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## Guatemala's water and scarcity issues

Guatemala's water is under attack. Why is the water supply so damaged? The fresh and clean water resources are very low. On top of that the population and its density in certain areas compared to others is causing water to be less and less common. There are many ways to help with the water problems in Guatemala. Some of those include finding ways to spread the population out, being able to prepare for the future, deforestation, and agricultural practices.

Guatemala is a country in Central America. Its borders include the Caribbean Sea, the Pacific Ocean, Honduras, Belize, Mexico, and El Salvador. The total area of land is "42,042" square miles. The country is very mountainous, although the coastline is not. Its Pacific coastline is over 190 miles long (2020 Travel Guide). For comparison, Guatemala is similar in size to the U.S. state of Virginia, although Guatemala is occupied by over 10 million more people. 923,392 people live in Guatemala City, the capitol city which is also the largest city. Approximately 51% of Guatemala is considered to be urban, whereas it is 49% rural. In this amount of land there is slightly less than 18 million people. Over half of the population of Guatemala resides in the urban areas. 36% of Guatemala is cultivated or considered as of the 2016 census. It has a tropical climate that allows many different crops to grow. Major crops are those of coffee, sugar, bananas, and cacao beans. Major exports include coffee, clothes, sugar, bananas, and metals. Over 40% of their exports are to the U.S. Alone. The average farm size is 0.61 hectares or 1.5 acres. Which is approximately 1 entire American football field. The government style is presidential republic. This means that there is a separation between judicial, executive, and legislative branches, whilst still having a unicameral congress.

The typical family size that lives in each house is 6 people. Although some homes in Guatemala are those of which that have a high monetary value, the majority of the population live in makeshift homes. That are made out of wood, sheet metal, and different types of leaves. Some of the wealthier homeowners have actual floors, but most have dirt floors, especially among the lower classes. Most jobs for women are in factories, but for men the majority of jobs are in the area of agriculture. Minimum wage is different for different job types, and criteria. The average salary is "21,000" U.S. dollars yearly. Children must go to primary school for 6 years. These 6 years are free because of their right to an education in the constitution. As for healthcare for families is also free, travel to health care is the challenging part. Making these two things very affordable and highly suggested for use.

Most barriers when it comes to salaries is due to the government collecting too few taxes (Guatemala-Working Conditions). Which leads to less spending, causing the economy to go down and the value of money to decrease. The majority of people have farms and they grow their own food, therefore, they have access to healthy and nutritious food. Most families don't have direct access to clean water (Access to clean water in rural Guatemala). The tap water is not safe to drink because of water borne disease. They make clean water by using many different accommodations such as boiling water over a fire. The sewage drains are not in very good conditions, they are so bad that you cannot flush your toilet paper, or they will get stopped up and not work. There is electricity in Guatemala although the prices are double of what they are in the U.S. (staying connected in Guatemala). They have good infrastructure in the telephone department. The roads are made of dirt, concrete, and pavement. There are markets everywhere selling all types of goods. The typical family diet consists mainly of corn, meats, and rice. They get their food from farms, and markets. They cook it by using fire, as well as stoves.

Currently, the water scarcity depends on what part of the country people live in. If people live in rural areas the water supply and sanitation rates are very low. The severity is very high in those places. The most populated parts of the country have the least amount of clean water. Not just because of the population, but because of the lack of proper sewage systems and the altitude. Considering that the population is not distributed throughout the land. Contributions to the water scarcity, and sanitary issues are because of the past decisions, the population density, deforestation, and improper practices. It affects both rural and urban areas. It affects Urban areas the most because of the over population. It still affects the rural areas because of the agricultural practices. It affects the children and elderly the most because they are easier to get sick. 44% of children are severely malnourished (nutrition Guatemala). The minorities are less recognized, even in such times as these. It has everything to do with the environment. It affects the cleanliness of the drain water. It affects all the crops that are using the water to grow. It affects the animals that ingest the water. It affects the people who drink the water, those same people that eat the crops, and the animals. It goes in a circle. Nature it one circle that goes around and around and affects new people, animals, and plants every time.

Based upon extensive research, one could see that Guatemala could benefit from replanting trees. Over the past couple of years, deforestation has taken over the country. 50% or more of the country has lost all or close to all of their trees. Whether it has been from making roads, firewood, or to make room for the population to grow. The pros of this include better oxygen, cleaner water, and many more.

Trees are what supplies us with oxygen, with more trees the air will be cleaner, and the rain will not be exposed to near as much pollution. The water will be cleaner since the trees act as a natural filter for harmful bacteria. Once the trees are planted, they can survive on their own, which means that the upkeep is little to none. On the other hand, growing more trees can be harmful. There will be less room to grow the population. The costs of trees can be expensive. There are ways to get around the population sector of the problem. Since the amount of open land will be smaller, we can increase infrastructure by building up instead of out. When it comes to cost it could be funded by non-profits that help with the cause of having a better climate in general for the world. Other organizations can help band together and plant the trees. The government can help with funding for natural resources. Community members play a part in supporting the cause by spreading the word of good deeds. With more people on each other's side, the more people we can impact, and the more people will support our cause and help us spread awareness.

There are no policies to be put in place. Although it would be best if the people in the villages to agree to this and to have their support would be a requirement. Cultural behaviors would be impacted, but not drastically. This project could be sustainable by getting the people who live there in on it. If they are in on it, they can see that it would be a new tradition. Which means that they themselves with the new tools that they have can help their own communities in the long run. People can learn to be sustainable in planting their own trees for more and more generations.

A second recommendation would be to develop new techniques for conserving water. Such as new pipes for the water to flow. Others may include providing people with the necessary materials to be able to clean their water. People will do this by donations and support from other people with the same cause. The plan would be to start out small and help one or two villages, but eventually go onto helping as many people who would like to be helped. People would like to be able to give people the necessary resources to be able to help themselves, and others in the long run. I would do this by using donations and help from others. I would like to incorporate as many people in the cause as possible.

It would be run by civic organizations. It would be funded by charities and donations. Community members play a part in spreading the news about people all over the world trying to help even the smallest of communities. The government would be responsible for helping with donations and funding, as well as also helping to spread the word. Other organizations would be the people who help install the new pipes and materials. Along with teaching people of the many different ways to help conserve water and make it drinkable without having to lose their children because of the many diseases that are in the water. Policies that would need to be put in place are those that protect water rights. And prevent clean water sources to be damaged by trash disposal, and sewage dumps. There are still a few cultural things that we must get through. Most families have lived in Guatemala their entire lives meaning that if we change the style of living and the accommodations that we will give them, then we must be willing to help them adapt and teach them different things. This will ensure that future generations will have a healthy and safe place to live, where they can go to the local well and drink without having to be worried about getting sick.

This project can be sustained in many ways. First, there is the build over time, and we can steadily help more and more families. People can eventually reach families in other countries that are dealing with the same issues with sanitation and water. The more we do and the more people that find out about the cause the more people we can get to support us. With more support we can gain more supplies to be able to help more and more people. With all of this support we can change the world for the better and save lives. We can save future generations.

The last recommendation is to help expand the population to some of the more rural places. Meaning that the plan would be to help families be able to live farther away from the more populated cities to places that have more and better water. This would be done so that the families can be less crowded and have access to the abundance of clean water in rural areas. People would work with organizations to help manage and lead the project.

Funding for such plans could be funded in many ways. People could all come together for the reason of making everywhere a better place. Funds could be donations from communities and charities, along with anyone that would want to help. Community members could help with transportation since they live there and know the geography. Organizations from around the world can pitch in with materials, and knowledge of the subject matter. For this to be successful policies to protect the water in the newly occupied areas of land must be those of which make it to where you have to dispose of waste properly. And your sewage must have a specific place to be drained and must be labeled saying that it is sewage and that it is harmful if consumed. This will affect the normal doings of the people in the country, although it shouldn't be so severe that if affects them culturally.

This plan can be made and formatted to become more sustainable. Although eventually there will not be a need for people to help anymore. Eventually everyone will be living in suitable homes and have sustainable drinking water. The sustainability comes from adapting and growing. Then to be able to help more countries, and continents.

In conclusion Guatemala has a lot of great attributes, but still needs help from people. By planting new greenery, people can help filter water and air. By helping Guatemalans with new pipes, and forms of cleaning their water they can have a lot more drinkable water. By helping the spreading of occupied land, we lessen the density of the population to where everyone has a fair chance of having water. All of these reasons are why people should feel so strongly about the water health, and the children.

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