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Pinnacle

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The World Water Crisis

The world water crisis presents immense challenges to people from all around the world (Charity water). The world water crisis refers to a complicated relationship between access to clean water and poverty in areas that lack enough accessible clean water. Today, leading experts study the world water crisis and seek solutions that would generate positive international impacts (Fleming).

The world water crisis is an international issue that many people do not understand. World development of a growing population and evolving industries lead to a higher demand for water (Un-Water). There are at least three possible causes of a water crisis. One, simply a lack of water in a particular area; two, lack of accessibility to water; and three, contaminated water.

Water is the basis of life. No living thing no matter how big or how small can go without water. Therefore people without immediate access to enough water have to walk for water. The average walk for water in rural Africa is around a 4-mile walk round trip to get around 5 gallons of water (Reid). If the walk was not already enough, 5 gallons of water weighs approximately 40 pounds taking a toll on their physical state; many people who have to walk every day to get water suffer from back issues (Smith). The walk needs to be done multiple times a day to be able to provide enough water for a family (Face Africa). Unfortunately, in certain locations, much of the water gathered is also contaminated. Consumption of dirty water leads to serious and vital

health and sanitation issues (Charity water). Americans use an average of 80 to 100 gallons of water per person a day (USGS). In contrast, the average amount of water used per person every day in Africa (not even in the parts of Africa affected most by the world water crisis) is 12.41 gallons (FAO). Where people must travel to get water, the walk takes up time they could be working or learning in school. As a result, people cannot work as much - or even cannot work at all because they are constantly getting water. Children especially girls are pulled from school so they can gather enough water for the family to live off of, and the women are expected to also gather water instead of work. 72% of all the water collected in Sub-Saharan Africa is collected by women and in Africa alone women spend 40 billion hours a year collecting water. This contributes to a cycle of poverty because girls and women who are gathering water instead of doing other productive forms of economic activity like working or staying in school (Charity water).

Many things have impacts on the World Water Crisis and many predict it will worsen. Some of the causation issues include climate change, population increase, the pricing of water, water footprint, water infrastructure, and the diminishing groundwater (Schleifer). The effects vary by location. Sub Saharan Africa includes many third world countries and is one of the areas most affected by the crisis however in the near future many experts predict they will not be the only ones. It is predicted that one-third of the population everywhere will have issues with water scarcity by 2050 (Haugen). The world water crisis deserves to be an issue we face and put our best effort into educating people about and trying to solve.

Water projects and water treatment plants are very expensive and the cost varies due to location. To have a water treatment, funding is necessary. Here in the United States, we pay a

water bill. Along with the government, the water bill helps make sure we can sustain our water treatment plants. The type of water treatment plant built depends on the location where it is going to be built. Before the water treatment plant is built, experts analyze what type of water source is present and then builds a water treatment plant that will best suit the water source. Scott Vanier, a project manager and owner advisor for Carrolo, says that there are issues regarding water treatment plants but also promising trends and innovations for the future. He says one issue is the amount of money it costs to build a water treatment plant. This funding is particularly hard to get in third world countries. Vanier also stated that some of the innovations for water treatment plants are even more expensive than the normal water treatment plants because the technology they use in some of the new plants is very expensive. Although the funding is difficult to accomplish for some of the new technology regarding water treatment plants, Vanier says that taking homogenous solutions like saltwater and turning into freshwater is a promising innovation, especially because of the amount of freshwater like aquifers and rivers are diminishing.

Where there is not enough funding for a water treatment plant, many times there is not one. As a result, many people go without easy access to water, leading to the world water crisis. This is the role in which The World Bank should be helping to make sure people have enough water. However, when there is no funding, many times there are grants. Grants are loans that countries can use to help gain access to clean water. China, in particular, has given many loans to Africa (China Africa Research Initiative). When there is not enough funding, this is also where charities come in and. Charities like Charity Water and Face Africa build water projects in areas affected by the crisis.

In the past, some of the projects have not worked. As of 2017, 35-50% of all the water projects built in poor communities failed within 5 years. Not only does this mean the lifestyle of women and girls won't change, but it also means that lots of money is wasted on building projects that fail. The projects can fail in a few different ways, either it can stop working, or it is not convenient enough because they still have to walk to the water and many times it takes hours to wait in the lines just to get a few gallons of water which is not enough for the family (Smith). Now charities devoted to the cause are working hard to make sure they analyze which system would be the best to provide communities with water for a lifetime and that would have beneficial impacts on children to stay in school and women staying in the workplace. Some systems the team building a water project would look into include, hand-dug wells, drill dug wells, rainwater catchments, gravity-fed systems, piped systems, water purification systems, biosand filters, spring protections, and latrines (Charity Water). Making sure they build the correct project for a particular area is crucial so the project does not fail and so they can change people's lives forever.

The world water crisis is an issue we need to put our nose into and help change. We can help empower women and help boost economies in other areas. By seeking solutions and making them happen we can change the lives of millions.

Diminishing the World Water Crisis Personal Application

For my pinnacle project, I will be creating a documentary spreading awareness about the world water crisis; a global issue relating to the inability to retain a healthy ratio relating to the amount and accessibility of clean water. The world water crisis is an important issue to address

because many people can have an unlimited supply of water by simply turning on a faucet, and it would never cross our minds that someone would have to walk 3 miles just to get the amount of water that we use while running a dishwasher. After extensive research among the topic I will be able to spread the word about the crisis because of my knowledge.

I have been doing research for the past months and based on the research the best option for my pinnacle project is to create a documentary because I can give information with a visual aspect that will be fitting for topic. For my pinnacle project I will be creating a documentary about the world water crisis. My goal is to help spread information about the international problem and to help the women and young children suffering from the challenges the crisis entails. The documentary will be filled with information, facts and stats along with simulation challenges, at the end I hope to raise money for the issue.

My project and issue I am addressing matters because it affects poverty levels and children's ability to remain in school. Sanitation and dirty water kills millions of people a year making water safety and accessibility something that needs to be a must for all places and people.

Without knowledge of something we cannot help. My project is an innovative project because many people don't know about the hardships young children and women have to go through each day just to get a very small amount of water. They also don't know how the world water crisis have an impact on poverty and how it is a hard issue to solve. By making a documentary and having a fundraiser for the topic it will help spread the word to have more people aware of the issue so we can help put an end to the crisis.

My documentary for my pinnacle project will inform and help people. The world water crisis is something we should all take a stand for and work hard to end.

Bibliography

Charity Water. “Why Water - Impact of the Global Water Crisis: Charity: Water.” *Charity*,
my.charitywater.org/global-water-crisis.

China Africa Research Initiative , and John Hopkins School of Advanced International Studies.
“Loan Data.” *China Africa Research Initiative*, 2019, www.sais-cari.org/data

Face Africa. “FACE Africa.” *FACE Africa*, 2019, www.faceafrica.org/.

Fleming, Kala, director. *Easing Water Scarcity by Understanding When and Where It Flows*.
TED, Oct. 2015,

www.ted.com/talks/kala_fleming_easing_water_scarcity_by_understanding_when_and_where_it_flows#t-555258.

Food and Agriculture Organization of the United States. “FAO.org.” *Water Scarcity | Land & Water | Food and Agriculture Organization of the United Nations | Land & Water | Food and Agriculture Organization of the United Nations*, 2019,
www.fao.org/land-water/water/water-scarcity/en/

Haugen, David M. *Will the World Run out of Fresh Water?* Greenhaven Press, 2012.

Reid, Kathryn. “Global Water Crisis: Facts, FAQs, and How to Help.” *World Vision*, 20 Aug.

2019, www.worldvision.org/clean-water-news-stories/global-water-crisis-facts.

Schleifer, Leah. "7 Reasons We're Facing a Global Water Crisis." *World Resources Institute*, 24

Aug. 2017, www.wri.org/blog/2017/08/7-reasons-were-facing-global-water-crisis.

Smith-Nilson, directors. *How to Solve The Global Water Crisis*. YouTube, YouTube, 11 July

2017, www.youtube.com/watch?v=DgGlVqZkB8A.

USGS. "Water Q&A: How Much Water Do I Use at Home Each Day? Water Science School

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for More Water Science Questions and Answers Go! 12345." *Water Q&A: How Much*

Water Do I Use at Home Each Day?, 2019,

[www.usgs.gov/special-topic/water-science-school/science/water-qa-how-much-water-do-](http://www.usgs.gov/special-topic/water-science-school/science/water-qa-how-much-water-do-i-use-home-each-day?qt-science_center_objects=0#qt-science_center_objects)

[i-use-home-each-day?qt-science_center_objects=0#qt-science_center_objects](http://www.usgs.gov/special-topic/water-science-school/science/water-qa-how-much-water-do-i-use-home-each-day?qt-science_center_objects=0#qt-science_center_objects).

UN-Water. "Scarcity: UN-Water." *UN*, www.unwater.org/water-facts/scarcity/.

World Bank Group. "Sub-Saharan Africa ." *Data*, 2019,

data.worldbank.org/region/sub-saharan-africa.

World Wildlife Fund. "Publications." *WWF*, World Wildlife Fund, 2019,

www.worldwildlife.org/publications?threat_id=water-scarcity.