

EVALUATING THE SOCIOECONOMIC CONDITION AND STATUS OF ENVIRONMENTAL HYGIENIC CONDITION OF VARIOUS COMMUNITIES LIVING

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ABSTRACT

There are a lot of people in India who don't have access to clean water to drink or good toilets to use. Most rural communities lack adequate sanitary facilities, as seen by the results. Current research finds that people of the study region have food, health, education, and living standard challenges owing to inadequate WATSAN facilities. Prevention of infectious and communicable illnesses relies more on regular and thorough hygiene practices. With that in mind, the primary objective of this research was to determine how a shift in personal hygiene practices in the home affected the prevalence of disease. Multivariate linear regression analysis showed that those who had lived in poor hygienic conditions in both 2015 and 2021 had a significantly higher ($\beta = 0.053$, $P < 0.001$) percentage of household members become ill with any form of short-term morbidity compared to those who had lived in better hygienic conditions in both years. Households who had poor hygienic conditions in 2015 had a significant decrease ($\beta = 0.028$, $P < 0.04$) in the number of household members who became ill owing to any short-term morbidity in 2021, when compared to homes that had poor hygienic conditions in both years.

KEYWORDS Hygienic Condition, Communities Living, environment, rural, Socioeconomic

INTRODUCTION

More than a third of the world's population, or roughly 2.5 billion people, lacks access to adequate sanitation and must urinate or defecate in the open. Clean water to drink, proper sanitation, and regular personal hygiene are all necessities for a healthy living. As compared to other emerging nations, India lags significantly in terms of access to clean water and proper sanitation. Problems with overcrowding, water scarcity, and sewage infrastructure plague the majority of India's urban areas. More than 1.21 billion people call India home, making it a formidable task to meet their sanitation and hygiene needs. There will be even more of a strain on infrastructure like that which deals with garbage and wastewater if the population keeps growing. Taking these problems seriously, the Indian government has started a slew of national-level programs like "Swachh Bharat Abhiyan" in October 2014 to solve them. When thinking about issues like poverty, livelihoods, and health, it's crucial to have access to clean water, sanitation facilities, and hygiene education and promotion. There is a high price to pay for water. It is essential to people's health and longevity that they have access to clean water, sanitation, and an unpolluted environment. Public Stand Post (PSP), Hand Pump (HP), Home Tap (HHT), Open Wells (OW), Agricultural Wells (AW), and Surface Water are just few of the places women and girls spend hours each week getting water (SW).

There is a severe imbalance between the need for basic services like clean water and sanitation and the ability of emerging nations to provide them in their rapidly expanding urban centers. For some time, India has been trying to solve the issue of water and sanitation coverage, particularly for the rural regions and impoverished in urban areas (where 7.5% of recorded fatalities are sanitation and water related). Inadequate water supply and sanitation (including the removal of human waste, wastewater, and rubbish) define the majority of India's urban areas, negatively

impacting the health of the city's inhabitants. The sanitation options offered to families is an essential part of housing because of its strong relationship to the health and hygiene of the residents and the neighborhood as a whole.

LITERATURE REVIEW

ZHENG Wen Jing et.al (2022) The purpose of this study is to evaluate how people of clean cities feel about the built environment and how that feels about them in terms of their self-rated health (SRH), laying the groundwork for more effective advocacy for the creation of spaces that promote health. The poll was conducted online in January 2021, and participants were selected from the Chaoyang District of Beijing. The effect of the built environment of sanitary cities on citizens' SRH status was investigated using a two-category logistic regression model, with SRH level as the dependent variable. There were 1,357 participants in all. Four aspects of the built environment in hygienic cities were found to have significant influences on the SRH level of residents after controlling for potential confounding variables. For the sake of citizens' well-being, city planners should give greater weight to citizens' opinions on the quality of their built surroundings.

M. Mofijur et.al (2021) COVID-19 has had far-reaching effects throughout the health, economic, environmental, and social sectors, worsening human suffering, weakening the economy, and turning the lives of billions of people across the globe on their heads. The purpose of this research is to examine the worldwide preventative measures implemented to restrict the spread of COVID-19 and to give a complete analysis of the outbreak's effects on the natural domain, the energy sector, society, and the economy. In order to provide authorities, businesses, and industries with the most up-to-date information possible, this report deconstructs the primary answers to COVID-19, outlines what has been learnt and how successful present attempts are. Based on the results of this research, it has been determined that waiting 72 hours before collecting garbage from infected houses and quarantine facilities is essential for stopping the spread of the virus. In order for businesses to survive at the height of the epidemic, comprehensive sector-by-sector planning for social and economic development, as well as an economy that is hospitable to innovation and risk-taking, are essential. Most investment operations in the energy sector have been interrupted as a consequence of mobility limitations, which has been a direct outcome of the continuing social and economic problems. Uncertainty in the next years is anticipated due to delays in energy projects. In the event of a future pandemic, this research will be useful for governments, leaders, energy companies, and consumers.

Yustini Ardillah et.al (2019) Because of difficulties in the medical system, slums have emerged as an urban issue. Lack of access to sanitary facilities is a key contributor to the area's poor environmental quality. This means that there are potentially infectious illnesses present. Palembang In Musi, the region beside the river has been a slum for as long as anybody can remember. The purpose of this research was to examine how living conditions near the Musi River affect people's exposure to infectious diseases. The factors in this research were measured with the use of a questionnaire and a checklist in a cross-sectional observational study. One hundred fifty-four residents in a low-income neighborhood were enlisted. The people who took part in the study were chosen using a system of purposive sampling. Chi-square was the method of choice for statistical analysis in this investigation. It was determined in this research that diarrhea and typhoid were the most common diseases in that area. Then, the danger of spreading communicable diseases was linked not only to inadequate household solid treatment but also to a lack of access to clean water and to improper food handling. Slums are a region that needs special attention to environmental cleanliness in order to limit the spread of infectious diseases.

Ananta Kumar Jena et.al (2018) Sanitation in urban areas is becoming a critical factor in environmental longevity. Recent years have seen the launch of government and NGO-supported community-led complete sanitation programs in Bangladesh, India, Indonesia, Pakistan, Ethiopia, and Kenya. Students, community people, and university faculty all took part in and provided input for a community cleaning initiative in Silchar, India as a result of this situation. This study set out to evaluate how a community cleanliness initiative affected its constituents' perspectives on environmental sustainability. The Kruskal-Wallis H test was used to assess the participants' replies to the feedback cum questionnaire, and the results showed a statistically significant impact of the community cleanliness program on the participants' consciousness of the need to preserve the natural world.

OWOLABI et.al (2017) This research looks at how poor housing and lack of infrastructure maintenance have affected residents in Ogbomosho north local government. To have a better understanding of the demographics and perspectives of the people who call the ten wards of the local government area home, a questionnaire was developed and sent at random to 164 inhabitants. This was the major source of information. Reference materials such as books, papers, maps, and unpublished theses were mined for secondary data. According to the findings, only 53.0 percent of respondents were male and 45.1 percent were female. Many homeowners are unhappy with the placement of their kitchens. This research emphasizes the necessity to inform the public about the connection between poor sanitation and health problems. To ensure the health, safety, and cleanliness of our homes and communities, the government must also offer efficient and effective methods of garbage collection, clean water, and sewage systems.

METHODOLOGY

Abbotabad, India is the focus of this investigation on the effects that a lack of clean water and sanitation have on residents' health and their ability to make a living. Many methods of data collection were employed. Methods of collecting data allow for the methodical amassing of facts about events, participants, and environments.

Moreover, personal observation reveals the truth. An observation checklist was developed, which allowed people to effectively imagine the lives of other people and get a profound comprehension of a scenario. Field notes were written either immediately after an observation was made or at the end of the day to summarize the day's observations. More precise and complete information might be gleaned by prolonged fieldwork. In the end, an economic analysis, data collection, and average/sum of the findings were used to determine the monetary cost of water and sanitation shortages.

The term "hygiene" refers to settings and routines that improve people's health and well-being by limiting the spread of illness. Preventing the spread of illness via proper hygiene practices is a top priority for everyone. The burden of communicable illnesses may be greatly reduced and avoided if water supply, hygiene, and sanitation are prioritized. In healthcare facilities, hand cleanliness is particularly regarded as crucial since it prevents the spread of pathogens.

RESULT

Adaptive symbiosis and the evolution of domestic hygiene practices across a range of socioeconomic statuses. Table 1 displays the average proportion of Indian households that had a short-term morbidity (diarrhea, fever, or cough) as a result of a shift in home hygiene conditions in relation to a number of demographic and socioeconomic factors.

Table 1

Average percentage members of households fall in sick due to short term morbidity according to change in their household hygienic behavior and socio-economic characteristics.

Background variables	Average percentage of household members with short term morbidity by change of the household hygienic behavior				
	Poor in 2015 & 2021	Poor in 2015 but Non-poor in 2021	Non-poor in 2015 but Poor in 2021	Non-poor in 2015 & 2021	Anova test value and significance level
Place of residence					
Rural	21.9	18.3	19.3	17.6	16.93***
Urban	15.3	13.4	15.1	13.5	
Type of house					
Kucha	22.2	18.5	19.6	17.0	15.67***
Pucca	16.1	13.9	15.7	14.7	
Occupation head of the Household					
Primary	21.8	18.2	19.0	16.0	10.62***
Secondary	17.9	15.4	17.0	17.2	
Tertiary	20.0	15.0	17.7	14.7	
No Occupatiion	21.7	15.7	18.2	16.3	
Household head's education					
Illiterate	21.6	18.2	19.5	16.6	10.62***
Primary	18.8	16.0	18.0	15.9	
Secondary	21.4	15.2	16.3	14.6	
Higher	21.4	15.4	15.2	15.0	

Economic Status					
Poor	20.3	17.5	23.3	18.9	26.15***
Non-Poor	21.8	17.3	17.0	15.2	
Caste Group					
General	21.9	16.8	18.1	14.9	12.35***
OBC	22.9	17.4	19.8	16.3	
SC	20.7	18.8	20.4	18.3	
ST	15.0	14.3	12.5	11.6	
Religion					
Hindu	21.3	17.4	19.3	16.0	22.34***
Muslim	23.3	17.4	19.1	14.8	
Christian	14.1	15.9	8.5	15.2	
Regions in India					
North	18.7	15.3	18.4	17.9	29.03***
Central	27.7	28.4	29.4	23.8	
East	21.6	17.3	15.3	16.8	
Northeast	9.7	11.9	12.3	10.0	
West	15.2	12.7	14.7	10.2	
South	16.4	14.8	12.2	13.4	
Total	21.3	17.4	18.6	15.8	

The percentage of homes in India where hygiene conditions remained bad in 2015 and 2021 with regards to ASM illness was substantially greater among those households (21,3 %) than among those with non-poor hygiene conditions of the households (15.8 %). In 2015, households with superior hygiene conditions saw a decrease in morbidity of 17.4 percentage points compared to those with low hygiene conditions. But families whose hygienic standards have deteriorated during 2015 have seen a greater rise in morbidity (18.6%). It is evident from the data that the homes who consistently engaged in improved hygiene practices not only had a decrease in mortality but also maintained a healthier lifestyle overall.

Figure 1 displays several income distributions in the region under investigation. The employment rates in urban and rural regions, respectively, were 43% and 24%. The urban percentage was just 3%, while the rural percentage was 52%. A total of 20% of the people in the chosen urban region was involved in farming, 37% in business, 3% in livestock, 23% in the remittance, and 10% in other occupations. While farming was the primary source of income for most residents in the chosen rural region, additional sources of income included commerce (14%), livestock (10%), remittances (6%), and other sources (8%). Around 27% of persons in metropolitan areas see a doctor or specialist, while 37% take someone to the emergency room. Six percent of people in remote areas see a specialist, sixteen percent go to a community health care provider, twelve percent try an alternative treatment, and seventy-eight percent go to the emergency room.

Comparing rural and urban households, those who resided in poorer hygiene conditions in 2015 and 2021 had a higher rate of morbidity (21.9% and 15.3%, respectively) than those who resided in better hygiene conditions in either setting (17.6% and 13.5%, respectively). Households in both rural and urban areas that improved their hygiene from the worst it had been in 2015 to the best it would be in 2021 saw a decrease in the overall morbidity of its members of 18.3 and 13.4

percentage points, respectively. However as rural (19.3%) and urban (15.1%) families' hygienic conditions deteriorated from better to worse between 2015 and 2021, the number of sick family members rose. Households in both rural and urban areas that have maintained better hygiene conditions than those that have not have showed less morbidity than those who have maintained lower hygiene conditions.

Table 2. Percentage of people in urban and rural areas visiting the government and private hospitals.

Areas/visit	Sensitivity %	Sampling Frequency %
Urban area	57	77
Rural area	86	58

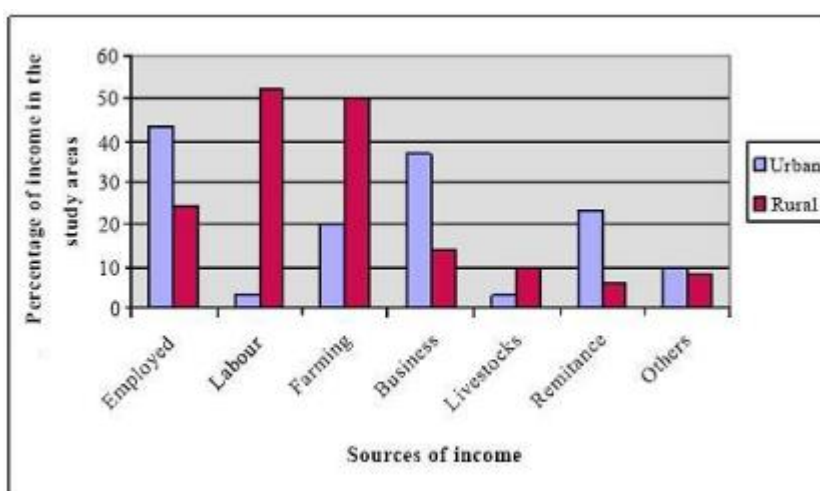


Fig. 1. Sources of income in the study areas.

Table 2 shows that in certain major cities, whereas 57% of patients attend to public clinics, 77% of patients go to private clinics. In Table 2, we can see the average yearly outlays of various age groups in the chosen metro region. Those aged 25 and more, those aged 11–25, and those aged 1–10 had the highest average expenditures. Estimates of the number of illnesses that have a significant impact on low-income families' budgets are provided in Table 2. In rural regions, when government hospitals are the only option, 86% of the population prefers them since they are free of charge and medication is provided at no cost. According to Table 3, the average costs in rural areas are greater for adults 25 and above compared to those for children 1-10 and subsequently young people 11-25. The average monthly revenue from various sources is shown in Figures 1 and 2.

Table 3. The unit cost of health in the urban and rural areas

Areas/cost	Average transportation cost Rs	Average medicines cost Rs	Average doctor fee Rs	Total
Urban	125	730	330	1185
Rural	104	968	267	1339

Table 4. Average annual individual costs in selected urban area.

Children 1-10 Rs	Young 11-25 Rs	Adults 25 and above Rs
4633	5117	6197

Table 5. Average annual individual costs in the selected rural area.

Children 1-10 Rs	Young 11-25 Rs	Adults 25 and above Rs
4896	2702	9830

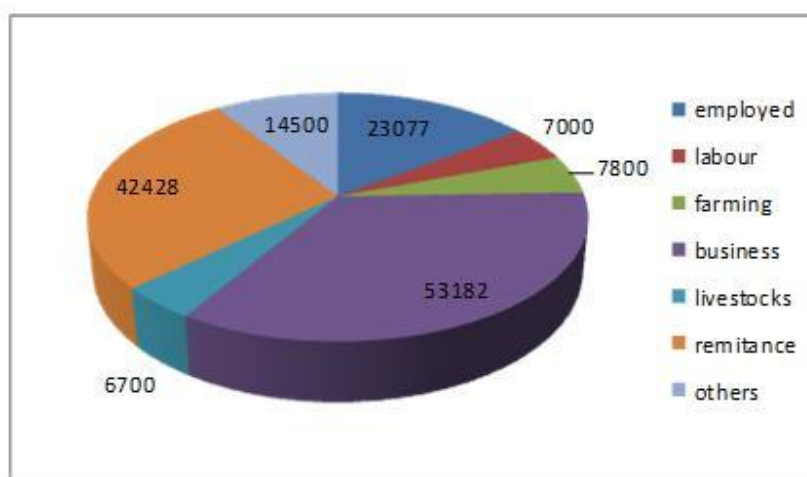


Fig. 2. Average monthly income from sources in the selected urban area.

Employment is the primary means of income generation in the examined metropolitan areas (Fig. 3), whereas business and remittances account for a much smaller share of total revenue. Whereas in urban areas, most people get their money through jobs, in rural areas, most people get their

money from manual work. Those who make a living via manual work, farming, or animals clearly have the lowest income. The majority of the urban population relies on commerce and work, therefore the monthly income was sufficient for most people's needs. Most people's income comes from farming and working, but the amount they make from these activities is modest, so they endure considerable hardship and have a substandard quality of living. Then, they responded to surveys by saying that it is very challenging for them to manage their lives, and that as a result, they had to forego a number of desirable improvements, like better food, health, living standards, education, and so on.

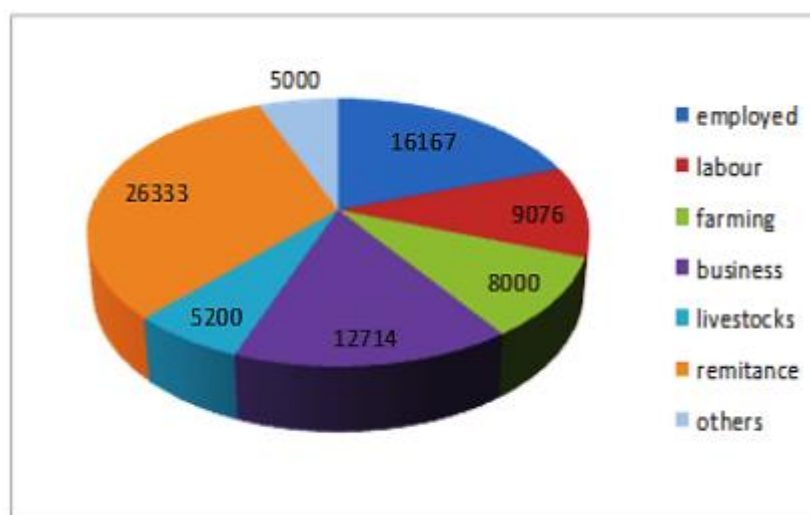


Fig. 3. Average monthly income from sources in the selected rural area.

Expenditure on health for the urban and rural population

Spending on healthcare accounts for nine percent of the average annual income in the city. The majority of the rural population's annual health care budget—18%—comes directly from their own pockets (Table 6).

Table 6. Sources of income and direct economic loss due to water-born diseases (Rural area)

S. No	Sources Of Income						
	Employed	Labor	Farming	Business	Livestock	Remittance	Others ^a
Respondents	12	26	25	7	5	3	4
Percentage %	24	52	50	14	10	6	8
Days of IPM ^b Avg.	2	5	4	3	2	-	-
Income/month (Rs)	16167	9076	8000	12714	5200	26333	5000
Per day income (Rs)	735	304	267	424	173	-	-
Total LWPM ^c (Rs)	1470	1520	1068	1272	346	-	-

CONCLUSION

The current research found that the quality of water and sanitation in both urban and rural India was quite low. Yet in terms of cleanliness, no waste collection locations, no gray water management, and open and garbage-filled sewers, rural areas are far worse than metropolitan ones. Households in rural areas, the Kucha region, the center and eastern regions of the country, and those with lower socioeconomic status have a greater morbidity prevalence. Maybe poor hygiene is at blame. Better sanitation facilities lead to more sanitary habits in the home. Poorly constructed sanitary facilities are a major reason why rural residents do not make advantage of the options supplied by their governments. This research suggests that the Government of India's Clean India Mission (Swachh Bharat Abhiyan), the Improved Source of Drinking Water Scheme (Jal Jeevan Mission), and the "Housing for All by 2020" initiative, should prioritize rural areas and the Central and Eastern regions in their efforts to expand access to clean drinking water.

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