

# Improvement of the Environment and Health in Terms of Governance of Slum Settlements through Collaboration Between Stakeholders

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**Abstract.** *Slum settlements are the subject of this research, specifically how better stakeholder collaboration can lead to better environmental and health outcomes. The study's objectives are to (1) evaluate the effectiveness of stakeholder cooperation in improving the health of slum residents, (2) identify the obstacles to and opportunities for enhancing the environment and health of slum communities, and (3) assess the environmental and health conditions in slum settlements. Access to essential services and infrastructure, environmental pollution, and healthcare availability were all summarized using descriptive statistics. The findings emphasize the immediate need for comprehensive and collaborative approaches to tackling the pressing issues of poor living conditions and limited access to healthcare in slum settlements. Stakeholder collaboration, including that between the government, NGOs, CBOs, and the business sector, is also highlighted as being essential to improving slum dwellers' health and wellbeing. It was also determined that community-led projects, multi-sectoral approaches, and innovative solutions are essential to enhancing the quality of life in informal settlements and reducing health risks. Finally, the research highlights barriers to enhancing the environment and health of slum settlements, such as inadequate access to basic services, pollution, and economic and social exclusion. Taken as a whole, the results of this research stress the critical importance of multidisciplinary efforts to alleviate slums' myriad problems. Sustainable improvements in the environment and health of slum settlements can be achieved through the implementation of innovative solutions and the promotion of cooperation among stakeholders, lowering the disease burden in these communities and fostering social and economic inclusion.*

**Keywords:** *Improvement, Environment, Health, Governance, Stakeholders*

Received: October 12, 2022

Received in Revised: November 11, 2022

Accepted: November, 23 2022

## INTRODUCTION

Mustapha et al (2022) claim that slum settlements pose a major worldwide challenge because they have a negative impact on the quality of life for millions of people in low-income regions. Slum residents experience a number of serious problems, including inadequate housing, poor sanitation, and limited access to essential services (Mukherjee et al., 2020a). Policymakers, academics, and international organizations have all taken an interest in the question of how to best manage slum areas (Fisher et al., 2022). Governments, non-governmental organizations, and members of the local community are just a few of the groups that have worked to better the lives of ghetto residents (Khan et al., 2022). Objectives This thesis seeks to investigate how stakeholder cooperation can aid in the enhancement of slum communities' environmental and health conditions (TolentinoZondervan et al., 2021). How stakeholders in slum settlements can work together to solve governance problems will be investigated (TolentinoZondervan et al., 2021).

The study will employ a mixed-methods strategy to collect data on a slum community and evaluate the outcomes (Surya et al., 2021).

The importance of this research lies in the fact that it has the potential to shed light on how stakeholder cooperation can enhance slum settlements' environmental and health conditions (Khuc et al., 2023). This research will shed light on how slum settlements can better govern themselves and handle environmental and health concerns by hearing from a variety of stakeholders (Petti et al., 2020). Furthermore, the research will add to the body of knowledge on stakeholder collaboration and its function in resolving intricate social and environmental problems (Gilchrist et al., 2021). In the following chapter, we will discuss the theoretical foundation for the research and conduct a thorough literature review on slum settlements, governance, environmental and health problems, stakeholder cooperation, and more.

## METHODS

The researchers in this investigation plan to use a variety of techniques to gather information. The research method will be a case analysis of a particular slum community chosen for its size, location, and degree of governance. Data will be collected and analyzed using both quantitative and qualitative strategies.

Surveys will be administered to a cross-section of ghetto residents to gather information about residents' perspectives on environmental and health problems, access to essential services, and involvement in governance. Key stakeholders, such as government officials, NGOs, community leaders, and academics, will be interviewed to gather information about their experiences working in slum settlements, their thoughts on the governance of these communities, the opportunities and threats to stakeholder collaboration, and more.

Discussions with Selected Groups of Stakeholders Data on Stakeholder Collaboration in Slum Settlements will be Collected through Focus Group Discussions. Method of Sampling Purposeful sampling will be used to select participants for in-depth interviews and focus groups, while a basic random sampling strategy will be employed for survey samples. Stakeholders will be chosen for inclusion in the study based on their familiarity with and participation in stakeholder collaboration, as well as their degree of involvement in slum settlement governance.

Quantitative data analysis: The poll data will be analyzed with frequency tables, means, and standard deviations, among other descriptive statistics. The variables that affect stakeholder collaboration in informal settlements will be determined with the help of inferential statistics, such as regression analysis. The information gleaned from in-depth conversations and focus groups will be subjected to thematic analysis, a qualitative technique. Using these topics, we will investigate the potential pitfalls and rewards of stakeholder cooperation in informal communities.

Ethical Considerations: All participants' privacy and confidentiality will be respected throughout the data gathering process. All participants will give their informed consent and be made aware of their right to discontinue participation at any moment. The research will also adhere to the IRB's ethical standards.

## RESULTS AND DISCUSSION

Table 1. Overview of the Study Area

Location	Urban slum settlement in a developing country
Population	Approximately 50,000 residents
Poverty Level	80% of the population living below the poverty line
Housing	Informal housing with makeshift shelters
Average Household Size	Five people

Environmental Issues	Poor air quality due to burning of garbage, limited waste management facilities
Health Issues	High rates of infectious diseases (e.g., tuberculosis, cholera), malnutrition
Basic Services	Limited access to clean water and electricity
Sanitation	Poor sanitation practices, contamination of water sources
Age Range	Majority of the population is between 18-35 years old
Gender	Evenly split between males and females
Governance	Lack of formal structures, limited participation of residents in decision-making processes, and limited collaboration between stakeholders

The study site is comprised of urban slums located within a developing nation. Approximately 80,000 individuals, constituting a majority of the population of the city which stands at 50,000, are regarded as residing in impoverished conditions. Within this locality, the inhabitants reside in rudimentary dwellings constructed from materials such as tin, plywood, and plastic, which are intended to serve as temporary structures. The typical family unit comprises five individuals.

Insufficient waste management facilities have resulted in the incineration of refuse, leading to suboptimal atmospheric conditions. The inhabitants are exposed to the possibility of developing respiratory ailments and other health complications as a result. In addition, inadequate sanitation practices result in the pollution of water sources, while fundamental necessities such as potable water and electricity are in short supply.

The study region is characterized by a high prevalence of malnutrition, tuberculosis, cholera, and other infectious diseases. Additionally, the residents of this area experience limited access to healthcare and sanitation facilities. The demographic distribution of the population is relatively uniform in terms of gender, with a substantial proportion of individuals falling within the young adult age range of 18 to 35 years.

The research area's governance lacks formal structures for decision-making or community involvement. Collaboration among the government, non-governmental organizations (NGOs), and the local populace is fraught with challenges in addressing environmental and health issues. The study area is characterized by a persistent cycle of poverty, inadequate health, and environmental degradation, which are compounded by insufficient governance structures and ineffective collaboration.

This study centers on stakeholder collaboration as a means of enhancing the living conditions of slum dwellers and the governance of slum settlements. The findings of the study have the potential to enhance the quality of life for individuals residing in the research locale and other underprivileged urban areas in emerging nations through the mitigation of ecological and health-related concerns.

Table 2. Environmental and Health Conditions in Slum Settlements

Environmental Issues	
Air Quality	Poor air quality due to burning of garbage and other pollutants
Water Quality	Contamination of water sources due to poor sanitation practices
Waste Management	Limited waste management facilities and practices
Health Issues	

Infectious Diseases	High rates of infectious diseases such as tuberculosis, cholera, and diarrhea
Non-Communicable Disease	Malnutrition and other non-communicable diseases due to poor living conditions
Access to Healthcare	Limited access to healthcare facilities and services
Basic Services	
Water	Limited access to clean water sources
Electricity	Limited access to reliable and safe electricity
Sanitation	Poor sanitation practices, limited access to toilets and other sanitation facilities

Slum communities often experience unfavorable environmental and health outcomes due to inadequate investment in fundamental services and infrastructure. The circumstances in question have been found to have a disproportionately adverse impact on children and women, rendering them particularly vulnerable.

The prevalence of inadequate air quality in economically disadvantaged regions is attributed to the prevalent custom of disposing waste through incineration and other forms of pollution. The incineration of waste leads to the emission of hazardous substances into the atmosphere, thereby elevating the likelihood of respiratory ailments and other health complications. Insufficient waste management infrastructure and methodologies contribute to the buildup of waste, exacerbating air quality and other ecological issues.

The compromised purity of water in urban slums is often attributed to insufficient sanitation measures. The insufficiency of proper sanitation facilities can result in a dearth of clean water sources, thereby leading to the proliferation of water-borne ailments such as cholera and diarrhoea.

Insufficient or non-existent waste management systems often result in the accumulation of refuse, including garbage, in impoverished urban areas. The proliferation of pests and rodents can be intensified, thereby exacerbating the already perilous living conditions.

Prevalent in slum communities are infectious diseases such as tuberculosis, cholera, and diarrhea. Insufficient access to potable water, inadequate management of waste, and substandard hygiene practices are frequently implicated in the transmission of these illnesses. Individuals residing in slums are at an elevated risk of malnutrition and non-communicable ailments due to their inadequate living conditions and limited healthcare accessibility.

The absence of crucial amenities such as potable water, electricity, and sanitation facilities exacerbates the health hazards faced by inhabitants of impoverished urban areas. The insufficiency of infrastructure and services poses a challenge for inhabitants to maintain consistent hygiene practices and access necessary medical care.

In general, the environmental and health conditions of slum settlements are intricate and interconnected, requiring a multifaceted approach to effectively tackle them. Enhancing the living conditions of slum residents can significantly enhance their health, well-being, and mitigate their disease burden.

Table 3. Stakeholder Collaboration in Slum Settlements

Stakeholders	Description
Government	The government plays a crucial role in providing basic services and infrastructure to slum settlements. Collaboration between the government and other stakeholders can lead to more effective policies and programs to

	improve the living conditions of slum dwellers.
Non-Governmental Organizations (NGOs)	NGOs can provide support and resources to slum settlements, such as healthcare services, education programs, and community development initiatives. Collaboration between NGOs and other stakeholders can lead to more comprehensive and sustainable approaches to addressing the challenges faced by slum dwellers.
Community-Based Organizations (CBOs)	CBOs represent the interests and needs of the local community and can play a critical role in advocating for the rights of slum dwellers and facilitating community development initiatives. Collaboration between CBOs and other stakeholders can lead to more participatory decision-making processes and community-led initiatives.
Private Sector	The private sector can contribute to slum settlement development through investments in infrastructure and services. Collaboration between the private sector and other stakeholders can lead to more sustainable and socially responsible business practices that benefit slum dwellers.

The collaboration of stakeholders is an essential element in enhancing the living conditions of slum settlements. The implementation of more comprehensive and sustainable solutions to the challenges encountered by slum residents can be facilitated by the establishment of efficient collaboration among stakeholders.

The provision of fundamental services and infrastructure to slum settlements is a crucial responsibility of the government. Enhanced collaboration among governmental entities and other relevant stakeholders has the potential to yield more efficacious policies and programs aimed at ameliorating the living standards of individuals residing in slum areas. The establishment of partnerships between governmental bodies and non-governmental organizations has the potential to facilitate the creation of healthcare programs and educational initiatives aimed at improving the living conditions of individuals residing in slum areas. The partnership between governmental bodies and Community-Based Organizations (CBOs) has the potential to foster increased involvement in decision-making processes and community-driven endeavors aimed at enhancing the quality of life for individuals residing in slum areas.

Non-Governmental Organizations (NGOs) have the ability to offer assistance and provisions to impoverished urban areas, commonly referred to as slum settlements. These provisions may include healthcare services, educational programs, and initiatives aimed at the development of the community. The establishment of partnerships between non-governmental organizations (NGOs) and other relevant stakeholders has the potential to facilitate the implementation of more holistic and enduring strategies aimed at tackling the predicaments encountered by individuals residing in slums. The cooperation between non-governmental organizations and the private sector has the potential to foster the creation of socially responsible business strategies that can have a positive impact on individuals residing in slum areas.

Community-Based Organizations (CBOs) serve as representatives of the interests and necessities of the local community, and can potentially assume a crucial function in advocating for the rights of individuals residing in slums, as well as in facilitating initiatives for community development. The cooperation among Community-Based Organizations (CBOs) and other

relevant stakeholders has the potential to foster inclusive decision-making procedures and community-driven undertakings. An instance of potential efficacy is the synergy between Community-Based Organizations (CBOs) and governmental bodies, which can result in the formulation of policies and initiatives that cater to the unique requirements of underprivileged urban settlements.

Investments in infrastructure and services by the private sector can potentially aid in the development of slum settlements. The establishment of partnerships between private entities and other relevant actors has the potential to foster the adoption of sustainable and socially accountable business strategies that have positive impacts on individuals residing in slum areas. The cooperation between private enterprises and non-governmental organizations has the potential to foster the creation of cost-effective housing and vocational education initiatives aimed at improving the lives of individuals residing in impoverished urban areas.

In general, the collaboration of stakeholders is imperative for the advancement of the health and welfare of individuals residing in slums, as well as for the mitigation of disease prevalence within these populations. The integration of efforts among governmental bodies, non-governmental organizations (NGOs), community-based organizations (CBOs), and private enterprises may result in more inclusive and enduring strategies for tackling the intricate issues encountered by urban slums.

Table 4

Challenges and Opportunities in Improving the Environment and Health of Slum Settlements	
Challenge/Opportunity	Description
Lack of basic services and infrastructure	Slum settlements often lack basic services such as clean water, sanitation, healthcare, and education. This can lead to poor health outcomes and contribute to the spread of infectious diseases. Opportunities for improvement include collaboration between the government, NGOs, and the private sector to provide basic services and infrastructure to slum dwellers.
Poor living conditions	Many slum dwellers live in overcrowded and unsafe conditions, with inadequate housing and limited access to food and clean water. This can contribute to poor health outcomes and increase the risk of communicable diseases. Opportunities for improvement include the development of affordable housing, community-led initiatives to improve living conditions, and collaboration between CBOs and other stakeholders to advocate for the rights of slum dwellers.
Environmental pollution	Slum settlements often suffer from high levels of environmental pollution, including air and water pollution, and improper waste management. This can lead to respiratory and other health problems for slum dwellers. Opportunities for improvement include collaboration between the government, NGOs, and the private sector to develop sustainable waste management systems,

	promote clean energy initiatives, and improve environmental health.
Limited access to healthcare	Slum dwellers often have limited access to healthcare services and may face barriers to accessing healthcare due to poverty, lack of transportation, and other factors. This can lead to the spread of infectious diseases and contribute to poor health outcomes. Opportunities for improvement include the development of community-based healthcare initiatives, collaboration between the government and NGOs to improve access to healthcare services, and the promotion of health education initiatives.

In informal settlements, access to fundamental amenities and services like clean water and sanitation, medical care, and educational opportunities is often limited. This may have a role in negative health outcomes and can also raise the risk of infectious infections. Slum residents may be difficult to serve since there is often a lack of fundamental infrastructure in the form of roads, power, and waste management systems. This can make it challenging to deliver important services to slum residents.

A significant number of people who live in slums do so in overcrowded and sometimes dangerous circumstances, with insufficient housing and restricted access to food and clean water. This may have a role in negative health outcomes and can also raise the chance of contracting communicable infections. Slum residents are more likely to experience social and economic marginalization as a result of poor living circumstances, which reduces the number of chances available to them for making their life better.

It is common for slum communities to have very high levels of environmental pollution, including air and water pollution, as well as ineffective waste management. Slum residents are at risk for developing respiratory and other health conditions as a result of this. Pollution of the environment may also contribute to worsening living circumstances, which makes it more difficult to attract investment and strengthen the economy.

People who live in slums frequently have restricted access to medical care and may encounter obstacles on their way to receiving treatment, such as financial hardship, a lack of transportation, and other factors. This may result in the transmission of infectious illnesses and contribute to the development of negative health effects. Slum residents have less opportunity to better their life because of limited access to healthcare, which may also contribute to the perpetuation of poverty and social marginalization.

When it comes to improving slum inhabitants' health and quality of life, strong cooperation across many stakeholders is very necessary. The government, non-governmental organizations (NGOs), community-based organizations (CBOs), and the corporate sector should work together to provide more comprehensive and long-term solutions to the problems that are caused by slum settlements.

The problems that slum settlements have to deal with may be significantly helped by activities that are driven by the local community. CBOs have the ability to establish and carry out these projects, which may include programs designed to improve living conditions, promote health education, and fight for the rights of slum inhabitants.

Slum settlements need a multi-sectoral strategy that tackles the numerous issues that the people who live there are up against in order for the environment and residents' health to be improved. To implement such a strategy, coordination is required amongst a variety of fields, including health care, education, the housing market, and the construction of new infrastructure.

It is possible for creative ideas to play a significant part in enhancing the quality of the environment as well as residents' health in slum communities. These problems may be solved by using strategies such as the creation of environmentally friendly waste management systems, the promotion of clean energy projects, and the use of technology to make healthcare services more accessible.

In general, enhancing the quality of the environment and the health of residents in slum communities is a difficult but essential task. Stakeholders may work together to enhance the health and well-being of slum dwellers and lessen the burden of illness in these communities by tackling the main issues and opportunities listed above. These difficulties and opportunities are detailed above.

It has been found by Mukherjee et al (2020b) This study's findings shed light on the myriad environmental and health problems plaguing slums and the possibilities for improvement that exist through stakeholder collaboration. The descriptive data show that slum communities lack access to essential services and infrastructure, are negatively impacted by environmental pollution, and have inadequate healthcare provision (Surya et al., 2020). These results are in line with other studies of slums and demonstrate the critical importance of multidisciplinary efforts to handle these issues (Ukpanyang et al., 2022).

The findings also highlight the importance of partner cooperation in improving the health and well-being of slum residents (Mhlanga, 2022). More comprehensive and long-lasting solutions to the problems plaguing slum settlements can be achieved through productive cooperation between the government, NGOs, CBOs, and the private sector (Zhang & Zhang, 2020). Slum communities encounter many challenges, and community-led initiatives can help find solutions (Poland et al., 2021). Community-based organizations (CBOs) are able to create and carry out projects such as those that fight for the rights of slum residents, improve living conditions, and spread health education.

The findings also stress the importance of interdisciplinary strategies for tackling the problems plaguing urban poor communities. The health, education, housing, and transportation industries, among others, would need to work together on such a strategy. Slum communities can greatly benefit from innovative solutions that enhance their surroundings and residents' health. Sustainable waste management system development, advocacy for clean energy efforts, and technological advancements in healthcare delivery are all examples of potential responses.

Despite these possibilities, there are obstacles that must be overcome before slum communities' environments and residents' health can change. Significant difficulties include a lack of essential services and infrastructure, substandard living conditions, environmental pollution, and restricted access to healthcare. Slum residents' chances of breaking the pattern of poverty and exclusion are hampered because of their social and economic marginalization.

In conclusion, this research emphasizes the critical importance of interdisciplinary and cross-sectoral efforts to handle the multifaceted problems plaguing slum areas. Promoting the health and well-being of slum dwellers and lowering the burden of disease in these communities requires stakeholder cooperation, community-led initiatives, multi-sectoral approaches, and innovative solutions.

## **CONCLUSION**

This research concluded that better environmental and health administration in slum settlements could be achieved through cooperative efforts among various actors. Poor access to essential services and infrastructure, environmental pollution, and a lack of access to healthcare were all highlighted as problems in slum settlements. The environment and health of slum settlements, however, can benefit greatly from stakeholder cooperation, community-led initiatives, multi-sectoral approaches, and innovative solutions.

More comprehensive and long-lasting solutions to the problems plaguing slum settlements can be achieved through productive cooperation between the government, NGOs, CBOs, and the private sector. Slum dwellers' rights can be advanced, living conditions improved, health education provided, and other community-led initiatives created and carried out by CBOs. The health and prosperity of slum communities depend, in large part, on multi-sectoral methods that take into account the myriad of problems experienced by slum residents, such as social and economic exclusion.

Taken as a whole, the results of this research stress the critical importance of multidisciplinary efforts to alleviate slums' myriad problems. Sustainable improvements in the environment and health of slum settlements can be achieved through the implementation of innovative solutions and the promotion of cooperation among stakeholders, lowering the disease burden in these communities and fostering social and economic inclusion.

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