Rahul Shah
Hillsborough High School
Hillsborough, New Jersey
India, Water Scarcity
August 16, 2021

India: A Call for Clean Water

Microbe-free drinking water is hard to come by in many areas of India. (PBS)

It's a regular Sunday morning for twelve-year-old Kabir. After leaving home early, Kabir sets out to find a spot for his friends and himself to play cricket in the blazing hot weather of India. After bowling several balls and practicing for several hours, Kabir works up a quench to satisfy his exhaustion. He then sets out to go back home, walking in the sun, longing to drink a glass of water ready to replenish his calling. Once he gets home, he turns to the clay water pot and gulps down a glassful of turbid water, unaware of the toxicity of the liquid many affluent countries take granted for every day. In India, the scarcity of clean drinking water is a massive issue, responsible for hundreds of thousands of deaths every year.

In India, more than 173 million people lack access to purified drinking water, risking their health with every sip they take, every single day. Water is the most significant and fundamental substance on earth, as 60 percent of the human body is made up of it. No person should have any doubt about the water that they are drinking, everyone should be able to perform the most simple and normal actions that people have without worrying about the possible side-effects.

India, as of February 2021, has the second-highest population on Earth, at 1.39 billion people (Worldometers). Despite several mighty rivers carrying an abundance of water, bringing water to this vast country with mediocre infrastructure continues to be the challenge. This is a major problem for India's government, a parliamentary structure currently led by the BJP Party, and its Prime Minister, Narendra

Modi. As of 2020, the average family size in India is around 4.4 individuals per household (arcgis.com), with 65% of the population living in villages, while the remaining population lives in urban areas (statisticstimes.com). Compared to western nations, the people of India are significantly less prosperous, with an average salary of 1,346,251 INR or 21,750 USD (averagesalarysurvey.com).

A substantial proportion of the population lives in areas that lack the necessary infrastructure to channel, filter, and distribute clean water, a basic necessity.Education in India also continues to be out of reach of its many citizens because quality education is expensive, leaving only 10.6% of its population (over the age of 14) with a master's degree. As a result of the country's lack of education, many people in India lack awareness about the potential and dangerous effects of unclean water leading to significant casualties and suffering every day.

Despite India's water issues, the administration of Prime Minister Modi has taken the country close to providing access to toilets for 100% of the population, with 88% of the population already present having access to cell phones and 95.2% of the population having access to electricity. Most Indian citizens are also able to have sufficient access to food as the 2013 National Food Security Act (NFSA) has made it possible for all Indian products to be distributed in fair price shops where people can purchase food at subsidized rates using ration cards to ensure that everyone has access to food (finshots.in).

As of today, 163 million people in India have no access to clean drinking water, in part due to the substantial support received from outside organizations such as Water Aid US and government initiatives such as "Clean India" aimed at supporting India in its efforts to provide all its people with clean drinking water. Unfortunately, the Indian news network "NDTV" stated that due to worsening trends, by the year 2030, forty percent of the country won't have access to clean drinking water (NDTV). India's toxic drinking water system boils down to the ongoing pollution of its bodies of water. According to the Central Pollution Control Board of India, 63% of the sewage in Indian bodies of water continues to remain untreated, contributing to the continued turbidity of its water (CPCBI). The nation continues to release and provide toxic and harmful water to its citizens as a result of the ignorance displayed by the government towards its current sanitation practices.

In addition to the overall insufficiency of water sanitation in India, there lay discrepancies in the quality of water in urban and rural areas. According to Terrin.org, 96% of people have access to improved water sources in urban areas, compared with 84% of people living in rural areas who have access to improved water quality. It is also important to bear in mind that the vast majority of the Indian population (70%) lives in rural areas (Terrin.org). In particular, these discrepancies have lead to increased ammonia levels in the Yamana river of New Dehli. There ammonia levels have risen to 7.3 parts per million within the area, causing health concerns for a variety of other foods and resources the community heavily relies on. These discrepancies have proved to have profound effects on the Indian population as about 200,000 people die every year due to unclean water. This can be better depicted in the frightening statistics from 2018, in which Polluted water killed 7 people every day in certain parts of India. Although India's health care system is shown to be effective, Dr. M K Ramesh, an Indian doctor, states that many medicines are available to treat these dirty-water diseases, but perhaps the reach of these medicines to people suffering from these problems is a significant factor in India's water crisis (Times Of India). In reality, if Indian healthcare were as effective and advanced as previously observed, then these water-related problems would not be as harmful to the public. In addition to the thousands of deaths, over 60,000 children under the age of five continue to die as a result of diarrhea stemmed from dirty water (WaterAid.org).

In India and around the globe, different courses of action are currently being implemented to provide clean water for those who lack access to it. The Swachh Bharat Abhiyan mission was launched by India (in cooperation with the United Nations) to help tackle the problem effectively, according to the United Nations in India. The United Nations and India are working through the Swachh Bharat Abhiyan mission to provide affordable and accessible services to those with limited access to healthcare who are currently unable to afford healthcare. The Indian government also pledged to raise the overall health budget by 2.5 percent, providing for a significant increase in funding to promote and make such suggested solutions possible (UN India). One of the most significant components of the initiative is that India's government has decided to promote change instead of pushing back against its problems (as previously seen). Though this is a promising initiative, given that the population of India is over one billion, this plan can be considered to be important over an extensive period, and not as effective in the present.

In a similar water crisis in Uganda, a comparable and more extreme example of water pollution can be seen. More than 50% of the population lives without access to clean water. Uganda is certainly more at risk of long-term damage than India, but it can be seen as an example of India's future if it is unable to control and make progress towards clean water for all. To counter this crisis, the United Nations and the World Health Organization have launched the Joint Monitoring Program (JMP) to improve the drinking water conditions in Uganda. The JMP reported that 14% of the Ugandan population relied on surface water sources, but through help has cut this rate to 7%. The World Bank Group "International Finance Group" (IFC) has taken a new approach to address the Ugandan water crisis as they've proposed a brand new "PPP Solution". The IFC decided to finance many small towns in their expenditures on water operations which helped to improve the financing for many infrastructure projects on cleaner water (IFC). While government intervention and influence will have a direct and greater impact on its people, there are numerous household solutions that people can use to purify their own water. Drinking water brands such as Brita and PUR are both affordable and dependable in the United States and Western countries. Household filter systems and jars are typically more effective at mild purification than muddy, turbid waters. However, with the advancement of technology, an invention known as the Steri-Pen appears in 2021. An all-in-one portable water purifying device that ensures the purity of any type of water. Households can clean their own drinking water with the help of such organizations and donations.

Both reactions have their own merits but can be seen as un-immediate in their effects, and unrealistic in response to the number of people to account for in India, after analyzing the impacts of both the Indian and Ugandan operations to respond to the water crisis. Nevertheless, a new plan that addresses the immediate needs of the Indian population, while incorporating new strategies along with existing ones, can help to address the needs of the larger number of vulnerable people most effectively. My "Saaph Paanee" plan to address the ongoing water crisis in India, which would include ideas already present in previously mentioned plans such as affordable healthcare and small-town financing, as well as new ideas to help fight and make a major change to address this deadly situation. To start, the project would be worked on by the World Health Organization (WHO), United Nations, the Indian Government, and the World Bank's International Finance Corporation. The primary task of setting up universal health care for those in statistically struggling regions would be given to the United Nations and the Indian Government to ensure that all those at risk can have access to medical care when needed. The WHO and the Indian Government would also be tasked with setting up water treatment plants as part of this initiative to ensure that direct access to clean water can be provided in the first place in each affected village or town. Arguably, one of the most important factors to help prevent this crisis for good is to address the core of the problem: pollution. The World Health Organization would work with the Indian Government to directly address and prevent the current contamination of India's water. Through the introduction of stricter rules on the treatment of domestic sewage, agricultural runoff, and industrial effluents, together with the emissions of its many fossil fuels, which contribute indirectly to the acidity of Indian water. The International Finance Corporation of the World Bank can also help finance infrastructure projects for rural

water operations, as seen in the handling of the Ugandan Water Crisis, knowing that most of India's affected areas lie in similar rural regions and villages. The United Nations would play the role of financing parts of the project while also providing foreign aid to India from affluent countries such as the United States and China to help provide technology to India to address these problems. India retains strong patriotism and allegiance among its citizens eyed for the common good of the country compared to other countries, as seen in the handling of the COVID-19 pandemic. Strong government engagement and promotion would be essential to keep the public on board and in cooperation to keep the environment clean and improve the sustainability of the "Saaph Paanee" initiative.

India is no longer a third-world country and plays a critical role in the world economy, has impressive space programs, and consists of a large talent pool fueling its accelerated growth. This is an impressive achievement by India in less than a century since its independence but it continues to struggle in providing clean water to its population. While this is not an easy problem to solve for the second most populated country, recent government reforms, technological advancements, and literacy rate is helping make promising progress in bringing clean water to everyone. Yes, clean water is not an exciting topic that garners media attention or in the center of large policy changes but it is a solid foundation for the lifeblood of any country, its people. Sending a mission to Mars is no more important than having safe water accessible to kids like Kabir.

Bibliography

"India Population (2021) - Worldometer." Worldometers, www.worldometers.info/world-population/india-population. Accessed 10 Feb. 2021.

"India Population 2020 - StatisticsTimes.Com." Statistics Times, Statistic Times, statisticstimes.com/demographics/country/india-population.php#:%7E:text=65%25%20of%20the%20people%20of,0%2D14%20is%2026.16%20percent. Accessed 10 Feb. 2021.

"Governance & Administration | National Portal of India." Government of India, Government of India, www.india.gov.in/topics/governance-administration. Accessed 10 Feb. 2021.

"Average Household Size in India." ArcGIS, ArcGis, www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4. Accessed 10 Feb. 2021.

"India Census Says 70 Percent Live in Villages, Most Are Poor." The Seattle Times, 3 July 2015, www.seattletimes.com/nation-world/world/india-census-says-70-percent-live-in-villages-most-are-poor. Accessed 10 Feb. 2021

Karkera, Shrehith. "Does India Have Enough Food to Go Around?" Finshots, 12 Oct. 2020,

finshots.in/archive/does-india-have-enough-food. Accessed 10 Feb. 2021.

"India | 2020/21 Average Salary Survey." Average Salary Survey, www.averagesalarysurvey.com/india. Accessed 10 Feb. 2021.

"Healthcare System in India." International Student Insurance, www.internationalstudentinsurance.com/india-student-insurance/healthcare-system-in-india.php#:%7E:text=India%20has%20a%20vast%20health,quality%20of%20its%20private%20hospitals. Accessed 10 Feb. 2021.

Anand, Ishan. "Affordable Education Still out of Reach for Indians Opinion." Hindustan Times, 10 Jan. 2020,www.hindustantimes.com/opinion/affordable-education-still-out-of-reach-for-indians/story-Ud6MFDKYfUrnTKMnqX4Y8J.html. Accessed 10 Feb. 2021

"Clean Drinking Water." UNICEF India, www.unicef.org/india/what-we-do/clean-drinking-water#:%7E:text=Less%20than%2050%20per%20cent,to%20safely%20managed%20drinking%20water.&text=Groundwater%20from%20over%2030%20million,water%20requirements%20in%20urban%20areas. Accessed 10 Feb. 2021.

Suri, Helen Cnn Regan, And Manveena. "India Built 110M Toilets. But Will People Use Them?" CNN, 6 Oct. 2019, edition.cnn.com/2019/10/05/asia/india-modi-open-defecation-free-intl-hnk-scli/index.html#:%7E:text=Before%20the%20Clean%20India%20campaign,had%20access%20to%20a%20toilet.&text=The%20government%20now%20says%20100,contributed%20to%20the%20campaign's%20success. Accessed 10 Feb. 2021.

Bhattacharya, Pramit. "88% of Households in India Have a Mobile Phone." Mint, 5 Dec. 2016, www.livemint.com/Politics/kZ7j1NQf5614UvO6WURXfO/88-of-households-in-India-have-a-mObile-phone.html. Accessed 10 Feb. 2021.

"Access to Electricity (% of Population) - India | Data." World Bank, data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=IN. Accessed 10 Feb. 2021

"India." WaterAid US, www.wateraid.org/us/where-we-work/india. Accessed 10 Feb. 2021.

Kumar, Chethan. "Polluted Water Killed 7 Every Day in 2018." The Times of India, 29 June 2019, timesofindia.indiatimes.com/india/polluted-water-killed-7-every-day-in-2018/articleshow/69996658.cms. Accessed 10 Feb. 2021.

"SwachhBharat- Swachh Bharat Abhiyan a Nation-Wide Campaign in India." Swachh Bharat Challenge, swachhbharat.mygov.in. Accessed 10 Feb. 2021.

"Clean Water for Rural Uganda." IFC, www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/clean+water+ppp+for+uganda. Accessed 10 Feb. 2021.

"Health, Water and Sanitation." UN India, 19 Dec. 2018, in.one.un.org/health-water-and-sanitation/#:%7E:text=India%20is%20focused%20on%20ensuring,been%20constructed%20in%20rural%20areas. Accessed 10 Feb. 2021.

Siwi. "The Clean India Mission - World's Largest Sanitation Initiative." Stockholm International Water Institute, 21 Apr. 2020, www.siwi.org/latest/the-clean-india-mission-worlds-largest-sanitation-initiative.

Kahn, Cynthia. "The Uganda Water Crisis: Facts, Progress, and How to Help." Lifewater International, 19
        Nov. 2020, lifewater.org/blog/uganda-water-crisis/#:%7E:text=Over%2021%20million%20p
        eople%20in,in%20the%20East%20African%20country.