

Yash Kukreja  
Carmel High School  
Carmel, IN, USA  
India, Water & Sanitation

### **India: An Inside Look Within the Slums of Hindustan**

India, also known as Bharat is home to 1.4 billion people. 78 million of these individuals reside in slums. The population breakdown of the country is rural-heavy, with 68.4% of the total population being rural, and 31.16% of the total population being urban (Chandramouli 5). The government of India is categorized as a parliamentary democracy, which indicates that the executive branch of the government is held accountable to the legislative branch. The Prime Minister is the Chief Executive of the executive branch. The President is the Head of State. The government is divided into three distinct branches: judicial, legislative, and executive. Transitioning into the agricultural sector of the country, 60.43% of the total land area is cultivated for agricultural purposes. The major crops of India can be categorized into two categories which are food crops, and cash crops. Major food crops include rice, wheat, millet, maize, and pulses also known as legumes. Major cash crops include sugarcane, oilseeds, horticulture crops, tea, coffee, rubber, cotton, and jute (“Cropping Patterns and Major Crops of India”). The major exports include engineering goods, jewelry and gems, and petroleum products. The average farm size in India is only 3 acres, which is decreasing due to the increasing population. For context, this is about 148 times smaller than the average farm size of the USA (Toniga). India is composed of mostly tropical climates, with a mixture of dry and wet tropical weather. The average temperature in India is about 26 degrees Celsius, which is about 79 degrees Fahrenheit. Although it is extremely hot in some areas, it can get brutally cold in the Himalayan region. India also experiences heavy monsoons in many parts of the country. India is a country in Asia and largely a peninsula, bordered by the Bay of Bengal and the Arabian Sea (“India-Climate and Geography”). The terrain varies across the whole country with deserts in some areas, jungles in other areas, and mountains in the north.

The typical family size is approximately 4.4 people per household. Depending on the earnings within the family and their status, the dwelling in which they reside varies. For high-income families, you can see houses that have a modern interpretation and a western influence. For low-income families, we tend to see more run-down houses or slums that are at or below the bare minimum in terms of necessities. For example, in a richer area, you might see more condos and flats. However, in poorer areas, you tend to see more slums and run-down houses (Sariya). The diet of a typical family in India is predominantly vegetarian and varies a lot depending on where you are in the country. However, the staple Indian diet consists of the following: roti (Indian bread), rice, dal (major protein source), chutney, pickle, legumes, lentils, and beans (TNN). Indian families can get food from local bazaars or markets nearby their dwellings. If they are unable to afford the food they need, many are forced to consume wasted food, found off of the street or within the trash. They cook their food using multiple techniques using frying, boiling, sauteing, and grilling. A very important tool used for cooking in India is a tava or a flat pan, which is used in making a meal in a majority of households. The average yearly salary of a working individual in India is 3,82,800 INR (Indian Rupee). This is approximately 430 USD per month. There are two categories under which job holdings can fall. The majority is the unorganized sector which consists of jobs such as farm laborers, street vendors, mining, shopkeepers, and construction workers. Whereas the organized sector consists of jobs such as government workers, IT professionals, sales managers, industrial workers, and first-aid workers. Keep in mind that there are still about 52 million people unemployed. Parents with more prominent jobs/positions in society, can provide their children with more high-end education. However, when families are struggling to even provide the basic necessities, education comes second. Although India is pushing for every child to go to school, the quality of education is still lacking (“Education Access In India”). In terms of health care, India is very poor in this department. They are unable to provide equal and affordable access to healthcare for everyone (Balarajan). Essentially, if a

family maintains a high status and obtains a consistent income, healthcare and education are available and affordable for them; it is the minority that suffers greatly. Above 6% of the population lacks access to clean water, and about 15% of the total population practices open defecation (“India”). Adding on to the contradictions, about 88% of households have a mobile phone, but 239 million people lack electricity. Access to local markets is quite low, however, based on where you are and your income, you see different quality markets (Bathacharya). Major barriers that families face when it comes to earning a living and access to nutritious food are affordability, status in society, family size, income, jobs, sanitation issues, water-related illnesses, no local markets nearby, illiteracy, unemployment, and overcrowding (Upadhyay).

The issues regarding water and sanitation in slums are extremely severe in India. Approximately 91 million people in India lack access to safe water; 15% of the population practices open defecation and 229 million people lack access to improved sanitation. Trends vary throughout the country in slums; in some parts, sanitation is improving but in others, adequate sanitation is lacking (“India”). Corporations and certain bills have been proactive in trying to decrease the number of slums in India, but it is nearly impossible to keep individuals out of slums when they have nothing left. Many volunteer services have been instrumental in aiding the rehabilitation of slums, however, many slums still suffer severely. High unemployment, poverty, status or place in society, politics, natural disasters, etc... all play a role in the increase of slums. In urban areas, slums are quite a prevalent issue, more so than rural areas. Yes, rural areas are considered to be poorer than urban areas, however, many individuals seek to migrate to urban areas in search of jobs, but unfortunately, end up in slums. In urban areas, the population of slums is quite high. People are clustered in urban slum areas, and it becomes a significant problem within the community. The word “slum” is typically used concerning the urban population. Therefore, the topic of unsatisfactory and inadequate sanitation and water supply affects the urban population more so than the rural areas. Rural areas are still affected by inadequate sanitation, however, urban areas seem to be a more prominent slum-dwelling area considering the country of India.

Slums can affect individuals in many different ways as well. Women have certain sanitation needs, partly due to biological factors, but also because of social and cultural factors. Poor sanitation and water can lead to gender-based violence, mental stress, and reproductive tract infections. Also, in slums defecation is a common practice; a very uncomfortable and cultural burden for women. They are stripped of the personal privacy that many women desire. Men are forced to play the lead role and look for jobs to provide for their families in any way possible. They often are burdened with too much responsibility, which can lead to mood swings, mental disorders, and animosity towards their family (Subbaraman). They are forced to sacrifice many aspects of their lives to keep their family together. The elderly population is affected quite a lot due to poor conditions in slums. They are extremely uncomfortable practicing open defecation. They are not able to get the medical help they need if they have substantial health problems. With the growing elderly population, the mortality rate of the elderly is also escalating, especially in the slums. Children growing up in these surroundings are at a higher risk of death and disease and are more likely to be chronically malnourished. Children are forced to live a completely different childhood and are often given many responsibilities at a very young age. They often do not get provided with proper nutrition, clothing, and basic necessities (Chase). There have been minorities established based on the caste system such as the Dalits, or the untouchables. They are considered the lowest in the caste system due to their income and place in society; they often reside in slums. They are mistreated and looked down upon, and are unable to provide for themselves and their families.

After addressing the prevalent problems within the slums of India; I have developed an effective solution that will improve the lives of many. I propose a multi-step solution, in which separate parts play a role in implementing the solution. Firstly, I would like to focus on the education status of the community. I firmly believe that with proper education about the community, environment, sanitation facilities, and water facilities people can lead a better life in the slums. With a proper foundation, people are more knowledgeable and able to better take care of their environment. To improve the education levels in the

slums, I would like to call upon non-profit organizations such as Smile Foundation of India and Charity United that focus on education in slums, specifically in India. Often in the slums, people can tend to be careless when it comes to doing what is best for the environment and its cleanliness. With this, the sustainability levels of the solution can increase with the help from the community in keeping the solution in full capacity. I believe the education aspect of this is extremely important because people are not used to having good hygiene practices in slums. With this added knowledge, they can realize how important it is to stay healthy and have a full and potential life. The physical part of the solution derives from the word “suvidha”. Suvidha is a word in Hindi, that translates to “facility” (“Bringing Sanitation to India’s Slums”). I would like to implement suvidhas in the center of all slums, across the country. This is a tall task, however, with the help of many support organizations, this can be achieved. Each suvidha will create access to safe water, and proper sanitation facilities. Suvidhas have been implemented in the Azad Nagar slum, however, I would like to take this to the next level (“Bringing Sanitation to India’s Slums”). Implementing suvidhas across the country will increase water and sanitation levels for over 1,500 individuals in each slum (“Bringing Sanitation to India’s Slums”). Each suvidha will consist of a men’s and women’s restroom with adequate and equal facilities for all. Proper sanitation will be practiced with the help of suvidhas in every slum. Handwashing is a huge part of maintaining proper hygiene, thus each facility will have proper handwashing stations and shower stations that people can use with care. Each facility will also have clean water for individuals to use daily (“Bringing Sanitation to India’s Slums”). Also, the wastewater from handwashing, shower, water, and toilet facilities will be used for flushing toilets saving approximately 10 million liters of water yearly (“Bringing Sanitation to India’s Slums”). People can live a healthier lifestyle with the implementation of these facilities. They are centered at the heart of the community for a reason; every individual has access to safe water and clean sanitation facilities. I believe that the combination of increasing education status within the population and building suvidhas across the slums will exponentially increase access to clean water and better sanitation levels.

This project is a very tall task, but with the proper leadership and management of this solution; the application of the solution throughout slums will be worth the effort. With a single management force, we can properly organize this solution and implement it in full capacity. I am calling upon UNICEF to manage this project, and become the leading force. UNICEF is involved in helping 190 countries around the world and assists with funding and education when in need. Specifically, UNICEF in India will be instrumental in the education department of the solution. They have already funded and enacted numerous systems of education, for many in need. When implementing education further in slums, people will become more educated, which will help the sustainability of the project. Furthermore, they will be the leading force of management, however, they will also substantially fund the project. The World Bank will also be a major funding source for the project, a financial institution that supports sustainable solutions for people in need (“The World Bank”). Institutions such as Domestos Toilet Academies, WaterAid India, Ministry of Drinking Water, Smile Foundation of India, and Charity United will help in the education department, but also the water and sanitation improvement sector at the ground level. The government’s role in this solution is to raise awareness, support this project with an open mindset, and fund this project for the betterment of their population. Community members’ roles are an extremely important part of the solution. They are the most important part of ensuring that the project is sustainable. The only way that this project can be sustainable and have a long-term impact is if the community members take proper care of the suvidhas and new facilities. They will learn this through the many organizations, however, it is up to them to decide how they want to live. Sustainability will root from the community members' role and how they keep their new facilities clean. Practices that harm the environment such as littering need to be in decline, which can only be done by the community members; only then is when we will see the sustainability of the solution highlighted.

A similar solution has been applied in Kenyan slums. In Kenya’s capital, Nairobi nearly 60% of people live in slums. Throughout the Nairobi Informal Settlements Water and Sanitation Improvement Program, the European Commission has been working to increase access to water and sanitation facilities in

settlements, specifically the slums in Mukuru (Willems). They have sought aid from ACPEU Water Facility and the program was implemented by Athi Water Services Board (AWSB) (Willems). They have created 12 ablution blocks, which contain 10 toilets and bathrooms and 10 communal water selling points. They sought financial help from the EU to establish long-term relationships with them. This is similar to the concept of Suvidhas, in which they have centered blocks that provide access to water and sanitation facilities. I have also sought help from non-profit organizations, the government, local community organizations, and various educational institutions to help fund the solution. They have provided a way for individuals to live a healthier life, with adequate sanitation and water, similar to my ambitions in the Indian slums. With proper funding and support, Kenya was able to help millions of people with ablution blocks (Willems).

Water and sanitation is an extremely pressing issue in many countries especially India, however it is not the only prevalent issue. Food insecurity can be found in many places across the world, although it is more noticeable in third world countries. Within the slums of India you can find many individuals suffering from food insecurity, which is directly linked to malnutrition. Due to the underwhelming conditions regarding sanitation it is near impossible for individuals to practice sustainable agriculture. Food is hard to come by within the slums; many are forced to ration with what little money and food they can gather. Unfortunately, because of the sanitation issues many children are malnourished and undernourished. Additionally, because of the lack of education across the slums many are unaccustomed to agricultural practices. It is stated that 14% of the whole country is malnourished, most of which are coming from slums. Furthermore, 58-75% of slum children are underweight (Roy). With the solutions provided for improving the water quality and sanitation it will directly improve living conditions as well as food quality. It is interesting to note that both food quality and sanitation have a directly proportional relationship. With food security improving in slums, young children are able to reach a healthy weight and consume nutritious food that lengthens their life in the long run.

The experiences that I have been blessed to take part of while traveling the depths of India have opened my eyes to advocate and develop solutions for those who suffer. I have seen with my own eyes; children made of only bones, covered in dirt, ripped clothes, and just a stick in their hand to entertain themselves through the day to day slum life. The kids deserve better, they deserve to be able to live a full life and live to their fullest potential. It is heartbreaking to see kids my age fighting for their lives, while I am blessed to have the opportunity to live a full life. Every kid deserves an equal opportunity to their peers. Non profit organizations, the community and the government are making a difference throughout the world, not just India. Unfortunately, it is not enough. Kids are still suffering day in and day out. They are forced to eat trash off the side of the road, just to cure their hunger for a couple more hours. In conclusion, through education development, the implementation of suvidhas, adequate funding, and support organizations, the water and sanitation levels will improve in slums all across India, and people will be able to live a healthier life. Not only will individuals be able to live a healthier life, their life will be filled with joy and excitement as they are finally given the opportunity to witness clean conditions with access to sanitary food. I look forward to seeing an improved India within the next decade, as many individuals are starting to make a difference; I hope I can as well.

## Bibliography

- "A Guide To Indian Cooking Methods To Cook Indian Food." Spiceitupp, 7 Mar. 2017, [spiceitupp.com/indian-cooking-methods-you-need-to-know/](http://spiceitupp.com/indian-cooking-methods-you-need-to-know/). Accessed 11 Jan. 2022.
- Adegun, Olumuyiwa. "African Cities Must Address Social and Economic Issues when Upgrading Slums." *The Conversation*, 6 June 2018, [theconversation.com/african-cities-must-address-social-and-economic-issues-when-upgrading-slums-97471](http://theconversation.com/african-cities-must-address-social-and-economic-issues-when-upgrading-slums-97471). Accessed 22 Jan. 2022.
- 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](http://www.livemint.com/Politics/kZ7j1NQf5614UvO6WURXfO/88-of-households-in-India-have-a-mobile-phone.html). Accessed 11 Jan. 2022.
- "Bringing Sanitation to India's Slums." Unilever, 19 Nov. 2016, [www.unilever.com/news/news-search/2016/bringing-sanitation-to-india-slums/](http://www.unilever.com/news/news-search/2016/bringing-sanitation-to-india-slums/). Accessed 29 Jan. 2022.
- Chandramouli Dr. C. "Provisional Population Totals." *Census of India Website : Office of the Registrar General & Census Commissioner, India*, [censusindia.gov.in/2011-prov-results/paper2/data\\_files/india/paper2\\_1.pdf](http://censusindia.gov.in/2011-prov-results/paper2/data_files/india/paper2_1.pdf). Accessed 11 Jan. 2022.
- Chase, Claire, et al. "Starting Life Strong in Slums: the Role of Engaging Vulnerable Groups on Sanitation and Nutrition." *World Bank Blogs*, [blogs.worldbank.org/water/starting-life-strong-slums-role-engaging-vulnerable-groups-sanitation-and-nutrition](http://blogs.worldbank.org/water/starting-life-strong-slums-role-engaging-vulnerable-groups-sanitation-and-nutrition). Accessed 19 Jan. 2022.
- Clean Water Foundation | Non-Profit Water Hygiene & Sanitation Organisation | WaterAid India, [www.wateraidindia.in](http://www.wateraidindia.in). Accessed 29 Jan. 2022.
- CREATE: Consortium for Research on Educational Access, Transitions and Equity, May 2009, [www.create-rpc.org/pdf\\_documents/policybriefindia.pdf](http://www.create-rpc.org/pdf_documents/policybriefindia.pdf). Accessed 11 Jan. 2022.

- "Cropping Patterns and Major Crops of India: Part One." Drishti IAS, 2 Nov. 2019,  
[www.drishtiiias.com/to-the-points/paper3/cropping-patterns-and-major-crops-of-india-part-one](http://www.drishtiiias.com/to-the-points/paper3/cropping-patterns-and-major-crops-of-india-part-one).  
 Accessed 11 Jan. 2022.
- "Empower Children in India's Slums." Charity United, 28 July 2021,  
[charityunited.us/causes/projects/childreninindia/](http://charityunited.us/causes/projects/childreninindia/). Accessed 6 Feb. 2022.
- "Governance & Administration." National Portal of India,  
[www.india.gov.in/topics/governance-administration](http://www.india.gov.in/topics/governance-administration). Accessed 11 Jan. 2022.
- "India - Agricultural Land (% Of Land Area) - 1961-2018 Data | 2021 Forecast." TRADING  
 ECONOMICS | 20 Million INDICATORS FROM 196 COUNTRIES,  
[tradingeconomics.com/india/agricultural-land-percent-of-land-area-wb-data.html](http://tradingeconomics.com/india/agricultural-land-percent-of-land-area-wb-data.html). Accessed 11  
 Jan. 2022.
- "India Climate and Geography | WorkingAbroad." Working Abroad, 24 Apr. 2019,  
[www.workingabroad.com/travel/india-climate-and-geography/](http://www.workingabroad.com/travel/india-climate-and-geography/). Accessed 11 Jan. 2022.
- "India: Export Value by Commodity 2020." Statista, 18 Sept. 2020,  
[www.statista.com/statistics/624409/export-value-by-commodities-india/](http://www.statista.com/statistics/624409/export-value-by-commodities-india/). Accessed 11 Jan. 2022.
- "India Population (2021)." Worldometer - Real Time World Statistics,  
[www.worldometers.info/world-population/india-population/](http://www.worldometers.info/world-population/india-population/). Accessed 11 Jan. 2022.
- "India." Water.org, [water.org/our-impact/where-we-work/india/](http://water.org/our-impact/where-we-work/india/). Accessed 11 Jan. 2022.
- "National Geographic Kids - 404." National Geographic,  
[kids.nationalgeographic.com/geography/countries/article/india](http://kids.nationalgeographic.com/geography/countries/article/india). Accessed 11 Jan. 2022.
- Sariya, Tasneem. "Traditional Family Homes of North India; The Joy of Living Together." *Caleidoscope | Indian Culture, Heritage*, 5 Aug. 2020,  
[www.caleidoscope.in/art-culture/traditional-family-homes-of-north-india](http://www.caleidoscope.in/art-culture/traditional-family-homes-of-north-india). Accessed 11 Jan. 2022.
- Subbaraman, Ramnath, et al. "The Psychological Toll of Slum Living in Mumbai, India: a Mixed  
 Methods Study." *PubMed Central (PMC), Soc Sci Med*,  
[www.ncbi.nlm.nih.gov/pmc/articles/PMC4252879/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4252879/). Accessed 19 Jan. 2022.

- TNN. "How Healthy is Indian Food? - Times of India." The Times of India, 8 Sept. 2020, [timesofindia.indiatimes.com/life-style/health-fitness/diet/how-healthy-is-Indian-food/articleshow/9023674.cms](https://timesofindia.indiatimes.com/life-style/health-fitness/diet/how-healthy-is-Indian-food/articleshow/9023674.cms). Accessed 11 Jan. 2022.
- Toniga, Rahul. "India's Biggest Challenge: The Future of Farming." The India Forum, 28 May 2021, [www.theindiaforum.in/article/india-s-biggest-challenge-future-farming](http://www.theindiaforum.in/article/india-s-biggest-challenge-future-farming). Accessed 29 Jan. 2022.
- Upadhyay, Prakash, and C. Palanivel. "Challenges in Achieving Food Security in India." PubMed Central (PMC), [www.ncbi.nlm.nih.gov/pmc/articles/PMC3481742/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3481742/). Accessed 11 Jan. 2022.
- Williams, Sanne. "Improving Water and Sanitation Conditions for Slum Dwellers in Kenya." EUROPA - European Union Website, the Official EU Website, [europa.eu/capacity4dev/articles/improving-water-and-sanitation-conditions-slum-dwellers-Kenya](https://europa.eu/capacity4dev/articles/improving-water-and-sanitation-conditions-slum-dwellers-Kenya). Accessed 22 Jan. 2022.
- "World Bank Group - International Development, Poverty, & Sustainability." World Bank, [www.worldbank.org/en/home](http://www.worldbank.org/en/home). Accessed 6 Feb. 2022.
- Yarlani Balarajan, et al. "Health Care and Equity in India." PubMed Central (PMC), Feb. 5, [www.ncbi.nlm.nih.gov/pmc/articles/PMC3093249/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093249/). Accessed 11 Jan. 2022.