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Brazil, Factor 9: Water and Sanitation

Brazil: An Overcrowded and Unsanitary Population Leads to Poor Health

In today's fast-paced world, humanity may not stop to simply think about others. People in America, as many see in the media, are very materialistic. All that humanity seems to care about is how big of a TV you purchase, what kind of vehicle you have, or how many pairs of expensive jeans you own. Sadly, today's people rarely stop to consider the people of faraway places. People that barely have enough of the basic necessities to sustain a simple life, whether that is the availability of food, water, clothing, or shelter. People may ignore this fact or simply not care about it, but the issue of worldwide poverty is still very evident today. Almost everyone has seen at least one of those videos showing the people in third-world countries. They show the pain and hunger that children live in. They also show the disease and lack of basic supplies for living. Then these commercials ask you to donate money to help these various people out. Most people will simply change the channel and not even realize that they are witnessing some of the world's worst poverty. It truly is a shame that these people go unnoticed and are not being properly helped. Most people in Iowa have experienced what it is like without power after a big thunderstorm or snowstorm. Sometimes you hear of frozen pipes, broken water mains, or boil orders that can take away all of a community's running water or at least making access to it very difficult. This may last a couple days on average. Sometimes trash collectors do not come during one week, and there are piles of trash lying around the house or the entire street. Hopefully this can help illustrate the terrible conditions some people are living in at this moment. When the power is out, food may spoil and occasionally make someone sick or even kill someone. This all leads to throwing out all of your refrigerated foods and wasting money. Another situation is when pipes back up and a toilet or drain backs up. This leads to gross water. When water cleaning stations fail, water is sometimes lost or the unsanitary water to be cleaned will reach rivers, lakes, and the environment. All of these situations are very difficult. They can throw a wrench into any plan that you have and make **daily** life difficult. Now imagine a situation where you have to deal with these kinds of problems **every** day of your life. Just think of how your day-to-day life would change drastically. Imagine living in areas so poor and full of poverty that you cannot even fathom the idea of having the basic necessities that we have in America every day. Imagine living where thousands of people are crammed onto a small portion of land or even a hillside. Sadly, this does happen in the world. Many people in Brazil live in terrible conditions exactly like this. Some of the world's largest cities are in Brazil, and they have much of this occurring. According to "The Troubling State of Sanitation in Rio," Emily Hosek says that much of Rio de Janeiro is without formal water sanitation. She also states that the statistics that the city gives to the people are also a "best-case scenario" according to Brazil's Ministry of Cities. Another large problem is that much of the formal water disposed is not cleaned very well, or at all, before it is dumped into the ocean. According to the same article, the CEDAE (the state's water utility supplier) reports that only 39.2 percent of people who have contracts with the sewage companies are actually connected to a formal network (Hosek). Another huge factor is the overcrowding in Brazil, especially between the two cities of Sao Paulo and Rio De Janeiro. An article that revealed UN findings showed eastern Brazil is becoming a "Mega-Region" of the world (Mail Foreign Service). A large group of people live in a small area of land on the coast-line, which is leading to serious overcrowding on the coast. All of the people in this small area are leading to serious sanitation issues in seriously overcrowded cities. To go along with this, there is a monumental gap between the rich and poor in Brazil, with the rich earning much more than the poor ("Gap Between Rich and Poor"). Some of the main issues that greatly affect the water and sanitation in Brazil are the overcrowding of large cities, little access to clean water, and the removal of waste and sewage in the cities. Other factors that can play a role in this are little

education of the people, lack of health care, a large gap between the rich and poor, and the overall quality of life of the citizens that currently live in these areas.

As of 2013, Brazil's population was figured to be slightly over 200,000,000 ("Brazil Demographics Profile 2013"). This is the sixth largest country in the world. The ethnic groups of Brazil are 53.7 percent white, 38.5 percent black, and 6.2 percent other ("The World Fact Book"). Brazil has an 83 percent growth rate, which means that it is shrinking instead of growing in population. This reflects the general patterns in Brazil of an aging population and its slow population growth rate. The average family size in Brazil is now shrinking with less children and smaller families. While the overall population is shrinking, the population in cities is increasing tremendously ("The World Fact Book"). An interesting statistic is that eighty-seven percent of Brazil's total population lives in urban areas. The major urban centers in Brazil are Sao Paulo, with a population of about twenty million, and Rio de Janeiro, with an approximate population of twelve million. Other cities such as Belo Horizonte, Porte Alegre, and the capital city of Brasilia have populations ranging from three to five million ("Brazil Demographics Profile, 2013"). The economy is based largely on agriculture, mining, manufacturing, and service areas. Brazil has the largest economy in South America. Brazil has an average GDP, per person, of approximately \$12,000, which ranks them at 107th in the world. The GDP composition of the nation's sectors is five percent in agriculture, twenty-six percent in industry, and sixty-nine percent in services (Schneider). Popular agricultural products are coffee, wheat, cocoa, fruit, beef, rice, and soybeans. Their most popular industries are in shoes, chemicals, lumber, iron, ore, tin, steel, machinery, and motor vehicle parts ("The World Fact Book"). Brazil has an official unemployment rate of 5.5 percent. Alarmingly, twenty-one percent of the people fall below the poverty line. Brazil's school system has also been improving lately with its growing economy. The school life expectancy in Brazil has increased to fourteen years. One health issue of the people is that nineteen percent of its adults are labeled as obese. The average life expectancy for males is seventy years and sixty-seven years for females ("The World Fact Book").

One important issue in Brazil is overcrowding. The United Nations found in a report that the world is having a new sort of phenomenon beginning to arise in urban areas called "mega-regions" (Mail Foreign Services). This report describes a mega-region as a geographical area where large urban cities grow to amazingly large populations very near each other. It is similar to the theory that two large cities in one state, such as Ames and Des Moines grow more and more outward towards each other. The South American Mega-Region happens to be in Brazil, between the two large cities of Rio de Janeiro and Sao Paulo. Very large cities are starting to arise on the coastline between these cities as the populations are rising. This fairly small distance on the east coast is believed to hold somewhere around forty-five million people. In these large cities, there are favelas. Favelas are simply overcrowded and irregular housing communities. They have random shanties built from random materials that form an extremely disorganized town. They are even sometimes built along a hillside. The favelas are fairly accurate to what is seen in the movies. They are full of many people. The favelas are also extremely unsanitary, with little electricity or water sanitation. A huge problem with these areas is not only that they simply exist, but that they are growing. The favela population over the last decade in Rio has grown over twenty-seven percent, according to reports published in "The Rio Times." The article also tells that Rio de Janeiro and Sao Paulo have favela populations over one-million (Hurrell). A scary issue is that the cities' average growth was only three-point-four percent, which means that more people are moving to these areas. Because these places are disorganized, there could be thousands of people living there in these areas that go undocumented. So sadly, this factor is worsening. This affects access to food in many ways.

With this overcrowding, disease is soaring. People in these areas do not practice sanitation of foods, and this normally results in many foods spoiling. This causes disease and much wasted product. Crime also runs uncontrolled in these areas. The crime rates in these areas are extremely high, and a lot of it is believed to go unnoticed (Moraes and Bezgachina). This directly interferes with much of the daily lives of these citizens. The country would greatly be improved if overcrowding in these areas wasn't an issue. For the average family in these areas, the overcrowding leads to disease and poor sanitation, affecting quality

of life for the people. If this issue would go away, even slightly, the people in this area would be able to improve the economy, as well as the lives of their children. As of now, there are projects being done to try and aid these places. There are many organizations that accept donations to build youth centers in these areas to educate children on sanitation practices, schooling, and lifestyle choices (Hosek). Another project is being funded by the Inter-American Development Bank, which loaned \$150 million to improve living conditions in these low-income housing areas (Hosek). This money allotted to these areas is meant to finance public works, such as water and sewage services, road surfacing, street lights, recreational areas, and child development centers. Many volunteers are needed to help with these projects. I believe that a massive overhaul needs to be done by a seemingly uninterested government to try and assist these people. Projects that involve tearing down old shacks and replacing them with more adequate supplies with better organization should be the key focus. If urban planners could organize streets and houses orderly and squarely like that of modern areas it would be much easier to implement water supplies and potable water. With this, overall organization and control would be easier maintained. With the organizational styles in place, it would be much easier to set up waste removal systems and improve the ability to reach the citizens. If successful urban planning techniques were used, people would have an immediate change in quality of life for the better. With this, disease would go down, waste mass may be easier managed, organized sewage systems would be more effectively implemented, and crime rates would most likely go down as well.

Another glaring issue of these cities is water sanitation. Approximately, only one-half of the water that enters the ocean from Brazil is believed to be treated in any way. Approximately twenty-six million Brazilians, as an entire country do not have access to potable water (Moraes and Bezgachina). So this issue does extend to rural environments as well. First of all, a lacking amount of the budget is given to water and sanitation issues in these poor development areas. The city of Rio de Janeiro is trying to improve this before the upcoming Olympic Games in 2016. One thing that doesn't seem correct to me is that Brazil is allotting huge amounts of money to the Olympics and the recent World Cup. It seems that much money is being used in the wrong ways. Instead, money should go back to Brazil's citizens. As these events approach and happen Brazil still tries to improve parts of the city for these mass- sporting events. A key issue is that the people in these favelas and slums have little knowledge and live differently than the rest of the city, and obviously, less organized. They have little knowledge of how to practice clean sanitation of water, or have little access to any clean water at all. This poor access to clean water greatly affects the diet of the people in these slum areas and potentially those of poorer rural areas in Brazil. It is believed that the main problem, according to the report on "The Troubling State of Rio" is that the sanitation systems implemented in the cities, such as favelas and slums in Rio and Sao Paulo are all different from each other. The key reason believed as to why these systems fail is that the people living in these areas have not enough knowledge on how to operate the systems in their areas. So what is a possible solution? Loans and project funds have been given out to assist these people discussed earlier in this paper. I think a key solution to improving usage of water sanitation systems would simply be education of all the people in the neighborhoods that use the systems. If contractors and construction crews would work with the citizens of the slums and not for them, a simple education to a group of leaders would help. Each city should also try and standardize each system so that they all are the same. If each system were implemented relatively alike, less confusion on operating them would arise. This would lead to much greater success rates of the systems. Posting instructional signs and having regular meetings with the civilians discussing issues and concerns about the sanitation systems would help the greatly as well. With the lack of potable water reaching the farmers of western and central Brazil, I believe irrigation systems from the many rivers in Brazil should be applied such as utilizing the huge Amazon River. Another issue that may seem overwhelming but necessary for the city would have to be a complete change in the pipelines to reach these areas more effectively. I believe opening donation projects to go specifically to projects to send water lines to these areas would make a direct impact on the quality of life in the people of these poor areas. It would take all phases of help from the contractors, to the citizens of these slums, and the needed volunteer help to get the manual work in. Volunteer work would greatly be

needed because paying for extreme amounts of labor would be a price simply too great to afford. This project would be difficult, but it would be a very crucial role to improving quality of life in these areas drastically and immediately.

Lastly, there is little to no waste removal, solid or liquid, which is leading to disease and hurting the local ecosystems and waterways. The first lacking area in these places is solid waste removal or garbage. The large cities garbage removal systems' reach has not gotten as far as the slums and favelas effectively yet, which is leading to mass piles of garbage sitting in the open or local trash piles are beginning to form. Some articles have even reported instances during heavy rainfall where trash flows down the street similar to a river (Hosek). This obviously can become a major public health issue with all of this waste sitting around. With all of this waste present, disease is starting to run wild in some of these areas. The quality of life also seems to be getting worse as conditions seem to only worsen with the population of the favelas increasing. The other part of waste removal is water removal. In places that are lucky enough to have some sort of running water, (not to mention if the water received is clean at all) the removal of it is not good. It is believed by many separate estimates that anywhere from one-third or maybe even a half of the water waste is treated before re-entering the waterways, and eventually, the ocean. For example, in Rio it is believed that over thirty percent of the citizens are not connected to any sort of formal water sanitation systems (Hosek). The worst part is that these numbers seem to be the best case scenarios. To go along with this, the government has tried to implement waste removal and water lines to poorer areas of the city and the favelas. Sadly, almost all of those attempts have failed. So what is going wrong? First of all, the government has made many empty promises. There are many projects that they claim will be soon implemented, but just never occur in reality. So it appears to these people that their government has stopped caring about them. On a more positive note, money is recently being allotted to many sanitation projects, like those described earlier. There also are many non-profit organizations that are trying to set up trash collection and open centers to try to help educate people on simple, everyday sanitation practices. The biggest reason of failure occurring seems to again be lack of knowledge of how to use each individual system implemented in parts of cities. So what is the reoccurring theme? To me, the biggest issue seems to be a lack of understanding between the citizens of the slums and the people sent to build in these areas. This issue keeps popping up as efforts to try and set up waste removal fail. So besides investing the time and resources in building these projects, organization and communication needed to be stressed equally as much. So once again, I would recommend an organized, standardized method of organizing the sewage systems. This also leads right back to the need to better organize these areas as well. If the government cannot help resolve these issues, it may take private organizations to come in and help. A way to get a large organization to come in and fundraise would involve correct advertising to them. A team would develop a pitch to a company showing how good it could make a company look to the public if they decided to take initiative to help. The keys to getting serious work done would have to be organization and understanding.

The issue of water and sanitation in these crowded urban areas of Brazil has many affects on food quality and availability to its citizens. The lack of clean, available water can cause severe diseases and hurt the quality of life to the people living in these areas. One problem about places like this is that they live in major urban environments. In these areas are much technology, wealth, and innovation going on everywhere, but there is also very much poverty that goes unnoticed every day. When people think of extreme poverty, they may think of a poor country in Africa. They probably don't think of people living in one of the world's largest cities. This creates a problem, because sometimes, the opulence of these large cities can overshadow the poverty that is actually happening. This shows a large gap between the rich and the poor. One positive thing that may force Brazil to start making changes, at least in Rio de Janeiro, would be the upcoming 2016 Olympic Summer Games. These would put the entire city and country under scrutinizing view of the entire world. I do not want to put out the idea that every single slum and favela is absolutely terrible and unbearable, because some are moving positively in the right direction. With the population in these areas growing at a fast rate, this problem could easily become an

epidemic if not treated with extreme care and sensitivity. My hope from this report is that the reader of this may realize that there are places in this world that have lives that are much more difficult than our own. To me, I think about that and it inspires me not to waste or litter, or let trash pile up. Through my research, I have seen how bad things can become if people live that way. Hopefully solving this problem would make Brazil a much stronger country and maybe they might pay it forward, and be themselves one of the nation's helping other countries in the world. To sum up the issues of the factor of water and sanitation in Brazil, the poor quality of available water and sanitation is affecting the citizens. One of my major issues was the overcrowding of the major cities in Brazil. The population appears to be constant or even shrinking, but the population in the cities and favelas is greatly increasing. This is leading to huge population densities. Secondly, the availability of potable water is an increasingly problematic issue as there is not enough water to reach these areas. Lastly, improper or inexistent sanitation systems are not successfully in place yet. Instead of looking at these issues as three separate issues, I think it is better to look at these as one overall problem. They all go hand-in-hand with each other. It should be seemingly easier to address all of these issues at once. The cities should go around from poor neighborhood to neighborhood and reorganize the communities on a proper and more modern urban design. Once the favela areas can be aligned in a square pattern the city should bring in water lines. After that, they should bring in sewage lines and waste collection centers. If this all was addressed at once, the citizens in these areas would be more organized with less filth and disease around. This project is a crucial part to turning around the lives of such a large portion of Brazil's population. Once the cities of Brazil can improve, the rest of the country can follow their example, and hopefully, Brazil can emerge as a world leader.

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