

Sara Sherrill
White Hall High School
White Hall, AR, USA
Sri Lanka, Southern Asia

Sri Lanka: Clean Drinking Water

Did you know that nearly 830,000 people die yearly from diarrhea caused by unclean drinking water and a lack of proper sanitation (“Drinking-water”)? While not the only country to face this issue, the people of Sri Lanka experience similar struggles regarding access to clean drinking water, lack of proper sanitation, and adequate sewage disposal. We will dive deeper into the impact of clean drinking water as well as explore and propose three possible solutions. As we begin to address Sri Lanka’s most pressing issues through the World Food Prize’s Global Challenge, we will address solutions to create significant improvements in the overall availability and cleanliness of drinking water in Sri Lanka.

Sri Lanka is an island country in the Indian Ocean on the Southern edge of Asia with an overall land area of approximately 65,610 km², which makes Sri Lanka the seventeenth smallest country in Asia (“Economy and people of Sri Lanka | Britannica”). Of the over 21 million people living in Sri Lanka, a large majority of the population live in rural areas with the percentage being just over 81%, whereas nearly 19% of the population lives in urban areas (“Economy and people of Sri Lanka | Britannica”). However, it wasn’t until nearly 1950 that Sri Lanka became a country independent from British rule (“Economy and people of Sri Lanka | Britannica”). Today Sri Lanka is a very densely populated country with the majority of its population poor and dependent on agriculture for their livelihood (“Economy and people of Sri Lanka | Britannica”). Over 42% of the country's land is cultivated (“Sri Lanka | FAO Regional Office for Asia and the Pacific”) and the primary crop is rice; however, agriculture also provides coffee and tea for export. The majority of the country largely depends upon agriculture for its livelihood providing food, jobs, and income for many families. The climate has a large impact on their livelihood, with an average temperature ranging between 67 and 95 degrees Fahrenheit and a minuscule average rainfall of only 2.43 inches per year, which causes drastic problems in the country. A lack of adequate rainfall provides consistent problems regarding drinking water and water used for irrigating crops.

Sri Jayawardenepura Kotte, the capital city of the country of Sri Lanka is the home of the Sri Lankan government, which is a semi-presidential representative democratic republic. This form of government means that both a president and prime minister exist alongside a cabinet that works together to guide the direction of the country (Sedelius). Currently, Sri Lanka is in the midst of an economic and political crisis caused by the ever-constant reliance on agricultural imports, an empty foreign currency reserve, and defaulting on debt payments (Ramakumar). The economic crisis dates many years back, however, we will focus on the crisis specifically since 2020 when the COVID-19 pandemic hit and had a detrimental effect on the tourism industry in Sri Lanka. Since the pandemic, a variety of events have led to over \$51 billion of debt and well over a 35% inflation rate, both of which have created detrimental effects on the economy. Not only are there constant issues due to a lack of clean drinking water and rainfall in rural areas, but there are also areas within the country where people are standing in line for days to get food to feed their families. The Sri Lankan government is discussing the possibility of a bailout with the International Monetary Fund (IMF) to determine a solution to the current economic disaster.

When analyzing the current economic status of the country, it's important to take a look at the foreign currency reserve levels. In 2019, Sri Lanka held over \$7.5 billion in foreign currency reserves; however, in 2022 that amount dropped by 99% to only \$50 million. The drastic drop in reserves depletes the ability to purchase imports and drives up the price of goods. With a severe lack of foreign currency reserves, Sri Lanka struggles to purchase the imports needed by the country. According to the World Economic Forum, in 2021, the top imports were refined petroleum, textiles, chemical products, as well as food and beverages (Ramakumar). Sri Lanka is facing the worst economic crisis since its independence in 1948 and has an unsustainable consistently growing debt ("What is the US national debt and how has it grown over time?"). This crisis is harming the country's growth and the poverty of its residents. The rise in poverty is a direct impact of the financial crisis Sri Lanka is facing and it only continues to get worse. Poverty is not the only crisis Sri Lankans face, they also deal with child malnutrition, drought, lack of access to proper sanitation measures, and unclean drinking water.

Without the cash reserves to purchase imports, Sri Lankan families are faced with an increasingly challenging economic situation. Thankfully, the government provides free education for all students ranging from primary school to the university level. Additionally, they have free and universal health care. Universal health care and free education have a direct impact on the average Sri Lankan family, which is on average four people per household. As with many other countries, the average home is constructed of wood, stones, and brick and will vary in size based on the income and wealth of the family. According to CEIC Data, while there are on average four people per household, there are only 1.8 income earners per household ("Sri Lanka HIES: Household Size | Economic Indicators"). In 2019, the average household income for Sri Lankan families was around USD 1,433.19 which is not enough to support the average family. Poorer households have been hit the hardest in this crisis and continue to struggle due to losing their jobs, a very limited supply of fertilizer to improve crop yields, and ever-growing inflation.

Both the men and women of the country are working to support their families, however, women face many barriers that men do not. In Sri Lanka, over 72% of men are employed, whereas that statistic is drastically lower at 32% for women (World Economic Forum). While women work to support their families it is considered informal employment which means they are engaging in unpaid work and not nearly as protected as the men are. Nearly 50% of Sri Lankan women feel inferior to men and 35% feel as though men have a good reason to hit women. As you see, there are large barriers women face and harmful gender-based violence (Guide).

While the country needs more access to clean drinking water, they struggle to find it because they are in severe drought. Not only does Sri Lanka depend on its water sources for drinking water, they also depend on their water sources for production agriculture ("Wastewater Production, Treatment, and Use in Sri Lanka"). There are small amounts of rainwater and few water reservoirs which are used to generate power and for production agriculture including watering crops and livestock. While lack of clean water is an issue, on the other hand, wastewater generation is increasing in volume and complexity only further complicating the ever-growing situation at hand.

The first way to address a major problem in Sri Lanka is the food solution. Making sure that the fertilizer,

fuel, and other things that farmers need to grow crops are available for them at any given moment. Also making sure that there are farm hands available to help out on the farm. When the ground is cultivated there are a lot of stones in the ground so ensuring that there are people there to help move them out and clean up would help out a lot. Also, the lack of fuel in the country and the lack of water— clean or dirty— is a major issue. If the farmers don't have water to irrigate the crops, they will die and won't make it to harvest. Being able to fix the complex and ever-growing list of problems would be a miracle. The second way to address another major issue in Sri Lanka is to find ways to get more fuel or save fuel more. The lack of fuel is putting a burden on everyone in Sri Lanka. If people want to drive they risk running out of fuel on the way to or from work because you never know when there will be fuel due to the lack of access country-wide. For example, taxi drivers risk being out of work for the fear of not being able to get access to fuel. The country is in major debt right now so paying for fuel in large amounts isn't in the best interest of the country.

The third way to address another major conflict in the crisis Sri Lanka is going through right now is the water solution. Some ways that we could get more water to Sri Lanka are to repair the old water systems, use less water for production agriculture by using drip irrigation, and increase water conservation practices among citizens. By repairing the old water systems we can get more water to places faster. If we change the irrigation system to drip irrigation we mitigate the loss of excess water by focusing on delivering small amounts exactly where they are needed. Also, water conservation is something that most families practice now but if it was enforced by the Sri Lanka government, then there could be more water for everyone. Even though we want to be able to get clean water to everyone as much as possible we have to take into consideration the lack of supplies. The lack of supplies and money for labor for the workers willing to do the work pose a huge problem when implementing these suggestions.

The annual internally renewable water supply capacity is estimated at 43.2 BCM, and annual withdrawals amount to 8.7 BCM (Drinking-Water). Therefore, there is an abundant supply of water to the island. Nevertheless, this supply is similar in the same manner to all areas of the island. With food and medicine shortages, Sri Lanka is in a runaway economic crisis triggered by the COVID pandemic. As basic supplies of staples like sugar, rice, and cooking oil run dry and prices soar, people wait outside supermarkets. Many fear there will not be enough supplies, or they will soon be unable to afford what they need.

Sri Lanka is comparatively low altitude at an average of 228 meters above sea level. The highest mountain peak (Pidurutalagala) is at 2,524 meters. In addition to the main island, around 80 other small islands still belong to the country. India is the only directly neighboring government of Sri Lanka. The solution to getting more water and food to Sri Lanka would benefit the whole country. If we can get clean water to everyone in the country then we wouldn't have people that are so malnourished and there could be more crops produced as well. If there is more water to grow crops then there would be more food for everyone.

ADB is helping Sri Lanka right now to get more stuff to them while they are in a crisis (Asian Development Bank and Sri Lanka: Fact Sheet. In 2021, ADB disbursed \$684 million to Sri Lanka and committed \$460 million in project funding (Asian Development Bank and Sri Lanka: Fact Sheet). The

technical assistance commitments totaled \$3.95 million. The assistance of this organization will focus on a variety of pressing topics such as rural development, skill attainment of Sri Lanka's citizens, small businesses, social protection, and renewable energy ("Asian Development Bank and Sri Lanka: Fact Sheet"). The ADB is helping Sri Lanka during this crisis. Hopefully, with the help of the Asian Development Bank Sri Lanka can remedy some of the crisis they currently remain in.

In conclusion, Sri Lanka is in a major crisis right now. Some major issues that come with the crisis is the lack of water and clean water, lack of fuel, and lack of food. The Asian Development Bank is helping Sri Lanka right now to address some of the same problems we have discussed. With the additional partnership between Sri Lanka and the Asian Development Bank, I am hopeful the country will be provided with enough extra resources to make a difference in the lives of their citizens in terms of clean drinking water, access to adequate waste disposal, and basic sanitation.

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