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Madagascar, Water and Sanitation

Madagascar: Water Sanitation

In today's world, people abuse and take privileges for granted. With first world countries having access to a lot of resources, the people become complacent. From the provided resources, it's easy to forget about other people and the struggles they go through. In most first world countries, clean water is a given. Bottled water, well water, city water, and many more variations are all clean for the people to drink. In certain developing countries, climate issues can affect resources, including water. Water safety is crucial in the lives of the less fortunate. Not only is unclean water unsafe to begin with, but consuming it can lead to major health issues. These people need to have reliable water that they can consume and use in their everyday lives.

1. Madagascar Living

Madagascar is currently a developing country. For the people living in this country, it becomes difficult to live a healthy, happy life. With families being on the larger side of 4.9 people on average in one household, it's hard to financially take care of everyone (Knoema, 2017). In Madagascar the population is currently holding just under twenty-six million people (Worldometers).The large families make their living quarters out of grass, straw, mud, brick, wood, bark, and bamboo. These huts are quite small and occupy one or two rooms. From the small size huts holding large families, income is crucial (Our Africa). The jobs that are most common in Madagascar for the ones in extreme poverty include agriculture, mining, and forestry. With these dangerous jobs, the pay is not the best. On average, an annual income is about 981 dollars. Out of the twenty-five million people, twenty million maintain themselves at about two dollars per day (Minimum Wage).

For the families in Madagascar, their diets contain few options with minimal nutrients. The geographic location of the families determines what's available for them. Areas near the coast are provided with fish, shellfish, and coconuts. Over half of the Madagascar population lives in rural areas and tend to be the ones in most poverty. In the rural areas, meals mostly consist of mainly rice (Our Africa). The goods consumed do have some nutrition, but they do not cover the rest of the essentials. Madagascar has one of the highest rates of stunted growth among children due to lack of nutrition. Most families who suffer from illnesses and other health issues can not afford the medical help needed. In Madagascar, the hospitals are free, but bedding, food, and other materials are charged. For the poor rural families, there is also the travel price to get the medical help. Common illnesses in this country include tuberculosis, malaria, and diarrhea.

The land in the rural areas are minimally used for agriculture. Only 1.07 percent of the land is cultivated and grows rice, maize, potatoes, bananas, and coffee. The country then exports coffee, vanilla, sugar, and shellfish. For the agriculture workers, it's challenging to farm due to the mountainous terrains in the country and the tropical weather conditions (Index Mundi).

2. Misfortunes

Madagascar as a whole faces many challenges. Families in this country suffer from extreme poverty which leads to major health issues. Not only does the wellness of the people matter, but the correlation between the ill and educated do as well. The numbers of enrolled children are at a drastic low. For every

ten boys that are in enrolled in a grade, there are barely five girls. It also becomes more challenging for schooling due to some communities not having any schools. Today, the percentages of active students have increased, but still there are some children who don't get a chance to be taught for the reason of overcrowded classrooms and lack of teachers. School funds are minimal and families struggle with the cost of sending their child. With the weather conditions in the country, the schools that are running get destroyed along with the few materials that they had. Poverty in local families decreases the chance of children going to schools for the sole purpose of help needed around the house. Madagascar has an irregular climate where in some areas, there could be a cyclone, drought, or a tropical storm. With the unclean water within the country, the weather makes it hard for the issue to be resolved. With minimal students, knowledge on water is almost nonexistent. To fix, or lessen a problem, education on the topic is needed (UNICEF).

Rainwater is collected in the country of Madagascar, but out of the 449 billion cubic meters of annual rainwater, only 3.9 percent is used. Cultivated land is basic due to mountainous terrains and the lack of water does not help increase the amount of produce grown in the country. Without educated workers, clean water and successful agriculture are merely a dream.

3. Current Water Conditions

In Madagascar, more than 11.7 million people do not have access to safe water. As a whole, there are 88% of people who do not have any access to improved sanitation. The country itself ranges from rainforests to dry deserts. With the variety of landscapes, drastic weather conditions may take effect in those areas which can cause water contamination (WaterAid). In the capital, Antananarivo, the people in poverty have no access to water pipes. Even yet, illnesses from the unclean water prevail and cause deaths, mostly in children and can also keep them home from school. The main illness shown from the contaminated water is extreme cases of diarrhea. Diarrhea has even caused more health issues than measles, malaria, and even HIV/AIDS. When comparing the access people have to safe water, 66% of people in urban settings have access while only 15% do in a rural setting (Our Africa). The country is so reliant on water that they will use whatever they can get to stay alive, even if it is not safe to consume. Madagascar being an island also has its downfalls. The country is surrounded by water, but the ocean is too salty to use for everyday life. The country also has an abundant amount of groundwater, but with no source of filtration, the water has a high amount of saline. Water is a need in this country but with the contaminations, it is of no use to the people who need it most.

4. Clean Water Needs

Providing the people in Madagascar with clean water would give them a second chance at life. The people lacking this liquid would be able to minimize illnesses, contain better hygiene, and quench an everlasting thirst. Children, with clean water, would be healthy enough to attend school. Poverty would decrease for the families and they could instead work on finding a steady job to provide. Families would have less worry about their health and shelter for the water would solve many of their everyday issues. With the positive outcomes of clean water, families would not struggle as much with money, food, and health related problems and they would begin to be happy.

The weather variations in Madagascar makes accessible water crucial. During the months of November to April, it is rainy and hot and during the months of May to October, it is cool and dry. In those two seasons, the country is prone to droughts and tropical storms (Climate). The times of the droughts bring people to drink any form of liquid they can find to keep hydrated. On top of being dehydrated and having illnesses, the people are forcing themselves to work for resources to keep them alive even if could have worse outcomes down the road. Operations need to be taken to help better the lives of these people.

If help is provided to these people in need, then they would have a chance for many opportunities that they have never had before including a job, school, and other privileges. Not only would they have more opportunities, but they would have reassurance that they aren't all ill or that they do in fact have enough resources to get by. The number of children deaths would decrease as well due to the decrease in bacteria. The percentage of people that have no access to sanitation would also decrease with the help provided (WaterAid). Overall, the amount of bacteria in water and sanitation areas need to be decreased tremendously in order to give healthy lives to the families and people in the country.

5. Effects of Unclean Water

From the bacteria in the water, many diseases become present in the lives of those in Madagascar. One of the main diseases that take harbor in people is diarrhea. Many children become victims of this illness and some cases result in death (WaterAid). Diarrhea is caused by a bacterial infection in the intestines that excretes feces from the bowels in a liquid form. If the illness continues for a long period of time, the person can become severely dehydrated. With the minimal amount of water in Madagascar to the poor families, this becomes an issue. The disease leads to dehydration, but it cannot be cured completely due to small amounts of unclean water. There are many remedies to diarrhea that can be prescribed by a doctor, but if one cannot receive medical help, clean water is best option. With the poverty in the country and lack of safe water, it seems that a cure is helpless.

6. Solutions

The amount of solutions for Madagascar's water issues are endless. Many solutions can benefit towards one specific region while other can cover the whole country. The problem that is shown with some solutions is the funding aspect. Most of the possible solutions are very modern and expensive, which Madagascar can not afford. Finding a cheap yet effective solution is a challenge, especially for the desperate needs of the people. One solution that follows the guidelines is Folia Filters. These filters are made of paper and silver nanoparticles. The silver breaks down the structure of the cells in the viruses and bacteria as the water flows through. The filter is placed inside a makeshift funnel and attached to a two liter bottle. A lid with a hole covers the filter itself, and a bottle of unclean water is then connected into the hole. The entire device is then flipped and the water drains through the filter into the new bottle. For an entire year of using this device, it is at the low price of twenty-five dollars. This filter device is specifically made for those who sustain under ten dollars a day. The filters can come as pages in a book and torn out when needed. A single filter is capable of treating up to 100 liters of water before needing to be replaced (Folia Water).

7. Folia Filters

Folia Filters are a cheap and effective way to clean unsafe water. The filters are made from paper, but are fused with silver nanoparticles. The silver acts as the filtering source; as water is trickling through the filter, the silver destroys the cells of the bacteria. The filter is folded into a cone shape and placed into a funnel. The whole device provides freshly treated water to use for any purpose that it's needed (Folia Filters).

The setup of this device is fairly simple, so it would be easy to explain to the consumers. The device requires no extra materials or boosts for treating the water. It can be set anywhere, including in the house and it is not very large. The only materials needed are the filters, a funnel with a lid, and two bottles. For the living conditions of many families, this is an easy setup and requires minimal work. The water that goes in the filter is the unclean water and after the filtering, the water should be more clear and safer to drink (Folia Filters).

For the number of people that would use this method, it would be beneficial to have the materials in all markets and stores so it is all in one place. Having everything in one place would make it easier on the families and it would be a quicker process to get the filtration started on their water.

8. Other Possible Solutions

Using ceramic filters would also be a good method to treating unclean water. Although this method is a little more expensive, it is still a solid choice to take. With more donations and help, ceramic filters could be used as an alternate choice in a sudden situation. This device removes larger bacterial organisms from the water by flowing the clay pots. From using this, the diarrheal disease would reduce by 60-70%. Although this has a few cons, including it having a low flow rate and it does not have residual protection, it would help decrease the main disease in the country (inhabitat).

Many solutions can be used to fix the unsanitary water issue, but help is greatly needed. Donations and funds would need to go into the problem so the people in poverty would have less to pay for. Both filtering options can be used and be effective, they just give a variety to the people. The simplicity of both methods also works as an advantage to the people in need of them due to an easy explanation of how to use the devices.

The government of Madagascar could put forth more help as well. With the president being in office for five years, they could evaluate the issue of the water sanitation in the crucial areas and take charge with a fix (Wild Madagascar). If the president could see the issue, then they could expose the issue to the rest of the country and to the world. This would allow the issue to hold more precedence and a start to fixing the problem could take place.

9. Madagascar Sponsors

Madagascar may have high rates in poverty, but that just means they need help. In all aspects, a solution to the water crisis is presented. The filter may seem cheap, but even so, many families still may not be able to afford it. A few people have sponsored the filters in order to give that option to the families. Madagascar currently has no families with this recently invented filter, but with the right help, that could be changed. An organization that is currently involved with helping the water epidemic in Madagascar is WaterAid. WaterAid is working to help the families in need of clean water. They work with a few local partners and deliver resources by receiving donations. Trained volunteers make and fix the devices when needed. The work is shown to the Madagascar families so they know how to use the water treatments. The water remedies they are providing are drilling borehole rigs, rainwater harvesting jars, gravity flow systems, and the rope pump. These devices are spread out around the country in hopes of helping change the lives of families in poor conditions (WaterAid).

Folia Filters are fairly new to the world and some countries have yet to obtain them. As a country, Madagascar would need to be willing to let the organization show them a new strategy. With a book of these filters, or a price of twenty-five dollars a year, families in Madagascar would be able to have a healthier life. The clean water would provide luxuries the people have never had, including clean clothes, consumable water, clean bathing water, and less illnesses. Without many illnesses breaking out, families would be able to get a sustainable job and children would be able to go to school. The healthier the people are, the more likely they will succumb more money to provide their families with other essentials. Clean water does not solve all the issues this country is facing, but it takes one thing away from them to worry about.

These basic filters may seem like a simple idea, but they should not be underestimated, for they provide a cleaner life for those in desperate need. Clean water provide many opportunities that the families have not had including education. From gaining education, jobs can be started which would then lead to more money to use on food, clothing, electricity, and any other need. The country itself would start to look up due to the increase in workers and decrease in poverty. To help start and continue the clean water systems, Folia Filters, people who have more than enough money for themselves and are willing to help this cause could donate money. A charity for this cause could be put into place as well to ensure the people donating money know exactly where the money is going. Not only will extra money help the families in Madagascar, but evenly distributing rainwater would also be beneficial instead of only using a small amount. To distribute the Folia Filters, mission trips from churches, schools, and groups of people could take place. For that to happen, the issue in Madagascar would need to be broadcasted for people in other countries to know what to do and how they can help. The volunteers could take a trip and they could physically hand out the filters to the people in need of them.Help from other countries and people within the country will help bring light to the lives of the less fortunate.

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