

Kashish Patel
ADM High School
Adel, IA, USA
India, Infrastructure

India: Improving Infrastructure to Secure a Better Future

Commonly known for its unique and diverse culture, India is home to many famous tourist attractions like the Taj Mahal, The Golden Temple, and The Red Fort. Mark Twain, from *Following the Equator*, described India as “the most extraordinary country that the sun visits on his rounds. Nothing to have been forgotten, nothing overlooked.” India is located in Southern Asia, bordering the Arabian Sea, the Bay of Bengal, and the Indian Ocean. India is surrounded by countries including Bangladesh, Nepal, Burma, China, Bhutan, and Pakistan. With a total square mileage of 1.269 billion, it is made of 29 states and 7 union territories. The total population of India is 1.339 billion making India the second-largest country, population-wise, in the world. Travelers see the unique diversity and beauty of India, but apart from that, India is suffering from extreme hunger and poverty. While there are many factors contributing to this situation, improvements in infrastructure and storage space facilities could play an important role in relieving poverty and hunger in India.

Along with the culture, the climate of India is also very diverse. India has 4 main seasons, winter from January till February, summer from March to May, monsoons from June till September, and post-monsoon from October to December. In the winter, the temperatures are between 10 - 15 degrees Celsius, or 50-59 degrees Fahrenheit. During the summers and monsoons, the temperatures range from 32 to 40 degrees Celsius, or 90-104 degrees Fahrenheit (“Climate of India”). Alongside the distinctive climate, the geography of India is also very different and strongly influences the climate of India. The geography ranges from deserts in the west, glaciers and tundras in the north, to tropical forests in the southwest. However, the main influencer of the climate is the Himalayas in the northwest. The Himalayas provide a blockade for the cold winds coming from the North, resulting in mildly cold or warm temperatures during the winter. But like any other place and country on Earth, India is constantly plagued by many natural disasters, including but not limited to the following: droughts, floods, and cyclones. Global warming imposes a major threat to India’s climatic strength, and the diversity of climate in India makes it difficult for scientists to analyze such major issues.

Most people in India live in rural or slum areas. Only thirty-one percent of the population live in urban areas like Mumbai, Ahmedabad, or Hyderabad. Mumbai, the biggest city in India is inhabited by 12 million people but is also home to the largest slum in the world, Dharavi. The establishment of high-rise buildings and modern apartments reverberated during 2008. Housing in India is mainly composed of low-rising apartments, small houses, and slums. Most people living in rural areas own small farms to make a living. A typical family in India owns a farm with about 0.12 hectares (0.30 acres) of arable land (“India - Agricultural Land (% Of Land Area.)”)

52% of agricultural land in India is arable with about 1.36% of agricultural exports which include fresh fruits and vegetables, cocoa products, coffee, tea, rice, sugarcane, and other poultry products. Major imports to India are mineral fuels, oils, waxes, electrical machinery, semi-precious jewels, and organic chemicals. India’s biggest trading partners are China, the United States, Iraq, and Saudi Arabia (“India

Imports”). India is very well-known for its spicy, and savory delicacies. Indian cuisine has a mix of regional and traditional food. A daily meal mostly consists of roti, rice, dal, chutney, pickle, beans and legumes along with meat or chicken or fish. Though variations can be made in different regions with the addition of several other components, listing them here will be an impossible task. India’s food is very diverse and changes every 10 km. Indian cuisine is varied, but many dishes are cooked in similar styles. Finding food in urban areas is very easy because there are vendors on every street that sell fruits and other vegetables as well as many superstores where they can find everything as per their needs.

India is a Democratic Republic with a parliamentary government. The government is split into three sections: the Executive, the Legislature, and the Judiciary. The Executive is made of the President, the Vice President, and the Cabinet Ministers. The Legislature is composed of the Parliament, Lok Sabha, and the Rajya Sabha. The Judiciary contains the Supreme Court of India, High Courts of India at the state level, and District Courts and Sessions Courts. The Indian Constitution was embraced on November 26, 1949, and was taken into action on January 26, 1950. The Parliament comprises the President, the Rajya Sabha, or the Council of States and the Lok Sabha of the House of the People.

Education in India is very expensive and to get into top schools donations are required. Education costs about 6,800 rupees or \$90 per student in government schools that are mostly located in small towns. However, the prices rise to enroll a child in a private school. Most families are willing to go out of their way to pay for the best education for their children. However, education is not available to everyone. 25% of children do not have access to education, this rate is higher amongst girls. (Poverty in India: Facts and Figures on the Daily Struggle for Survival) This is due to girls and women being considered inferior in lower social castes of India. Throughout India, healthcare is very common, though, private practices provide a higher quality of healthcare but at a much higher cost. Medical treatments vary majorly from state to state, and rural and urban areas. Rural areas often lack physicians, and the poorest states usually have inadequate healthcare. Many Indians are reliant on private health care due to lack of sufficient coverage. Though, this option is generally inaccessible to the poor. To relieve the cost of healthcare, insurance is available, which is mostly provided by employers. However, most Indians do not have health insurance, and most medical costs are paid from their own pockets.

Despite the popularity of India’s foods and vacation destination, more than 800 million families are considered poor in India. Almost 200 million people go to sleep hungry in India. Nearly 2 million babies that are born in India do not survive past the age of 5. India is one of the top countries when it comes to poverty, hunger, and malnutrition. States like Rajasthan, UP, Bihar, and Assam are the most malnourished states in India. Almost 68% of the population lives with less than \$2 per day. Social class differences are one of the main reasons for poverty in India along with high rates of illiteracy in these classes. However, according to an article from DowntoEarth, the economy of India is expected to rise to become the 3rd largest economy in the world, and the poverty rates are expected to fall by ten percent.

The most concerning factor is the lack of infrastructure in India. According to research conducted by the Office of Disease Prevention and Health Promotion (ODPHP), access to nutritional foods is affected majorly by the lack of transportation. The growth of agriculture and rural developments play a major role in eliminating hunger and malnutrition (“Unblocking Investments). Similarly in India, the residents of city slums, rural or remote areas are majorly affected by the limited transportation options. Access to public

transportation limits ingress to food. Poor transportation infrastructure makes it difficult to deliver food to regions of a country where there are food shortages. Since there is an excess amount of food that can't be transported to rural areas due to the lack of roads the food goes to waste. India wastes \$267,089,476.00 worth of food each day. ("India Wastes Rs 244 Crore Worth of Food A Day: Report").

Exploring advancements or successes in other countries with infrastructural needs can majorly influence hunger and poverty rates. Many countries in Africa like Nigeria, and Ghana are also facing similar issues with their infrastructure. To find a solution to this issue, Nigeria and Ghana have switched to using waterways to transport their materials due to the road qualities. Although India has many inland waterways connecting one state to another, this exact solution would not work for this particular problem. This is a result of activities like drawing of drinking water, irrigation, and construction. All of these factors reduce the overall water flow in the downstream regions making transportation harder (Missika, and Lorenzo, "Viability of Inland Water Transport in India"). Countries in Africa have taken many steps to improve infrastructure services such as transportation, electricity, telecommunications, sewer systems, and sanitation. ("2019 Policy on Africa: Infrastructure and Regional Connectivity"). Doing this has positively affected the productivity of integration and trade regionally and globally. The improved connectivity results in faster delivery of goods. The Indian government should consider reviewing Africa's infrastructure improvements to help develop a viable plan and timeline.

As a step forward, increasing rural access will allow rural Indians to get more access to cities to reach supermarkets to sell or buy products. Highways and roads are a major part of India. Like any other country, roads connect one part of India to another. Road transportation is the only way to get food and other supplies to people living in rural areas. Constructing high-quality rural roads is a cost-effective way, which can provide employment to men and women. It can also give rural children easier access to education. In 2004, a project was carried out in Indonesia to improve road quality. The project worked towards enhancing the volume of the district governments and local road builders. This was done to provide more access to roads and make delivery of goods easier. ("Benefits of Improving Road Access"). According to studies, the project had been very successful in improving the conditions of rural areas. India could take inspiration from these progressing countries and use some of their tricks to build better infrastructure that works for everyone in India. In India, the funds needed for these types of infrastructure projects come from private investors, however, executing these projects in a good amount of time with limited costs and resources is a big challenge for investors. Hence why, investors limit themselves to only big and well-known projects or projects given by the government. The government also does not support private investors unless it's the last option. The Ministry of Road Transport and Highways, has an annual budget of 918.2 billion INR, 13 billion USD, (Demand for Grants 2020-21 Analysis: Road Transport and Highways). The funding needed to build new roads is nearly enough, however, India needs almost \$1.5 trillion to invest in roads, and other transportation networks. This amount could result in huge debts and it could demotivate the improvement of public transportation infrastructure. China has also faced challenges related to funding (*The Missing Piece in India's Economic Growth Story: Robust Infrastructure*). To bring an end to this problem, the Chinese government opened itself up to private and foreign investors and through various contracts the Chinese government was able to get guaranteed investments and also

increase the development of infrastructure. India also needs to commit to new developments in transportation and open itself to private investors instead of only giving priority to well-known investors. Private investors are willing to work with the government to improve infrastructure. If the government opens up to private investors, India could become a well-developed country that is suitable for each person living in various conditions.

Building new roads can affect the amount of land that the farmers get and some of their lands could be seized in the procedure of bettering the infrastructure. To avoid this problem, the Indian government passed a Land Acquisition Act in 2013, this act made it mandatory for the government officials to seek consent from 80% of the families that are being affected from the private projects and 70% families for public-private projects. This act gave voice to unheard and affected families. This law still creates many problems and does not compensate for the government-acquired land. Issues with land acquisition contribute to high costs for railways, roads, ports, and other transportation developers. Medha Patkar, an activist stated, "If industries must acquire rural land, the law must ensure that the companies do due diligence towards the people who survived on the land till then. Experience shows that companies will not rehabilitate or resettle people, employ locals, or pay them the right price for land without it being made mandatory." In order to fix this issue, the government should consider making new laws that give compensation to families that are being affected by new infrastructural developments. Land acquisition isn't the only obstacle the government or private road developers have to face, the developers also have to keep up with the growing population to avoid being stuck in the same situation again. To tackle the growing population,

There are many ways in which citizens can motivate the government to take action towards this growing problem. Citizens can create fundraisers for infrastructural development. These funds would help the government cover costs that require more money than what the government has. Citizens could host events like fun walks/runs, concerts, auctions, or exhibits to raise funds to build new roads. Apart from the funding, the government still needs to take better measures to improve the infrastructure. This can only happen if the government is motivated to do so. One way to motivate the government is by writing effective and fact-based letters to government officials to bring this issue to the attention. The more letters people write the sooner they will take action. The citizens could also use their voting rights for strong government officials who prioritize infrastructural development. Doing so will increase the number of government officials in parliament that support infrastructure. This will result in more projects for better infrastructure. An alternative option would be to involve community investors, who work in the infrastructural field. This will help spread the word and it will help get funding for the projects. Citizens play the most important role in the country and their voice or action can make their country shine. If all the citizens come forward to raise their voice on this issue then the government will have to take action and the issue will be solved in no time.

Along with the road infrastructure, storage infrastructure needs to be improved as well. Storage space is also limited in India. The inadequate amount of storage space results in vast amounts of food waste,

almost 40% per year. As a second option, governments should create funds dedicated to financing storage infrastructure projects to reduce post-harvest losses. Or another way to this approach is to create more warehouses or storage spaces which will allow farmers to sell their products on an even larger scale. Creating warehouses will also create many more job opportunities for young men and even women who are seeking ways to feed their families. Providing more storage space for farmers will allow them to keep their crops in a safe place after harvest, minimizing the waste and spoilage of foods. This is also very cost-effective because the cost of building storage in India is about Rs 850-1,650 (\$11-22) per square foot. These funds can be raised from the Prime Minister's National Relief Funds which is a special fundraiser where the people can donate money and those donations go towards healing national problems. According to *Indian Folk*, the government has invested about Rs 45,000 crores to build warehouses across the country. However, there is still a major need for warehouses.

India is fighting a major hunger battle but it is a country full of potential. (India has the ability to fight and eliminate hunger. Poor skills of workers, scarcity of operating funds, poor planning at operational and management levels all contribute to having a poor infrastructure. Change is being made and at the right time. Creating more storage spaces could minimize the waste of food, resulting in food being served to all the citizens. Increasing the rural access would provide more job opportunities for the citizens of rural India, and it would give them a chance to sell their products in better markets which would increase their daily income resulting in the citizens being able to feed their families. Implementing these two projects, along with supporting rural development, may stimulate a successful approach to eliminating hunger. Indian citizens as well tourists of India should be aware of the poor infrastructure and should contribute to developmental projects. India has already started using tourist taxes to better the infrastructure to attract more tourists. But these efforts are sometimes overseen by the higher government officials. But the voice of the citizens can get the attention of the higher government officials. To efficiently initiate these projects, the following things should be done. The Indian government should create the laws and create new projects, and the people will need to be educated on the projects and support them. Full participation and support from every Indian is pivotal to the success of these projects, and sustainable solutions are within reach. Making changes towards improving the infrastructure of India can secure a very promising future for the immense number of hungry and poor.

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