would implement would be to have at least 90% of the farming population on Madagascar using safe and sustainable farming methods by the year 2025. Unfortunately one concern I do have with updating their farming techniques is that there might be a rise in pollution. This would have a serious effect on the environment. Madagascar contains many species only found on the island. It is said that we lose about one species a day, so this would be a very serious problem if the new farming methods have an effect on the local population. In 1994 over 75% of Madagascar's original forest had been damaged by their farming practices, *Tavy*. These things lead me to believe that the programs I would select would also have to stress environmental effects and how to prevent damage to the environment and how to preserve it.

Their government of Madagascar could help play a role in solving this problem, possibly by offering grants to any farmer who would adopt a farming method besides *Tavy*. Unfortunately, due to the poverty of Madagascar's people, the government has extremely limited funding, so the grants would probably do the opposite of helping them. In order to give out said grants, the government would probably have to increase taxes, which would not be helpful considering the average household income in Madagascar is less than six-hundred and fifty dollars. That means I would not recommend Madagascar's government stepping in to help, it would be more harmful than helpful. Another group that could help them might be one of the many vanilla bean plantations located on the island. They may be able to hire more people on the island and then teach their employees some of the sustainable practices they use. Their employees could then take these methods home to their families and apply them on their own farms. I believe that other options would be more effective than even this, such as having foreign aid groups step in to help.

The best way to solve this problem on Madagascar would be to implement programs that educate the farmers on some of the more traditional and sustainable farming techniques. This program would also have to be able to ensure low pollution rates. A low pollution rate is very important to me, without it several species found only on the island could be at risk. Another thing that this program would have to be mindful of is of how much these farming practices might cost. The island is also made up of a high concentration of the original people. They have been brought up in the traditions of their people and *Tavy* is one of these traditions. In order to solve this problem we will have to ask these people to go against their traditions. History tells us that traditions are important, but in order to advance as a society we have to sometimes break tradition. Breaking their traditions is going to be a big, if not the biggest, challenge in helping Madagascar. (Unfortunately, I have been unable to find a local project that helps with this, so I decided to turn to other countries facing the same challenges as Madagascar for help.)

In South Africa there is a town called KwaZulu-Natal, It is a very rural town and many people there do not have access to markets. The program was started by Deborah Goldberg; its goal is to provide traditional and sustainable farming methods for rural farmers and schools in four communities. The project hopes to help over 200 households and 9 primary schools. How will they do this? That's the tricky part. The people of KwaZulu-Natal hope to solve this problem by training people in more sustainable agricultural practices. KwaZulu-Natal will do this by growing gardens in the schools and teaching the children these different farming styles and hopefully the kids will take this home and show their parents. The effect of this will be that they will have the knowledge and know how, to practice sustainable farming and help to educate others. This program is only successful because of the complete participation of the entire community. The people of Madagascar are very set in their culture, that means getting the

entire community on board will be extremely difficult, but not impossible. If we can get the entire community of whichever town we would choose to start the program in this program could be extremely affective in helping the people of Madagascar.

The program in KwaZulu-Natal fits a lot of the things that I think needs to happen in order for Madagascar farmers to use sustainable agriculture. It would be a relatively easy idea to implement; all you would need is some people to educate the teachers and students on these sustainable agriculture practices, some funding to buy supplies for educating the children, seeds, soil fertilizer, etc. The people that could help with this could come from a variety of places; volunteers would be the best option in order to keep cost low. The funding could also come from multiple places like the Scientific Cooperation Research Program or the Faculty Exchange Program that are sponsored by the USDA. By using as many volunteers as we can, we would be able to reach more people and villages through whatever funding the program might have. Another benefit of having volunteers would be that the workers would also, believe in the cause and willing to work towards the end goal. A benefit of teaching these practices at schools would be that the children could also be able to take home a share of the crops they learned how to grow, this could also be an incentive to get people to actually come to school and learn these sustainable farming practices. The tricky part would be selecting an area in need and easily accessible to base the program off of, kind of like a trial run. For this I would suggest the village of Andonaka, it is located in the heart of the Tsarano valley. The Tsarano valley is located in front of one of the countries prized rock-climbing spots; this makes it an ideal spot for access as well as funding. The people of Andonaka also have a need for better farming practices; a lot of the people there do not receive proper nutrition or enough food. By doing this we will hopefully see an increase in yields, provide the Madagascar people with the opportunity to improve their infrastructure and lead a higher quality of life. The people of Madagascar are of a very rural and traditional culture. They are foreign to change and what these changes might bring. In order to help them we need them to get past the potential fear of changing their traditions. One of the best ways to go about this change is by using the idea that if we are able to teach some people better farming techniques, they will be able to teach these techniques to their friends and family. This would work like the Master Gardener program here in Iowa. We would go in and choose several young people, they would be more likely to listen, and teach them about these sustainable farming practices. Then the next year we would select some more people, but also have the people from last year come back and bring even more people with them. These people would also be taught and trained on how to teach the people of their community these sustainable farming practices. Then hopefully their friends and family will teach even more people and the knowledge of how to farm and to preserve the land for future generations will continue to spread and grow. Eventually I hope that this program. The reason that I feel this is one of the best ways to help Madagascar is the fact that the people of Madagascar will not be very open minded, especially to a bunch of foreign people with their foreign ideas. This will allow them to learn from people they trust and know. The program will grow and spread to many other parts of the country through word of mouth and the knowledge that they will gain can never be taken from them. You can give a man a fish and he will eat for a day, or you can teach a man to fish and he will eat for life. This is the concept behind the program I would implement, not just feeding Madagascar, but also teaching Madagascar to feed themselves. The one thing that I cannot stress the importance of enough is how hard it will be to convince them that these changes will be beneficial. You cannot force people to make a change they have to want to make the change.

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