

Natalie Ruiz
Emmetsburg High School
Emmetsburg, IA
India, Factor 13: Demographics

Population Challenges India's Food Security

India, a country that makes up 17.5 percent of the world's total population and is the second largest producer of wheat and rice, is plagued by malnutrition and hunger. India is set in their ways of family, culture, and tradition, therefore making it hard for them to harness creative ways to solve some of the most basic problems. Professional careers pay very low due to the high population, which contributes to the inability to pay for food. In addition, there is a high number of overcrowding problems that directly contribute to the lack of food and water for the lower income population. There are several urban gardening ideas and techniques that can be used to address the problems in the densely populated, lower income areas with little education and training. India's overpopulation and complex demographics are negatively affecting food security, specifically in lower income urban areas.

The food security problems are primarily in the lower class, however the typical family dynamic is similar between all classes. Indian lives are strongly influenced by their cultural views of their family lives, educational systems, and health systems. The average urban household has about four to five people per family (Worden). Some families have extended family members living under the same household, but this has been recently becoming less common due to India's evolving culture. Lines of dominance are clearly drawn in Indian families. In an urban Indian household, the men have more authority over women, and elders have more say over the younger family members. Once a woman gets married, she is expected to leave her family and move in with her husband's family (Worden). The main social force in India comes from family.

There are several factors contributing to India's food security issues.

- In India, the population far exceeds the number of jobs available, which drives down wages. The minimum wage in India is 118 rupees, which is about two dollars per day. The low income level contributes to the inability to purchase enough food.
- Because of the lack of income and access to variety of foods, Indian diets are typically restricted to foods high in calories, saturated fats, trans fats, simple sugars, and salt. The foods they consume lack a healthy amount of fiber, vitamins, healthy carbohydrates, and protein. This leads to diseases such as obesity, diabetes, and malnourishment. (Cite)
- The availability and quality of health care is scarce. Each family is able to visit a hospital about one to two times per month. There is only one doctor per 1,700 Indian citizens, and most of these doctors have not received the education they need to be successful in the medical field (Kumar). Out of 100 of the visits in private sectors from hospitals in urban India, 70 of them were from unqualified providers (Jishnu Das).
- Perhaps most importantly, India's educational facilities are growing in number, but most are of poor quality. Many of the teachers have not been trained accordingly. Teachers and doctors do not have the luxury of being able to work one on one with students and patients to cater to one's needs. Therefore, there are many urban Indian citizens who have not received the proper guidance they need to be healthy and well educated. There are four different levels in the Indian school system: lower primary (ages 6-8), upper primary (ages 11-12), high (ages 13-15), and higher secondary (ages 17-18) (Kumar). The number of adolescents starting in lower primary

schools is 98 percent for both males and females. As they become older, the number of students enrolled in secondary school drops to 58 percent for males and 48 percent for females (UNICEF).

The low income, lack of access to health care providers, and lack of education are additional issues that contribute to the lower income urban areas inability to grow their own food supply and overcome malnutrition.

Civil rights activist, Martin Luther King Jr., stated thus on the large demographic growth affecting world population:

Unlike plagues of the dark ages or contemporary diseases we do not understand, the modern plague of overpopulation is soluble by means we have discovered and with resources we possess. What is lacking is not sufficient knowledge of the solution but universal consciousness of the gravity of the problem and education of the billions who are its victim. (Rintoul)

Overpopulation is a problem that many will be facing for years to come. Overpopulation in the country of India is directly contributing to low incomes and poor access to health care, therefore causing many citizens to live in poor health.

There are many barriers that are caused by population growth in India. India's growing population is causing a higher demand of food and fresh water. India's total population is made up of 1.2 billion people. As the second largest country in terms of population, India is expected to exceed China's population with 1.6 billion people by the year 2050 (Burke). India's rapidly increasing population currently makes up about 17.5 percent of the world's total population. This country has gained an additional 181 million new citizens just in the last decade (Burke). The rapidly increasing population is causing negative impacts on India's food supply.

More and more Indians are living poor lives and in unsterile conditions. Although India is the second largest producer of wheat and rice, fifty percent of children under the age of five are malnourished (Lehane). The amount of food storage facilities cannot keep up with the growing populations. While the food per capita in India is decreasing quickly, the demand for food is increasing at a tremendous rate. Some of the foods that are stored become contaminated due to unsanitary storage of food.

Changes of consumption pattern, high population, and urbanization are putting strains on the demands for food in India. Low incomes and high prices lead to more families that go through the hardships faced from hunger and malnutrition (Population Action International). Poor families that live in urban areas use sixty percent of their income on food. The poorest people in urban areas get less than 1,679 calories per day, and the richest get over 2,518 calories, which is almost a fifty percent difference. The recommended calorie intake is 2,100 calories per day for an urban Indian (Varma). The small amount of calories that the lower class people in urban India is caused by low incomes and high prices due to a rapidly increasing population. Low incomes lead to many urban Indians living without the proper amount of food to stay healthy.

Manmohan Singh, India's Prime Minister from 2004 to 2014, spoke to the public on malnutrition stating thus:

I have said earlier on a number of occasions and I repeat that the problem of malnutrition is a matter of national shame. Despite impressive growth in our GDP (gross domestic product), the level of undernutrition in the country is unacceptably high. We have also not succeeded in reducing this rate fast enough. We need to focus on districts where

malnutrition levels are high and where conditions causing malnutrition prevail. The health of our economy and society lies in the health of this generation. We cannot hope for a healthy future for our country with a large number of malnourished children.
(Bhalla)

Hunger and malnourishment in India has been a major problem for a very long time. This has been a growing problem for years, and there have been many programs that have approached the fight against malnutrition. This obstacle has taken the lives of many people across the country of India. Some of the smallest changes can lead to significant impacts in this fight against hunger.

Expanding agriculture into the poor urban areas of India can create a wider variation in a hungry, malnourished person's diet. Allowing vegetables to be accessed in urban communities will allow Indian families to have better access to nutrients. By expanding urban gardening to the poorer areas of India, the hungry and malnourished population can be helped by creating diversity in the types of food they eat and give them the ability to grow their own food. Malnutrition is not just a lack of food, but a shortage of variety in a person's diet. By gardening different types of fruits and vegetables in undeveloped areas in urban India, the hungry and malnourished can have a variation of nutrients in the meals that they eat.

93 million citizens live in the overcrowded slums of urban India. By creating more urban gardens in this area, the poorer citizens can gain more knowledge about how to create a nutritional diet. Creating vertical and rooftop gardens could create a larger amount of food within a limited space. The introduction of urban gardens into the poor areas of India would educate many citizens on how and why a proper diet will improve one's health. Because gardens in crowded, urban areas can give the poor access to affordable food, families would be able to meet their daily calorie intake.

There are some creative ways to grow food in overpopulated areas. Rooftop and vertical gardens have become a prevalent trend amongst the middle-class areas of urban India (Ward). Urban gardening is a concept whereby gardens are created on the tops of houses or by utilizing space that is otherwise wasted or undeveloped. Vertical gardens are types of gardens that are hung or lean against a wall, which saves space. Being able to grow more food in a limited amount of space would be beneficial in the poorer areas of India because it would provide a greater amount of fruits and vegetables to large amounts of people in the lower class areas of urban India. Community gardens can also be developed to feed the schools and communities across the lower income areas of India. Rooftop, vertical, and community gardens can help create more food for those in poor urban areas in India.

There are many ways for this idea to spread to the lower income areas of India. One of these ideas would require middle class urban gardeners to volunteer their time and knowledge to conduct workshops to teach poor urban Indians on how to start gardens through a non-profit organization. These workshops will be held to teach others about picking locations for gardens, selecting which types of plants will grow, and sharing creative ideas for soil and seed acquisition. There are also ways to recycle wasted material in order to create structures for these gardens. Through this foundation, Indian communities can begin to better their nutrient and vitamin intake from the vegetables grown in their gardens.

There have been organizations in urban India that are trying to make agriculture more prevalent in Mumbai, India. Some of these organizations include City Farming, Earthoholics, and Fresh & Local (Gordon). These organizations also teach urban Indians how to grow food near their homes. These organizations have been successful in their programs. Creating an organization in different cities across India would be highly beneficial. Expanding to local schools and slums would be highly beneficial to the youth and the poor populations.

Once these workshops become more prevalent, schools could visit the different gardens in their area to gain knowledge on how urban gardening works and how they could start one in their own homes. Students and teachers could learn how to plant seeds and care for plants so they could start their own garden at the school. If schools utilize their community gardens, in addition to growing their own food source, they can teach their students on how to feed themselves and their families to meet a proper calorie intake. This way, schools can teach their students how to properly change their consumption patterns in way that is both healthy and beneficial.

There are some barriers that may affect the implementation of this foundation. One of the major barriers that may be faced would be educating the hungry citizens of urban India that would need the help. The problem that the hungry are facing would have to be explained in the proper way so it can be understood and accepted. Volunteer workers would have to find middle class gardeners who would help teach people in lower class areas. By receiving funds from non-government organizations, the materials needed, such as soil, seeds, and water supply, can be distributed to these impoverished areas. Funds from these non-government organizations would help the middle class volunteers keep these workshops available. Experienced volunteers can visit the gardening sites regularly and make sure that resources are being used properly to benefit the lower class population. Creating different types of urban gardens throughout the impoverished areas of India would largely benefit the fight against hunger and malnutrition.

India's crowded population and extremely complex demographics are affecting food security in negative ways, specifically in the poor urban areas. The lives of Indians that live in largely populated cities are largely impacted by their beliefs in having a traditional family structure, and how education and health care affects their dietary habits. The family dynamics in all Indian classes share similarities. Although certain lifestyles are changing due to developing culture, Indian families are still very close. An Indian's family is their main social force. Because of the lack of well-educated doctors and teachers, Indians that live in poor urban areas are not well instructed. Therefore, they do not understand the proper ways to create healthy and nutritional diets.

The main obstacle to obtain food security in the country of India is its constantly growing population. With a population of 1.2 billion, high demands of food are increasing. The main food security issues in urban India come from the poorer areas. A family that lives off of a low income experiences the hardships of hunger. India's high population, changing consumption patterns, and constantly growing urbanization are putting strains on the food supply. By expanding gardens to poor urban areas, families in India can start meeting a proper intake of nutrients. Gardening fruits and vegetables in undeveloped spaces can create a variation in a hungry person's diet. By spreading the knowledge of these gardens, poor citizens can learn how to feed themselves properly. Different types of gardens include vertical, rooftop and community gardens. Vertical and rooftop gardens will save space while growing large amounts of food. Community gardens can give many people access to affordable food. A way to implement this idea would be having volunteers teach poor communities the proper urban gardening techniques. Expanding this project to schools would help young students gain helpful information about ways to create a healthy diet. Some obstacles that would have to be faced while creating this foundation would include educating the hungry in a way that can be understood and accepted and finding people who would like to volunteer their time and knowledge to teaching others. With funds from non-government organizations, materials can be distributed. This plan can be implemented in many different locations and can be helpful to many different malnourished populations. This idea can grow into a larger project by educating lower income urban Indians on how to create a healthier diet.

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