Global Scientific JOURNALS

GSJ: Volume 13, Issue 11, November 2025, Online: ISSN 2320-9186

www.globalscientificjournal.com

IMPACT OF URBANIZATION ON ENVIRONMENTAL HEALTH QUALITY

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Abstract

The study examines how rapid urbanization impacts environmental health quality. The research emphasizes the urgent need for sustainable urban planning, green infrastructure, and effective public health policies to mitigate the negative impacts of urbanization on human well-being and the environment. Urbanization, defined as the migration of people from rural to urban areas, significantly impacts environmental health quality. As cities grow, they face issues that negatively affect air and water quality, waste management, and public health. This paper highlights how

urbanization leads to increased pollution, infrastructure strain, and changes in land use. The resulting population density in cities elevates emissions of pollutants, such as particulate matter and greenhouse gases, which can worsen respiratory and cardiovascular diseases. Additionally, rapid urban growth often results in inadequate waste management, contaminating water sources and increasing the risk of diseases carried by vectors. Some of the major health problems resulting from urbanization are poor nutrition, pollution-related health conditions and communicable diseases. Research on this using 100 Respondents and 100% responses show, 30 respondents representing 30.0% strongly agreed, 42 respondents representing 42.0% agreed, 10 respondents representing 10.0% were undecided, 10 respondents representing 10.0% disagreed, 8 respondents representing 8.0% strongly disagreed. The study also notes the health disparities among different socioeconomic groups within urban environments, with marginalized communities being particularly vulnerable. The research emphasizes the critical need for sustainable urban planning and public health initiatives to lessen the harmful effects of urbanization and create healthier cities for all residents.

Keywords

Urbanization, Environmental Health, Pollution, Ecosystem, Public Health, Sustainable Development

Introduction

Urbanization has become a defining feature of globalization, leading to changes in lifestyles, disease patterns, and environmental conditions. While cities may offer better healthcare and opportunities, they also expose vulnerable populations to greater risks, including infectious and chronic diseases. A rapid increase in the world's urban population has significant health consequences for migrants, as the movement from rural to urban areas can alter the typical disease profile of a country. The concentration of people in new urban areas can also introduce new risk factors. Therefore, it is important to acknowledge the rise of infectious and parasitic diseases in some urban settings, as well as the need for investment in new types of health and social care. Urbanization can lead to increased stress, depression and anxiety due to factors like overcrowding and noise pollution. Urban dwellers are at high risk of violence and injuries. Heavy traffic and vehicle exhaust fumes pollute the atmosphere, which makes Cities major contributors to greenhouse gases. In Nigeria, unplanned urbanization has caused ecological degradation, poor waste management, air pollution, traffic congestion, and climate change impacts. The study seeks to explore these challenges, their health implications, and possible remedies.

The review traces the history of urbanization from ancient civilizations to modern cities, identifying causes such as industrial growth, rural–urban migration, and social/economic opportunities. It highlights impacts on air quality, climate (urban heat islands), land resources (erosion, soil degradation), biosphere (loss of habitats, biodiversity threats), and food security. It also discusses slum growth, housing problems, water and air pollution, traffic congestion, and crime. The review stresses the link between urbanization, ecosystem services, and environmental resources like soil, water, and biodiversity.

Materials and Methods

the design of the research is a survey method and the location is centered around Owerri, Imo state, Nigeria. A sample of 100 respondents were used (Taro Yamane's formula. Instruments used for research included a standard questionnaire, interviews, secondary sources (journals, textbooks, reports). A face validation by a supervisor was used. A reliability coefficient of 0.81 was also set.

Analysis conducted after collating the results include percentages, frequency tables, mean scores and chi-square test using SPSS

Results and Discussion

Findings show that urbanization significantly impacts environmental health quality. Respondents identified pollution, poor sanitation, inadequate housing, and communicable diseases as major issues. 95% of respondents agreed that urbanization affects health quality, with poor waste management and overcrowding worsening conditions. While some remedies exist, implementation remains weak. The discussion compares results with global studies, noting both negative and (rare) positive aspects of urbanization, especially when coupled with strong environmental regulations.

Analysis of Demographic Data of Respondents

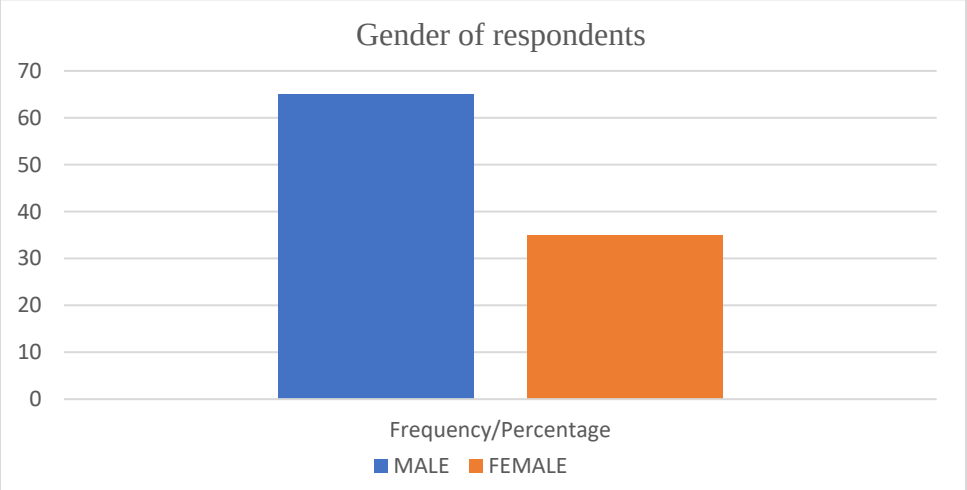

Figure 1 Gender of Respondents

Figure 1 above showed the gender distribution of the respondents used for this study. Out of the total number of 100 respondents, 65 respondents which represent 65.0 percent of the population are male. 35 which represents 35.0 percent of the population were female.

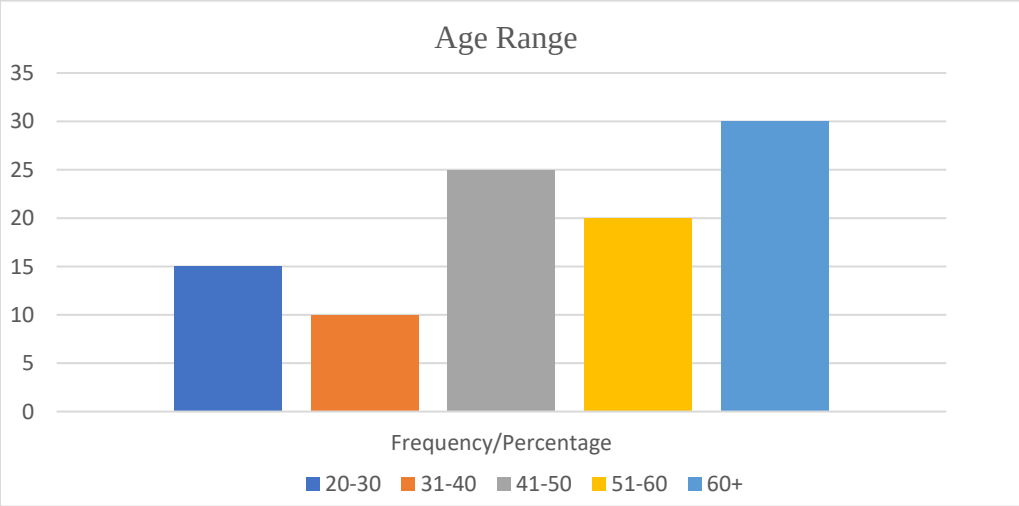

Figure 2 Age range of Respondents

Figure 2 above showed the age grade of the respondents used for this study. Out of the total number of 100 respondents, 15 respondents which represent 15.0 percent of the population were between 20-30 years. 10 respondents which represent 10.0 percent of the population were between 31-40 years. 25 respondents which represent 25.0 percent of the population were between 41-50 years. 20 respondents which represent 20.0 percent of the population are between 51-60 years. 30 respondents which represent 30.0 percent of the population were above 60 years.

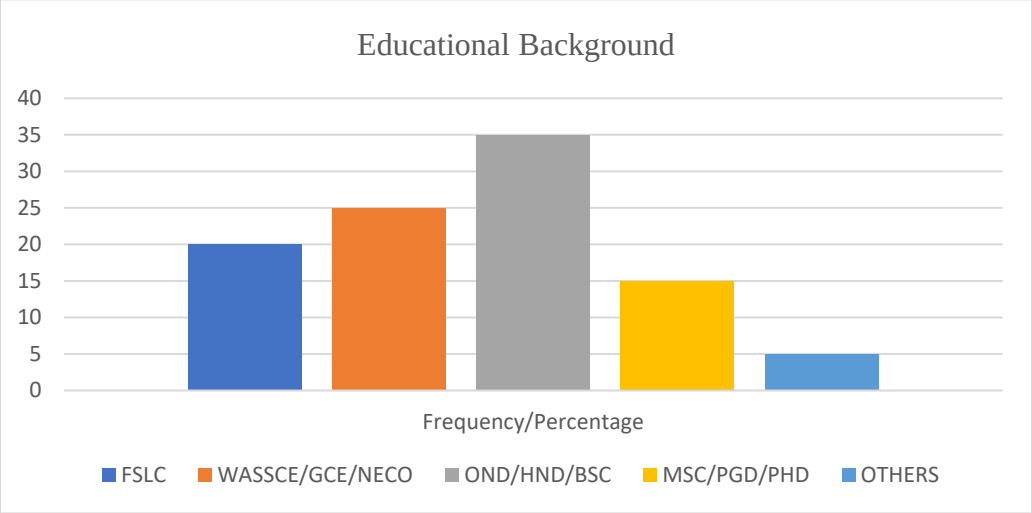

Figure 3 Educational Background of Respondents

Figure 3 above showed the educational background of the respondents used for this study. Out of the total number of 100 respondents, 20 respondents which represent 20.0 percent of the population were FSLC holders. 25 which represent 25.0percent of the population were SSCE/GCE/WASSCE holders. 35 which represent 35.0 percent of the population were OND/HND/BSC holders. 15 which represent 15.0 percent of the population were MSC/PGD/PHD holders. 5 which represent 5.0 percent of the population had other type of educational qualifications.

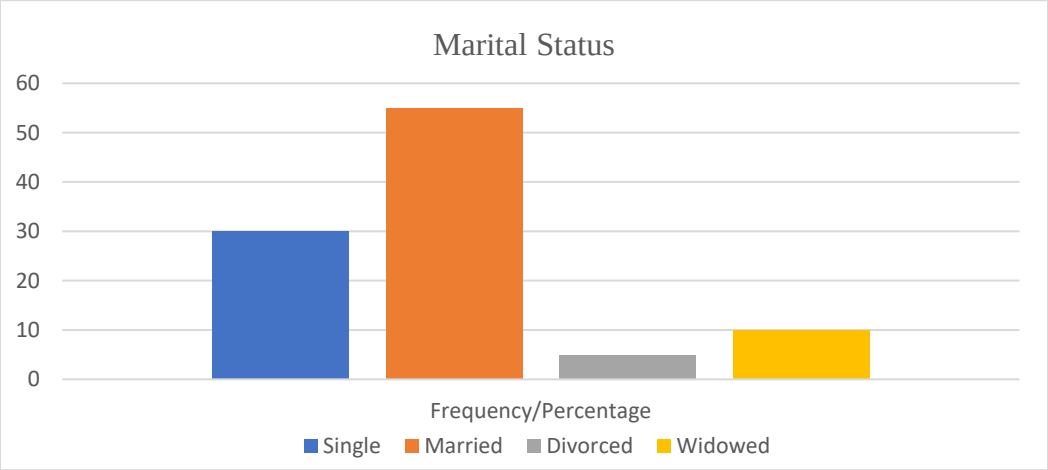

Figure 4 Marital Status of Respondents

Figure 4 above showed the marital status of the respondents used for this study. 30 which represent 30.0 percent of the population were single. 55 which represent 55.0 percent of the population are married. 5 which represent 5.0 percent of the population were divorced. 10 which represent 10.0 percent of the population are widowed.

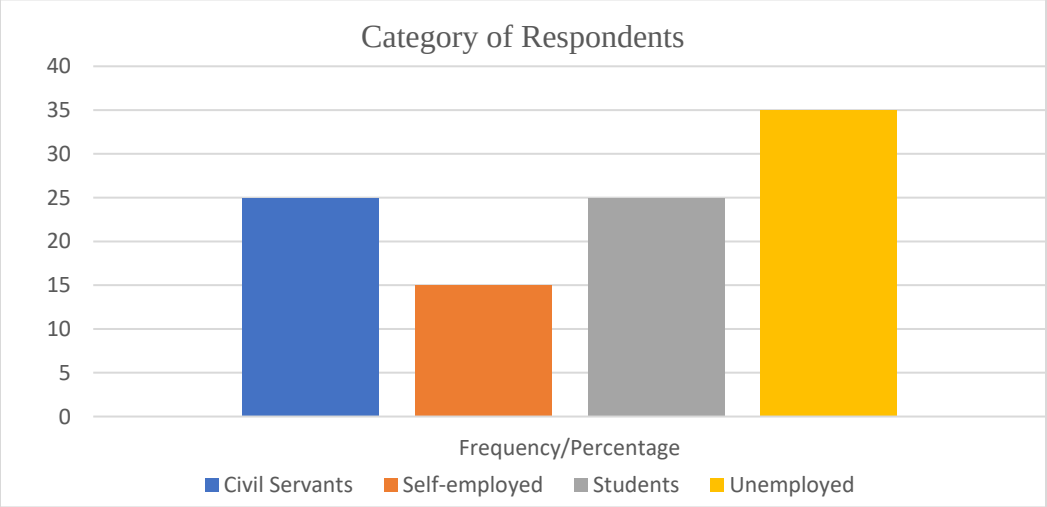

Figure 5 Category of Respondents

Figure 5 showed the category of respondents used for the study. 25 respondents representing 25.0 percent of the population under study were civil servants. 15 respondents representing 15.0 percent of the population under study were self-employed. 25 respondents representing 25.0 percent of the population under study were students while 35 respondents representing 35.0 percent of the population under study were unemployed.

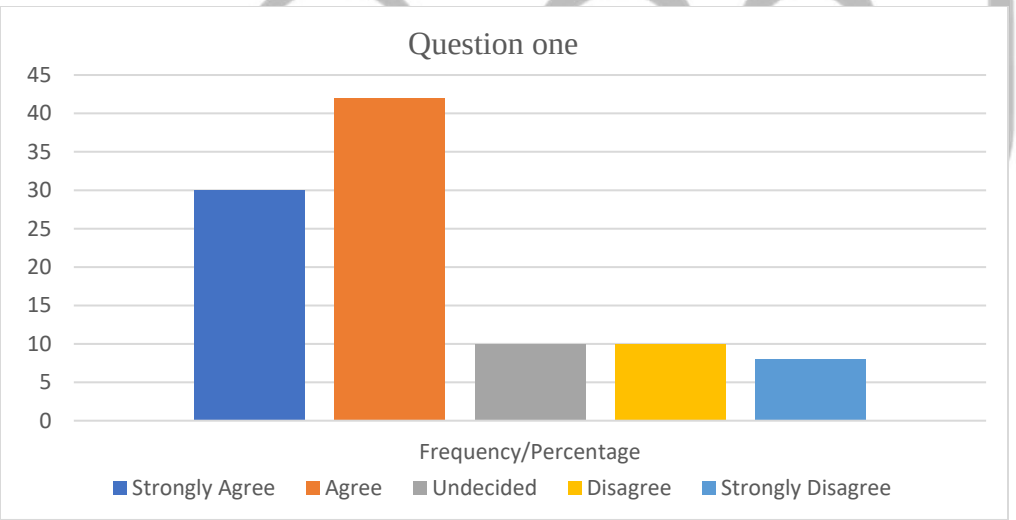

Figure 6 Some of the major health problems resulting from urbanization are poor nutrition, pollution-related health conditions and communicable diseases

Figure 6 showed the responses of respondents if some of the major health problems resulting from urbanization were poor nutrition, pollution-related health conditions and communicable diseases. 30 respondents representing 30.0 percent strongly agreed that some of the major health problems resulting from urbanization were poor nutrition, pollution-related health conditions and communicable diseases. 42 respondents representing 42.0 percent agreed that some of the major health problems resulting from urbanization were poor nutrition,

pollution-related health conditions and communicable diseases. 10 respondents representing 10.0 percent were undecided. 10 respondents representing 10.0 percent disagreed that some of the major health problems resulting from urbanization were poor nutrition, pollution-related health conditions and communicable diseases. 8 respondents representing 8.0 percent strongly disagreed that some of the major health problems resulting from urbanization are poor nutrition, pollution-related health conditions and communicable diseases.

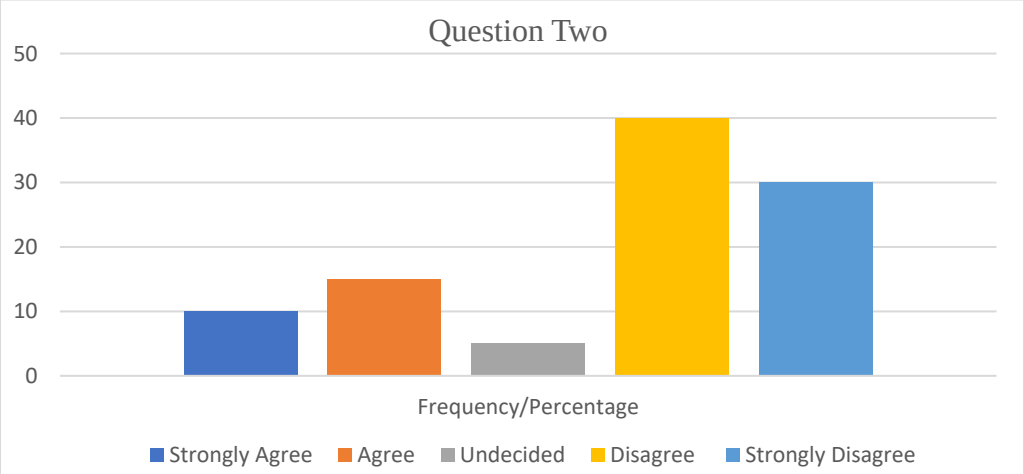

Figure 7 Poor sanitation and housing conditions, and related health conditions are the major health problems resulting from urbanization

Figure 7 showed the responses of respondents if poor sanitation and housing conditions, and related health conditions were the major health problems resulting from urbanization. 10 of the respondents representing 10.0 percent strongly agree that poor sanitation and housing conditions, and related health conditions are the major health problems resulting from urbanization. 15 of the respondents representing 15.0 percent agree that poor sanitation and housing conditions, and related health conditions were the major health issues resulting from urbanization. 5 of them representing 5.0 percent were undecided. 40 of the respondents representing 40.0 percent disagree that poor sanitation and housing conditions, and related health conditions are the major health problems resulting from urbanization. 30 of the respondents representing 30.0 percent strongly disagree that poor sanitation and housing conditions, related health conditions were the major health problems resulting from urbanization.

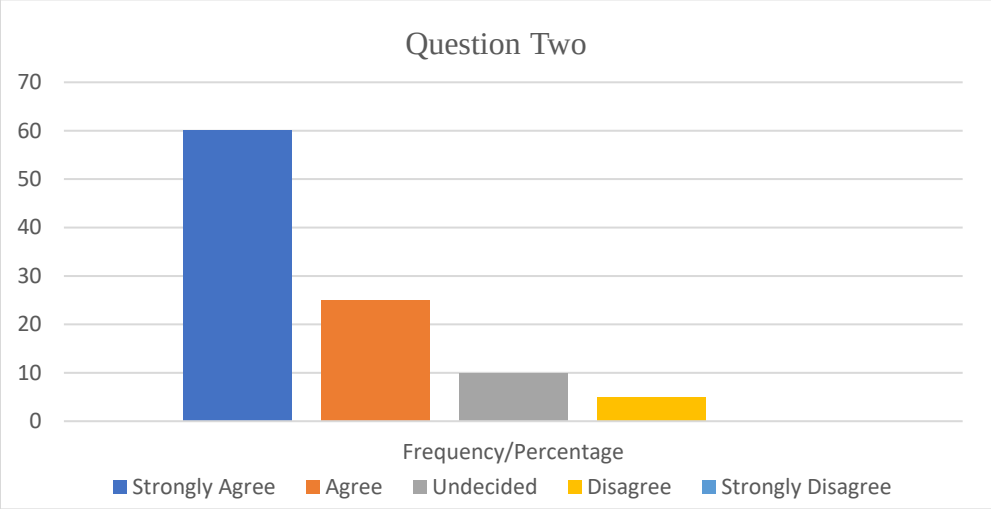

Figure 8 Lack of adequate housing investment and housing affordability are the challenges of urbanization

Figure 8 showed the responses of respondents if lack of adequate housing investment and housing affordability were the challenges of urbanization. 60 of the respondents representing 60.0 percent strongly agree that lack of adequate housing investment and housing affordability were the challenges of urbanization. 25 of the respondents representing 25.0 percent agree that lack of adequate housing investment and housing affordability were the challenges of urbanization. 10 of them representing 10.0 percent were undecided. 5 of the respondents representing 5.0 percent disagree that lack of adequate housing investment and housing affordability were the challenges of urbanization.

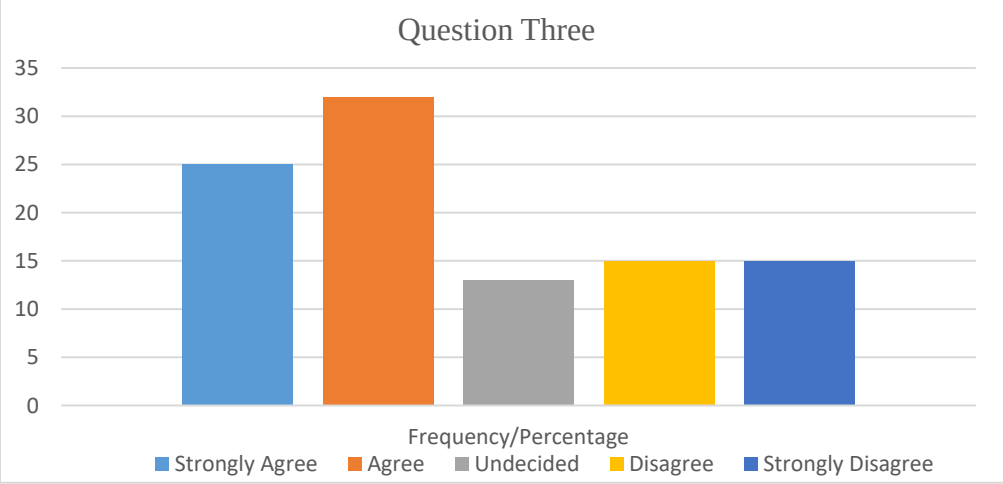

Figure 9 There are remedies in handling these challenges

Figure 9 showed the responses of respondents if there are remedies in handling these challenges. 25 of the respondents representing 25.0 percent strongly agree that there were remedies in handling these challenges. 32 of the respondents representing 32.0 percent agree that there were remedies in handling these challenges. 13 of the respondents representing 13.0 percent were undecided. 15

of the respondents representing 15.0 percent disagree that there were remedies in handling these challenges. 15 of the respondents representing 15.0 percent strongly disagree that there were remedies in handling these challenges.

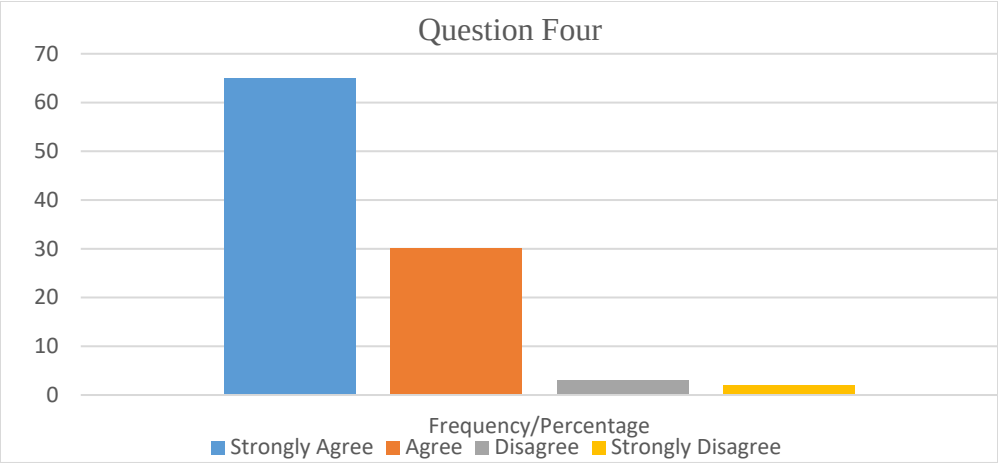

Figure 10 There is an impact of urbanization on environmental health quality

Figure 10 showed the responses of respondents if there is an impact of urbanization on environmental health quality. 65 of the respondents representing 65.0 percent strongly agree that there is an impact of urbanization on environmental health quality. 30 of the respondents representing 30.0 percent agree that there is an impact of urbanization on environmental health quality. 3 respondents representing 3.0 percent were undecided. 3 of the respondents representing 3.0 percent disagree that there is an impact of urbanization on environmental health quality. 2 of the respondents representing 2.0 percent strongly disagree that there is an impact of urbanization on environmental health quality.

In this study, we quantitatively discuss the causal relationship between urbanization and environmental quality and environmental regulation mechanisms in Hengduan Mountain, a typical ecologically fragile area in China. We found that urbanization optimizes environmental quality by improving environmental regulation. This result is not consistent with the results of some existing studies (Lou 2022). The authors of previous studies on urbanization and environmental quality have frequently highlighted the fact that urbanization has a negative impact on environmental quality. The reasons for this negative impact may lie in the following three points:Various theoretical perspectives lead to different measurement methods for environmental quality, Our study was carried out in ecologically fragile areas where stricter environmental regulation has optimized the impact of urbanization on environmental quality, The empirical methods used differ. In a similar manner to the results of our baseline model, ignoring the endogenous problem will lead to biased regression results or even the opposite results.

Our research results also confirm the fact that environmental regulation is an important mechanism of urbanization affecting environmental quality. This finding supports the view that environmental regulation plays a vital role in coordinating socio-economics development and environmental quality. Urbanization under strict management can even act as a feasible channel for environmental remediation (Zhong 2022). However, in this study, we observed that local environmental regulation has a negative impact on the environmental quality of the neighboring counties, which means there may still be uncoordinated environmental protection strategies between counties in ecologically fragile areas such as Hengduan Mountain. Moreover, from the perspective of individual environmental elements, the positive effect of urbanization on environmental quality mainly lies in promoting per capita wetlands and green areas. The authors of previous studies have also highlighted the ecological contribution made by urbanization in China (Wang 2021). We also found that urbanization still has a negative effect on FVC and NPP, which is consistent with the results of previous studies (*Geogr 203)*.

However, there are still other possible mechanisms to explain the positive impact of urbanization on environmental quality in Hengduan Mountain. On the one hand, China's sustainable urbanization model has increased the number of urban parks and the planting of roadside trees, which partially compensate for the negative impact of urbanization on the environment (Brandt, 2022). On the other hand, the reduction in cultivated land area is believed to improve the relationship between urbanization and environmental quality (Brandt, 2022). Due to the migration of a large proportion of the rural population to cities, the demand for cultivated land has decreased significantly (Bryan, 2018). Although the expansion of urban impervious surfaces will lead to the occupation of forest areas, the conversion of farmland to forest in a large area will lead to more extensive land cover changes and ecological benefits (Shi, 2014).

Conclusion

The migration of the rural population and the environmental regulations set by the local government are both core components of environmental protection in ecologically fragile areas in China. Considering the fact that few studies have quantitatively revealed the critical role of local governments in urbanization and environmental quality, the conclusions of this study further prove the effectiveness of environmental protection and the sustainability of the urbanization in China. Urbanization is inevitable but poses serious risks to environmental health if not properly managed. The study concludes that sustainable urban planning, citizen awareness, and stronger

environmental regulations are essential. The balance between development and environmental preservation will determine future health outcomes in Nigerian cities by strengthening urban planning and infrastructure development, promoting green spaces and eco-friendly urban policies, improve waste management and sanitation systems, enforcing pollution control regulations, educating citizens on environmental sustainability.

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