

Jordan Lehman
North Polk High School
Alleman, Iowa
Bangladesh, Factor 12

Bangladesh: A Country of Contrast and Climate Change

Bangladesh is roughly the size of Iowa yet has more people than all of the Soviet Union (“Bangladesh Culturegrams”). The country is crisscrossed by three main rivers and all of the streams branch out from them (“Virtual Bangladesh”). Living on a river delta has several advantages in growing rice, however in recent years climate change has caused larger monsoons than ever making it near to impossible for farms to produce as many crops, and due to floods people have had to abandon their villages and move to the cities (“The Coming Storm”). This means that even less food is being produced for even more people. The population is expected to hit one hundred sixty five million by the year 2015, and a mass exodus of 220 million has been predicted for the year 2020 (“The Coming Storm”). However these issues could be countered by improving farming techniques and construction. While the country has been improving the educational system for years, more improvement may allow more techniques to be adapted and enforced among the people. The country’s biggest city is Dhaka (“Bangladesh Culturegrams”), a slum city with fifty percent unemployment (“Bangladesh Exports”) and forty percent homelessness (“MDG Monitor: Tracking the Millennium Development Goal”). However, the people have hope but do not know what to do about their predicament. The children will typically attend school for eight years and then get a job cleaning the streets or driving a rickshaw (“Bangladesh Demographics”). These low-paying and unpredictable jobs will cause the children to be stuck in the same slum, doing the same jobs, as their parents (“Climate Change Forcing Banglas into Slums”). Yet, their dreams persist.

The typical Bangla family is currently living in a slum, sharing a toilet with fourteen other families that is located only a meter away from their kitchen (“Climate Change Forcing Banglas into Slums”). They were forced to move to the city after their village and farmland was flooded (“Migration Myths”). With cities where forty percent of people are homeless (“MDG Monitor: Tracking the Millennium Development Goal”) and children typically will only get eight years of school (“Bangladesh Demographics”), the parents and their children are hungry. The minute a child is done with school they will get the job of scavenging or cleaning the streets. School is not required in Bangladesh so many children will be attempting to provide for their families as soon as possible leaving them with even more dismal prospects for a job in the future (“Bangladesh Culturegrams”). Health care is little to none for families whom cannot afford a private doctor. They may be waiting nights before a doctor can see them, in which case some attention will be provided but there will most likely not be enough beds for a poorer family to get one. While the family believes they could be better off, they do not believe the government can assist them in any way (“Climate Change Forcing Banglas into Slums”).

Farms in Bangladesh produce rice, as well as jute (“Bangladesh Exports”). However, because of climate change farms are producing little to no crops. India recently agreed to export rice to Bangladesh because of how poorly off they are (“Bangladesh Imports”). Families have to scavenge for food or buy from street vendors. The little money which families earn is spent immediately on food.

Climate change has caused the Brahmaputra, Ganges, and Jamuna rivers to flood as well as the whole Bay of Bengal and its delta and rivers. Yet, in other times the same area is in extreme drought and cyclones are common. In a place with relatively low altitudes, this is detrimental to the agricultural

system. Bangladesh is a land where currently farmers are paying some of the little money they have on seed which does not grow back because of flooding, drought, or cyclones. The sheer contrast of these events makes growing any food extremely difficult (“Bangladesh and Maldives Respond to Climate Change Impacts”).

The climate change which affects Bangladesh is currently at a severity at which little to no food is being created for a growing population and the chief crop needs to be imported from India (“Bangladesh Imports”) as well in order to have adequate supplies. When crops are produced, a maximum of thirty percent of what was planted will produce anything for the farmers (“Missing Meals but Inspiration Still There”). This leads to debt among the people which is nearly impossible to combat considering the amount of work available. The unemployment rate of the country of Bangladesh is forty percent (“Bangladesh”) with most jobs being a few hours a week with extremely low pay, about a dollar a day (“MDG Monitor: Tracking the Millennium Development Goal”).

Trends for climate change show that extremities of weather are getting more and more dramatic (“Bangladesh and Maldives Respond to Climate Change Impacts”). This is making the situation increasingly poor for the average family. This is because as weather gets more extreme more homes are flooded forcing more families to move to the city. In addition more farms are flooded decreasing the amount of food. This dramatically decreases the amount of food for people.

Improving the issues due to climate change would dramatically improve the conditions of the average family. Also, if climate change was countered homes would not be flooded or destroyed by tornadoes thus the cities would have less people and much less homeless because the people could still be in their homes in more rural areas. This might make it so that Dhaka, the capital city of Bangladesh, is no longer one of the most densely populated cities on planet Earth (“The Coming Storm”). This would make it possible for families to move into the villages which they had to abandon due to harsh conditions. A counter to climate change would reduce poverty and improve the standard of living.

Population growth affects climate change because human activities and the clearing of land for humans contributes to the greenhouse affect which is widely recognized as the cause of climate change (“Climate Change Knowledge Portal”). Thus population growth is affecting food production in Bangladesh heavily. However, population growth is not a factor which can be altered without violating the inherent rights of a human being.

A good goal for Bangladesh for 2015 is to develop new procedures to work in extreme weather conditions. Some examples are fish farming, floating gardens, and rooftop gardens, as well as drought resistant seed, better irrigation systems possibly using flood water from monsoon season for during drought. In addition, houses need to be built out of more sturdy materials so they are less likely to be wiped out during tornados.

Fish farming makes use of the flooded area by use of cages created from simple bamboo poles, netting, string, and floats. With duckweed, oil cake, kitchen waste, and snails for bait more and more fish can be produced (“Fish Farming”). One of these fish farming cages “hapas”, which can catch up to 300 fish each, can be purchased for only \$10.73 USD or 840.16 Bangladeshi Taka (“Fish Farming in Bangladesh”). However, with the average human making only \$1 USD a day and all of that money being spent on food it is rare to impossible that a family may be able to afford one on their own. For this reason, raising

awareness among various religious, charity, and nonprofit organizations would be key for success of fish farming in Bangladesh.

Floating gardens also make use of flooded zones by making a floating raft for collecting water hyacinth which is overlaid with bamboo poles of appropriate length to the size of the raft and the plant matter is taken to a bank to be worked on (“Floating Garden”). More water hyacinth will be collected and added to the raft and bamboo poles are removed, after the soil part has been added (“Floating Garden”). The crops produced using floating gardens provide essential food and can also provide another source of income. It will give families a place to grow food while their farmland is under water. However, the seed for these gardens would be difficult for a family to purchase on their own so government funding, or outside religious, charity, or nonprofit organizations would be critical for funding the seed. The people would also need to be taught to make these gardens, perhaps for seed to be provided a class on building these would be provided to ensure that the seed is used in the correct way. This would also provide jobs in teaching.

Rooftop gardens could be helpful during floods as the water level could be more easily controlled for the crops. This would likely increase the crop yield greatly; however many rural homes would likely need to be rebuilt in addition, as many urban slums or buildings have a plethora of people living in them currently, the amount of food per person in a building would be fairly low. Nonetheless, it is an increase in the amount of food the people would be getting otherwise.

Flood proofing homes by using techniques such as building on fill (raising the elevation of the foundation of buildings by building on top of sand or soil mounds), elevating with stilts, making lower levels of buildings water-tight, and surrounding buildings with flood-proof walls would help during the flood season (“Flood-Proofing”). However, because of tornadoes building on fill and elevating with stilts could potentially be dangerous. Thus, using more modern techniques to make lower levels water-tight would likely be the best option. However, a qualified professional engineer is required for this technique so the educational system would need to be improved in order for it to be properly executed (“Flood-Proofing”).

Drought and flood resistant seed has already been developed in many countries, however due to the poverty level and education system it is not in wide use in Bangladesh. However with the help of government organizations or outside non-profits it could perhaps be better utilized in the country.

A possible way to utilize climate change for good would be to collect water from the flood to use during the drought. This can be done by local farmers so long as they are taught techniques by government organizations. The water collected would have to be used by utilizing more modern irrigation techniques, this would require teaching from a government organization or non-profit group.

Many of these suggestions could be implemented with money and a more solid organization. If the Bangladesh government would require further education and perhaps lower the cost of a higher-level education the country could use the new young minds in scientific innovations. The Bangladesh government or the United Nations will need to take a large part in these efforts, funding will be necessary and perhaps India could help with efforts as the Indian government already is a large supporter of the country. Local organizations, citizens, and farmers will need to further their education and allow their children to do the same in order to develop further techniques and implement them correctly. So while many of these techniques can be implemented with relatively little teaching, for more long term solutions a stronger education system would be necessary. The people maintain hope and endurance which will be key to the solution.

Works Cited

- "Bangladesh." Kwintessentials. N.p., n.d. Web. 28 Mar. 2013. <<http://www.kwintessential.co.uk/resources/global-etiquette/bangladesh.html>>.
- "Bangladesh and Maldives Respond to Climate Change Impacts." The World Bank. N.p., 7 Dec. 2012. Web. 10 Dec. 2012. <<http://www.worldbank.org/en/news/press-release/2012/12/07/bangladesh-maldives-respond-to-climate-change-impacts>>.
- "Bangladesh Culturegrams." CultureGrams Online Database:. N.p., n.d. Web. 5 Jan. 2013. <http://online.culturegrams.com/world/world_country.php?contid=3>.
- "Bangladesh Demographics Profile 2013." Index Mundi. N.p., n.d. Web. 5 Dec. 2012. <http://www.indexmundi.com/bangladesh/demographics_profile.html>.
- "Bangladesh Exports." Trading Economics. N.p., n.d. Web. 3 Feb. 2013. <<http://www.tradingeconomics.com/bangladesh/exports>>.
- "Bangladesh Imports." Trading Economics. N.p., n.d. Web. 2 Feb. 2013. <<http://www.tradingeconomics.com/bangladesh/imports>>.
- "Climate Change Forcing Banglas into Slums." The Star. N.p., 16 Feb. 2013. Web. 17 Feb. 2013. <<http://read.thestar.com/>>.
- "Climate Change Knowledge Portal." Climate Change Knowledge Portal. N.p., n.d. Web. 26 Mar. 2013. <http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile>.
- "The Coming Storm." National Geographic. N.p., May 2011. Web. 30 Nov. 2012. <<http://ngm.nationalgeographic.com/2011/05/bangladesh/belt-text>>.
- "Fish Farming." The Guardian. Guardian News and Media, 03 Jan. 2013. Web. 7 Apr. 2013. <<http://www.guardian.co.uk/global-development/2013/mar/01/bangladesh-climate-change-rice-fish-farms>>.
- "Fish Farming in Bangladesh." Practical Action. N.p., n.d. Web. 1 Apr. 2013. <<http://practicalaction.org/fish-farming-1>>.
- "Floating Garden." Practical Action. N.p., n.d. Web. 9 Apr. 2013. <<http://practicalaction.org/floatinggarden>>.
- "Flood-Proofing." ODPEM:.. N.p., n.d. Web. 1 July 2013. <<http://www.odpem.org.jm/DisastersDoHappen/TypesofHazardsDisasters/Floods/ProtectYourselfFromFloods/HowtoFloodProofYourHome/tabid/292/Default.aspx>>.
- "MDG Monitor: Tracking the Millennium Development Goal." MDG Monitor. N.p., n.d. Web. 3 Mar. 2013. <http://www.mdgmonitor.org/factsheets_00.cfm?c=BGD>.

"Migration Myths." SciDev. N.p., n.d. Web. 13 Jan. 2013. <<http://www.scidev.net/en/climate-change-and-energy/adaptation/opinions/migration-myths-hold-back-successful-climate-adaptation-.html>>.

"Missing Meals but Inspiration Still There." WFP. N.p., 10 Aug. 2011. Web. 19 Mar. 2013. <<http://www.wfp.org/stories/missing-meals-inspiration-still-there...>>. Network, Naimul Haq for SciDev Part of the Guardian Development.

"Virtual Bangladesh." Virtual Bangladesh. N.p., n.d. Web. 6 Nov. 2012. <http://www.virtualbangladesh.com/bd_tour.html>.