

Unveiling the Consequences: Exploring the Impact of Environmental Degradation on the Urban Low-income Communities in India

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Abstract

Environmental degradation is a compelling issue in India, especially in urban areas. There are various reasons responsible for the same, and it has consequences reaching far and wide. For people who belong to the low-income sections of the urban areas, effects are felt disproportionately due to their socio-economic vulnerability. Without implementing serious mitigation measures, damage done to the environment would lead to a prolonged crisis for the people belonging to the marginalized sections.

Introduction

India faces several problems related to the environment. Additionally, most of the damage emanates from the urban areas.¹ Though degradation inflicted upon the environment spills concern for every section of society, it has more severe impact on people belonging to the economically marginalized sections of the cities. Hence, the effects are more pronounced on the downtrodden.

Do all Low-income Communities suffer uniformly?

Within the various sections of society belonging to the lower income strata, there is a difference in the consequences felt. For instance, studies have shown that low-wage industrial workers are exposed to hazardous working conditions. People working in refineries and heavy-metal industries suffer from diseases caused by metal toxins and poisonous fumes like lead poisoning, asbestos, et cetera.² Similarly, vendors and small hawkers are more exposed to particulate pollutants generated by burning fossil fuels in automobiles. For small fishermen, water pollution

¹ Shrivastava, M., Ghosh, A., Bhattacharyya, R., & Singh, S. D. (2018). Urban pollution in India. *Urban pollution: Science and management*, 341-355.

² Thornton, J. W., McCally, M., & Houlihan, J. (2016). Biomonitoring of industrial pollutants: health and policy implications of the chemical body burden. *Public Health Reports*.

directly threatens their livelihood.³ For rag pickers, and those working in landfills, a wide variety of domestic and public waste acts as a source of hazard and causes several diseases.

What is noteworthy is most of the people belonging to the low-wage groups realize the precarious situations in cities are detrimental to their well-being, however, due to financial constraints they have little choice.

It is beyond the scope of this paper to discuss every environment-related matter affecting impoverished urban sections of society. In this paper, three major aspects of environmental degradation are focused upon- urbanization, pollution, and industrial hazards and their impact upon the Low-income Communities (LICs) is ascertained.

Environmental Consequences of Urbanization: Impact on Low-income Communities

Urbanization refers to the process of population growth and the expansion of cities and towns, leading to the transformation of predominantly rural areas into urban areas.⁴ It is a global phenomenon driven by various factors such as rural-urban migration,⁵ natural population growth, economic opportunities, and changes in land use patterns. There are certain characteristics of this phenomenon. Urbanization involves the concentration of people in cities and towns and hence leads to high population densities and leads to an increase in demand for resources and services. Urban areas often become centers of economic activity, offering a wide range of job opportunities, industries, and services. Urbanization is closely linked to industrialization and the growth of the service sector, contributing to economic development. In India, urbanization follows Colonialism. The expansion of cities necessitates the development of infrastructure to support the growing population and meet their needs. This includes transportation networks, housing, healthcare facilities, educational institutions, water supply systems, and waste management systems. There are also social and cultural transformations as people from diverse backgrounds come together. It leads to the blending of different cultures, lifestyles, and social interactions, creating a more cosmopolitan and diverse society. It also leads to an increase in employment and income-generating opportunities, attracting people from rural areas in search of better livelihoods. Cities act as hubs of innovation, entrepreneurship, and economic activities, contributing to overall economic growth. Those migrating to urban areas, especially from impoverished backgrounds come to these cities in search of improved access to the Services, avail improved quality essential services such as healthcare, education, sanitation, and transportation

³ Islam, M. S., & Tanaka, M. (2004). Impacts of pollution on coastal and marine ecosystems including coastal and marine fisheries and approach for management: a review and synthesis. *Marine pollution bulletin*, 48(7-8), 624-649.

⁴ Ritchie, H. (2018, June 13). *Urbanization*. Our World in Data. <https://ourworldindata.org/urbanization>

⁵ Kumari, S. A. N. G. I. T. A. (2014). Rural-urban migration in India: Determinants and factors. *International Journal of Humanities and Social Sciences*, 3(2), 161-180.

compared to rural areas. Urbanization can lead to improved infrastructure and service delivery, benefiting both urban residents and neighboring rural communities.

But Urbanisation has incurred a heavy loss from the environment. And its impact is most felt by the people living on the margins and belonging to economically impoverished sections. Apart from crowdedness, it has led to the development of a housing crisis for these people.⁶ This, in turn, has led to the emergence of shabby clusters where people get clumped together.⁷ Administrative and societal apathy, discrimination, unavailability of basic amenities, and inaccessibility tend to make the situation worse for these people. Suffering from financial depravity to even meet basic needs, the expansion of cities only adds to the further marginalization of these groups and creates a rigid stratification.⁸

Pollution in India: A Perennial Concern

One of the most direct and widespread of the rapid urbanization in India has been Pollution. Pollution refers to contamination of the quality of the environment. India is a huge country and has a large population to sustain. Industrialization, and '90s LPG reforms⁹ changed the economic picture of the country. More industries, public and private, emerged. The rapid urbanization of certain parts of India opened many venues for those seeking employment. Today, cities like Delhi and Mumbai witness a huge footfall of millions of workers, youth, and students leaving towns and villages in pursuit of better options.¹ Congestion, competition, and the establishment of various businesses have been the driving force for these cities' economies. However, due to inadequate management, unsustainable urban planning, politics of allotment, and corruption in the administrative and business circles lead to cities and their environment gasping for a better environment.

Due to the above-mentioned points, cities like Bengaluru witnessed toxic foam in the lakes,¹⁰ and cities like Delhi and Mumbai suffer from low AQI constantly.¹¹ Although Pollution has an impact on every age group and financial group, yet for people belonging to the LICs like minimum-wage workers, daily wagers, vendors, rag pickers, garbage collectors, and laborers. Moreover, it is important to note that these people come to cities in search of better opportunities and to make the most of what is available. Yet they suffer from a lack of equity in administrative set-up, and many times from a lack of empathy from fellow citizens and even the government.

⁶ Kumar, A. (2015). Housing shortages in urban India and socio-economic facets. *Journal of Infrastructure Development*, 7(1), 19-34.

⁷ Ibid (6)

⁸ Social Stratification refers to the place certain individuals come to occupy by the virtue of their socioeconomic standing Kerbo, H. R. (2017). Social Stratification. *The Wiley-Blackwell Encyclopedia of Social Theory*, 1–4. <https://doi.org/10.1002/9781118430873.est0761>

⁹ Ravan, S. V. (2014). Impact of LPG on Indian economy. *Prime International Research Journal*, 1(4), 21-33.

¹⁰ The Guardian. (2022, October 19). *Bangalore's lake of toxic foam – in pictures*.

<https://www.theguardian.com/world/gallery/2015/oct/01/lake-toxic-foam-bangalore-india-in-pictures>

¹¹ Desk, E. (2022, November 6). What is AQI, the number that signifies how polluted the air is? *The Indian Express*. <https://indianexpress.com/article/explained/everyday-explainers/what-is-aqi-delhi-air-pollution-8253034/>

Urban Poverty and Pollution

A large number of rural youth migrate to urban areas in India in search of better facilities and employment.¹² Also, many informal sectors in urban areas of the country depend on the seemingly 'cheap' labor for the migrant population. Not only poor people, but even affluent families from rural areas also arrive in the cities, temporarily or permanently, in search of better education and employment opportunities. Poor urban communities often face difficulties in accessing basic services such as health care, education, drinking water, sanitation, and electricity. Limited access to quality healthcare and education perpetuates inter generational poverty.

They already live in sub-optimal conditions. Environmental woes like Pollution only exacerbate their issues. Pollution, however, has led to an increase in the number of pulmonary, gastrointestinal, and cardiovascular diseases in people. Lack of clean air and access to unclean drinking water only add to the woes. Poor urban communities often live in areas of high pollution, including air, water, and noise pollution. These pollutants can be harmful to health. The urban poor, often living in informal settlements or slums, are more vulnerable to the adverse effects of environmental pollution. Factors such as overcrowded living conditions, lack of ventilation, and inadequate sanitation contribute to their increased vulnerability to environmental health problems. Also, many people are unable to access green spaces in urban areas.

Impact of Air Pollution

Most of the cities in India fare negatively when it comes to the quality of air people breathe. New Delhi, the capital of India, has fared unimpressive in Air Quality Index. Even the financial capital of Mumbai has low AQI. Air pollution causes many air-borne diseases including chronic diseases and pulmonary ailments. For the LICs that already suffer from financial disadvantages, Air Pollution proves to be a catalyst. It is not only Pollution that is a burden on these people, it is also the not-so-good dilapidated situation of healthcare for these people. Many government healthcare facilities are inadequate. Private Healthcare is expensive, sometimes though, the only option people are left with. This illustrates the precarity of the situation the people face in such situations. Air pollution has a severe impact on the urban poor in India, affecting their health, livelihoods, and overall well-being and are disproportionately exposed to high levels of air pollution due to factors such as living in congested slums, proximity to industrial areas, and reliance on solid fuels for cooking and heating. Prolonged exposure to polluted air increases the risk of respiratory problems such as asthma, bronchitis, and other chronic obstructive pulmonary diseases (COPD).¹³ These health issues can lead to reduced lung function, frequent hospitalizations, and increased healthcare expenses. They are also more susceptible to respiratory infections and diseases. Fine particulate matter (PM2.5) and other pollutants can

¹² Ibid (5)

¹³ Bernstein, J. A., Alexis, N., Barnes, C., Bernstein, I. L., Nel, A., Peden, D., ... & Williams, P. B. (2004). Health effects of air pollution. *Journal of allergy and clinical immunology*, 114(5), 1116-1123.

penetrate deep into the lungs, triggering inflammation, aggravating existing health conditions, and increasing the risk of respiratory infections such as pneumonia.¹⁴ Vulnerable groups, including children, the elderly, and individuals with preexisting health conditions, are particularly at risk. Besides, air pollution can have adverse effects on cognitive development, especially among children in low-income communities. Studies have shown a link between exposure to air pollutants and reduced cognitive abilities, impaired memory, and decreased attention span. There are also economic implications. Health issues resulting from exposure to polluted air can lead to increased healthcare expenses, reduced work productivity, and missed workdays. People who often work in low-wage and informal jobs are particularly vulnerable to economic shocks caused by health problems. The financial burden of healthcare and lost income can perpetuate the cycle of poverty and hinder socioeconomic advancement. Air pollution exacerbates existing environmental injustices in urban areas, disproportionately affecting marginalized communities. They are more likely to reside in areas with high levels of pollution, such as near industrial zones, busy roadways, and waste disposal sites. The presence of air pollution negatively impacts the quality of life and well-being of the people. For those already pushed down the social strata, it is about a bad situation getting worse.

Impact of Water Pollution

One of the major environmental crises staring in the face of the country is related to water.ⁱⁱ On one hand, many parts of the country face imminent water shortages in the upcoming years. On the other hand, there is the issue of water resources, especially drinking water, getting polluted. Lack of proper housing facilities and infrastructural support, already makes it difficult for these people to access basic amenities like clean drinking water. Water Pollution makes it more difficult for people to strive and survive. Contaminated water sources pose severe health risks to the economically disadvantaged. Consumption of polluted water can lead to waterborne diseases such as cholera, typhoid, hepatitis, and diarrhea. These illnesses can be life-threatening, particularly for individuals with compromised immune systems, such as children and the elderly. The urban poor, who often lack access to clean water sources and rely on contaminated water for drinking, cooking, and sanitation, are particularly vulnerable to these health risks. Waterborne diseases resulting from water pollution can lead to increased healthcare expenses for the urban poor. Treatment costs, including hospitalization, medications, and doctor visits, can place a significant financial burden on individuals and households with limited financial resources. This can perpetuate the cycle of poverty and hinder their ability to access other essential needs and services. Water pollution can have a detrimental impact on the livelihoods of the LICs, especially those engaged in sectors such as fishing, agriculture, and small-scale manufacturing. Polluted water bodies and contaminated soil can affect crop yields, reduce fish populations, and degrade natural resources, leading to decreased income

¹⁴ Ibid (13)

and food insecurity for those dependent on these sectors for their livelihoods. It also exacerbates the problem of inadequate access to clean water for them. Contamination of water sources forces them to rely on unsafe water for their daily needs, leading to a vicious cycle of poor health, decreased productivity, and increased vulnerability. Additionally, they are more likely to reside in areas with inadequate infrastructure, lack of proper sewage systems, and limited access to clean water sources. This further deepens existing inequalities and hinders their ability to escape poverty and improve their living conditions.

Occupational Risks, Industrial Hazards, and the Low-income Communities

Industrial Pollution is one of the most prevalent kinds of pollution in urban areas, especially in heavy industries. The lack of adequate safety measures and safeguards increases their vulnerability to health risks related to contamination. Occupational risks and industrial hazards pose significant challenges to the urban poor in India. The urban poor often finds themselves working in informal and low-wage jobs that expose them to various occupational risks and hazardous working conditions. Many urban poor individuals are engaged in the informal sector, which includes activities such as street vending, waste picking, construction labor, domestic work, and small-scale manufacturing. These jobs often lack legal protections, safety standards, and social security benefits, making workers vulnerable to occupational risks and hazards. Also, the working conditions are unsafe. They may work in poorly maintained buildings, without proper ventilation, fire safety systems, or personal protective equipment. Exposure to physical, chemical, and biological hazards is common in industries such as construction, manufacturing, waste management, and informal recycling.

Occupational hazards can have severe health consequences for the marginalized sections. Exposure to hazardous substances, such as chemicals, dust, and fumes, can lead to respiratory problems, skin diseases, and long-term health conditions. Lack of access to healthcare exacerbates the health risks faced by the urban poor, as they may not receive timely and appropriate medical attention for occupational health issues.

They are also at a higher risk of workplace accidents and injuries.¹⁵ In industries like construction and manufacturing, where safety protocols are often neglected, workers may experience falls, slips, trips, and other accidents that can result in severe injuries or even fatalities. The financial burden of medical treatment and loss of income due to work-related accidents further exacerbates the challenges. It gets even more difficult for the migrant workers. They lack social support networks and legal protection and are at a higher risk of exploitation and unsafe working conditions. Women, who are disproportionately employed in the informal sector, face additional challenges related to gender-based discrimination and harassment in the workplace.¹⁶

¹⁵ de Souza Porto, M. F., & De Freitas, C. M. (2003). Vulnerability and industrial hazards in industrializing countries: an integrative approach. *Futures*, 35(7), 717-736.

¹⁶ Mohapatra, K. K. (2012). Women workers in informal sector in India: understanding the occupational vulnerability. *International Journal of Humanities and Social Science*, 2(21), 197-207.

What is the way forward?

These are not new problems and there are certain rules and regulations in place to make things easier, yet people belonging to marginalized sections do not have equal access to the proper resources of redressal. They face apathy and discrimination. Low-income communities mostly suffer because of their compulsion to stay in the cities for the sake of employment and the lack of proper housing facilities and infrastructural support. The Administration also needs an overhaul. The compensation, and redressal framework also needs an overhaul. Laws regarding Pollution need to be over-viewed. Industries and Enterprises are to be held accountable for failure to implement Pollution related laws and flouting safety norms. There is a significant need to equip workers with better, and more affordable, health coverage. All these measures need to be taken into consideration for mitigating the negative influence environmental degradation across the lines has on these communities.

Conclusion

Low-Income Communities face a long list of hardships when it comes to adapting to urban lifestyles. These include socio-economic disparities, discrimination, institutional apathy, and lack of access to the proper resources. Therefore, they are at enhanced risk when it comes to experiencing the drastic effects of environmental degradation.¹⁷ These include the impact of urbanization, diseases caused due to pollution, and occupational risks faced by them in the industries. Until and unless proper mitigation measures are introduced at administrative and societal levels, these communities will continue to suffer.

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