

Sruthi Boddapati
Freehold High School
Freehold, NJ
Bangladesh, Factor 13: Demographics

Bangladesh: Solutions to Overpopulation for the Reduction of Economy, Resource, Climate, Water, Political Volatility

This is a country that experiences the wrath of almost every challenge known to a growing populace. As one of the most populated countries in the world, it fails to meet the expectations of its own populace due to a variety of internal and external factors. Of the numerous tribulations, one particularly devastating, is the deeply ingrained streak of poverty. Unfortunately, Bangladesh's multicultural society is marred by four external and internal issues currently, all supported by the effects of overpopulation in the region.

Rich in culture, Bangladeshis are influenced by Hinduism, Buddhism, and Islam, in that respective order. Hence the country is a melting pot of prodigious proportions. With a population of 150,448,339 people, family life accounts for majority of their lives and overpopulation accounts for most, if not all of the country's issues. While this population statistic may not be far off from America, the area of Bangladesh itself is only 56,977 square miles versus the 3,806,000 square miles of America. Hence, family-life is absolutely imperative to every Bangladeshi as extended families typically live together and children are expected to look after their elders. In an extensive study of over 150 rural families in Bangladesh, "The size of the family was observed as 4.59 persons where nearly half of the respondents (48%) having less than five members" (Mohakhali 1). Despite the number of persons per family, family income rates as of 2014 have been deemed lower-middle and close to lower class. This is only a mere comparison for the perception of the issue of overpopulation in the region, the effects of it on the populace speak for themselves.

As of 2012, the IRIN have claimed that even Dhaka, the capital of Bangladesh, has "one of the world's highest population growth rates but its public health facilities are ill-equipped to accommodate the tens of thousands pouring into the mega-city annually" (IRIN 1). This does little justice for the people of Bangladesh that reside in the outskirts of the region, including those in villages and small towns that have little to no healthcare at all and cannot even travel to find it. There are few identifiable roads and they usually aren't paved, and so crowded and unsanitary buses, slightly less-crowded rickshas, and boats are the most common methods of transportation.

To adapt to the strains of overpopulation, Bangladeshis resort to becoming small farmers and to farming as a source of income without extensive knowledge about agricultural practices or agricultural equipment. The densely-packed region accounts for the declining of average farm size from 1.4 ha in 1977 to 0.6 ha 1996 onward (Thapa 7). Poverty-related food insecurity is further bolstered by the soaring prices of key staples caused by record inflation. Statistics show that the country has a poverty rate of over 30% and the highest occurrence of malnutrition of all countries as Bangladesh's food insecure population was estimated at 65.3 million in 2008 (GAFSP 31). Recent studies have proven that "The Bangladeshi diet is very much carbohydrate based, lacking in sufficient amount of protein and micronutrients" (Diet PDF). This is expected as the staple crop in the area is rice and consumption of rice both in poor and un-poor are

at a staggering average of 477 gram/cap/day. Rice serves as the cheapest staple and food source in Bangladesh as a bag of rice can serve its purpose for several days typically. Ultimately, this emphasis on agricultural pursuits without proper education has become more and more severe and has led to far more issues in terms of academic focus. Thus, many choose agricultural pursuits without proper knowledge of agricultural practices and hence are ill-equipped for industrial jobs that require further education. The female literacy rate is at a shocking 31.8%, 59.3% for males, and the country has an overall literacy rate of 43.1%. Bangladesh society is male-dominated, as suggested in its literacy statistics, and hence women are encouraged to stay within the confines of the home and typically have a lower societal status unless in the upper class.

Although Bangladesh is foreseen to be one of the "Next Eleven" tier of developing countries, it is still economically unstable and poverty is at an overwhelming rate of around 26%. The largest employment field in US as well as Bangladesh is steadily the agricultural industry, but there is stark contradiction present within the country's workforce. Bangladesh has been steadily unable to meet its demand for jobs and many qualified workers tend to seek work abroad (BBC 1). Although, it is also home to promising gas reserves, and so economic prosperity is not out of reach for the country. In response, the country has already begun somewhat of an industrial revolution, and this is exactly what the solution to the over-competitive agricultural workforce and poverty rates would be.

Education, and education alone, will provide a broader spectrum of employment opportunity in the Bangladeshi community and allow for the industrial revolution to truly take off domestically versus consistent funding from oversea investors. This way, the country can become self-sufficient and rely on its own workforce, preventing the outsourcing of crucial workers in the society. Women should also be specifically addressed, because studies have proven that educated women are less likely to engage in sexual activity that can result in reproduction they are unaware of. Thus, educating women in the region would bolster economic diversity, aide in the ongoing battle of overpopulation in that region specifically as well as the world, integrate women's roles in society, and allow for better living conditions overall. For those set on pursuing agricultural occupations, proper agricultural education should be provided as well to truly cement Bangladesh's food source.

Again, Bangladesh is one of the most densely populated countries in the world, with majority of the terrain basically encompassing a delta of rivers that flow into the Bay of Bengal (BBC 1). This is yet another issue spawned from overpopulation that must be addressed: water sustainability, access, and safety. This country is the origin of the "largest poisoning of a population in history" (Smith 4). The Ganges Delta contains stores of arsenic, caused by carbon-digesting microbes. This was only yet another hindrance for the Bangladeshis that switched from accessing rivers and ponds that were filled with bacteria. This is the motivation for several solutions that can be proposed to overcome the water challenges, solutions that have been applied in various other countries as well.

A specific solution that had been applied first-hand at my local high school would be the use of other microorganisms or organisms in general to form a symbiotic relationship with the native plants and bodies of water to overturn the challenges presented by nature. The study, an example of this solution, specifically focuses on the uses of mycorrhizal fungi and their applications in environments that are tropical. These fungi are not only a source of food, they are also capable of secreting enzymes to break

down pollutants in the soil, ultimately providing a natural filter for groundwater. They are also capable of maintaining layers of topsoil in tropical areas where the topsoil is prone to erosion due to heavy rainfall to aid small farmers in the long run as well. Very similarly, another application of water sustainability techniques involves the use of the everlasting canal/irrigation system. This is absolutely essential, especially in areas of high-density populace that may not have the proper facilities for waste management and/or access to clean water. This system is used in Nepal with great efficiency, another region that experiences volatile climate and geographic disadvantages.

In terms of geographic and climate volatility, that region entirely is extremely prone. Much of the poverty is often blamed on the rather extreme presence of rains and climate change. This low-lying area is inclined towards dreaded flooding and cyclones of larger proportions at times, an issue that ravages the land and property while being a risk factor in the lives of Bangladeshis. While one cannot truly control the tides or the climate itself, one can manipulate surroundings to adapt, and this is the solution mindset that Bangladeshis can embrace. The irrigation/canal system would not only provide sustainable water, it would also control the flow of water. Dams, watersheds, infiltration, land covers, transpiration, etc. all propose valid solutions to address the flow of water in tropical areas such as Bangladesh, Nepal, and even India. These are systems that are custom in US infrastructure as well as several other places, and could be one of the simple yet absolutely crucial additions to the industrial integration in that area.

Another effect of overpopulation, most immediate in life-endangerment, concerns political hostilities with neighboring countries. This country only became established just over 40 years ago, previously referred to as East Pakistan, and the two parts split after a tumultuous war that provoked India's involvement in the process (BBC 1). Volatility ensued post-war, with Bangladesh in military rule for fifteen years and hostilities between the main political parties of the Awami League and the Bangladeshi Nationalist Party. Many within the region even view the feuding as more of general animosity versus differing ideologies/national views. As the world has seen in various other accounts, political tension often turns itself into the very essence of violence, and this concept very much applies in Bangladesh as well. Islamist extremism is beginning to manifest itself in the country, alongside several Islamist arrests that prompt further conflict. As a melting pot and home to several culturally diverse people, Bangladesh must address its international relations.

International relations are absolutely crucial, and although any nation in turmoil would have to first produce change domestically, the external efforts can easily be integrated. In this case, Bangladesh could consider tapping into its wealth of natural resources to produce a steady slew of exports. As previously mentioned, the region is home to gas reserves and plenty of water. This could be the nation's ticket to better relations with its neighbors in conducting a trade of sorts with such resources that are desirable in India, Nepal, Pakistan, and basically all over the world. From an economic standpoint, Bangladesh would be considered a profitable ally and would in turn benefit from the imports from its newly formed allies. Any and all imports would be useful for the industrial change efforts to take off, and the nation could truly embrace the title of "Next Eleven" tier.

To conclude, there are four overall issues that have spawned from the overpopulated country of Bangladesh that directly impact the daily lives of the Bangladeshi populous. But, these are all issues that can be addressed and solved. The country faces its most trying times and life-threatening issues currently,

a prolonged series of manipulations in time and conflict that have five very clear solutions. The five-step plan mentioned in this paper has the power to restore the nation by including: an enhanced education system (catered to women and agriculturists as well), industrial integration, common water sustainability techniques, water/waste management, and natural resource exports. Change is within reach for the country of many origins, rich culture, and avid family life. All that is left to do is embrace its overwhelming potential and assets, and ultimately solve the problems that are simply hindrances to this astounding country.

Works Cited

- I BANGLADESH INTEGRATED AGRICULTURAL PRODUCTIVITY PROJECT (IAPP)*. Rep. N.p.: DIME and GAFSP, n.d. Print.
- "Bangladesh - Overview - BBC News." *BBC News*. BBC News, 26 May 2015. Web. 12 June 2015.
- "Bangladesh." *Bangladesh*. The World Bank Group, n.d. Web. 16 June 2015.
- BANGLADESH: Urbanization Strains Health Care*. Publication. N.p.: IRIN, 2015. Print.
- "Bangladesh." *Waterorg*. Water.org, n.d. Web. 10 June 2015.
- Graber, Cynthia. "Why Bangladesh Water Contains Arsenic." Online posting. *Scientific American Global RSS*. Scientific American, a Division of Nature America, Inc., 06 Nov. 2009. Web. 11 June 2015.
- Mohakhali, Dhaka. "Result Filters." *National Center for Biotechnology Information*. U.S. National Library of Medicine, 30 Dec. 2004. Web. 14 June 2015.
- Perlman, Howard. "What Is a Watershed?" *Watersheds and Drainage Basins, Water Science for Schools*. USA.gov, 05 May 2015. Web. 10 June 2015.
- Smith, Allan H., Elena O. Lingas, and Mahfuzar Rahman. *Contamination of Drinking-water by Arsenic in Bangladesh: A Public Health Emergency*. Publication. N.p.: Bulletin of the World Health Organization, 2000. Print.
- "The State of Food Insecurity in the World 2015." *Food and Agriculture Organization of the United Nations*. FAO, n.d. Web. 09 June 2015.
- Thapa, Ganesh, and Raghav Gaiha. "Session 3." *Smallholder Farming in Asia and the Pacific: Challenges and Opportunities*. Proc. of New Directions for Smallholder Agriculture, IFAD HQ, Rome. N.p.: IFAD, n.d. 1-20. Print.