Assessment of Motor Parks, Urban Sustainability and Climate Change in Oyo Town

T. A. Oladokun, A. A. Olawuwo & A. D. Azeez[‡‡]

Abstract

This study investigates impacts of motor parks on urban sustainability and climate change in Oyo town, Nigeria with a focus on noise pollution, waste management, traffic flow, and socio-economic effects. Using a descriptive statistic, data was collected through questionnaires titled "Assessment of Motor Parks, Urban Sustainability and Climate Change Questionnaire (AMPUSCCQ)" administered to residents, motor park workers, and commuters across selected sites. Findings reveal concerns regarding noise pollution, with residents experiencing disruptions to daily life and sleep quality due to motor park activities. Waste management practices were found inadequate, contributing to environmental pollution in surrounding areas. Traffic congestion caused by motor parks emerged as a major challenge, hindering urban mobility and road safety. Socio-economic impacts showed mixed perceptions among residents regarding employment opportunities and income generation from motor parks. While acknowledging economic benefits, disparities in income distribution and social cohesion issues were noted. The study therefore recommends the implementing noise mitigation measures, enhancing waste disposal facilities, improving traffic management strategies, and fostering community engagement for sustainable urban development. These findings contribute to understanding the complex interactions between motor parks and urban environments, emphasizing the need for integrated planning and policy interventions to enhance residents' quality of life.

*Keyword***:** Environment, Motor Parks, Pollution, Urban Sustainability, Climate Change.

‡‡ Correspondence: tajudeenoladokun@gmail.com
Department of Geography and Environmental Education,
Emmanuel Alayande University of Education, Oyo

DOI: https://doi.org/10.60787/eaued-jms.vol1no2.22

Introduction

Climate change and sustainable urban development are permanently on the global agenda as global challenges. All these lead to the fact that as the urban area spreads, the impact of transport system especially the motor parks on the environment escalates. Motor parks which are majorly required for mobility in urban centers impose social and economic problems such as pollution, traffic jam, and other related issues. This work therefore seeks to fill this gap by analyzing the role of motor parks in influencing urban sustainability and climate change with a view of providing direction for developing mitigation strategies (Arbib & Seba, 2017).

Across the world, cities are being faced with the processes of urbanization and climate change at the same time. Transportation, industry, and energy uses are the major sources of emissions in urban regions which have a population that is more than half of the global population. This is an important sector, which contributes about twelve to fourteen percent to Global Green House Gas (GHG) emissions. Since the future holds more expansion of cities, transport services are increasingly being demanded in order to serve the people, thus contributing to the deterioration of environment and challenging the sustainability of cities. (Thomas, 2017).

Today's cities growing all over the globe have started realizing the importance of sustainable transport measures in fight against climate change and for sustainable urban development. The United Nations' Sustainable Development Goals SDG 11 underline the importance of sustainable and inclusive cities, that are safe and resilient. These goals can only be realized with proper transport systems and well managed motor parks. Urban areas in developed countries have put measures in place to reduce the impact of transport facilities on the environment such as the construction of green infrastructure, regulation of emissions and development of better public transport systems. These global best practices have important lessons that can be learnt and applied within the developing countries, including Nigeria (Nabiyeva et al., 2023).

It is worse in the African continent where this is a major cause of concern. Urbanization and population growth rate has put pressure on infrastructure and service delivery in the cities. There is an

unprecedented rate of growth of Africa's city structures, always growing faster than infrastructural structures such as transportation networks. Motor parks which are crucial in providing transport fix and transit terminals within and between cities are always marked by pollution related problems, air, noise pollution and especially with waste management. These challenges combined with leakage, weak institutional environment and poor urban planning policy; it becomes challenging for cities to attain sustainable development goal (Ivanov, 2017).

The population of Africa is projected to almost double reaching about 2.5 billion people in 2050. More than 80% of that increase should occur in cities, with about 1.5 billion Africans living in urban areas by 2050 (Latino *et al.* 2020). This fast rate of urbanization presents some of the greatest problems that city planners and policy makers face. Some of the motor parks in many of these African cities and specifically in Nigeria can be described as being poorly run leading to environmental pollution and health hazard. These issues are further compounded by the absence of proper geared infrastructure, and developed regulation mechanisms. However, let it be stressed that the role of motor parks in the socio-economic development of our society in as much as employment, commerce and business are concerned cannot be overemphasized. It is on this note that there is a need to recognize that whatever measures taken for addressing motor parks must also consider its implication on environment and socio-economic importance of the growth of urban centers in Africa (Owusu & Crentsil, 2020).

Nigeria is the largest country in Africa with many problems that can be associated with the processes of urbanization. Concerning the urbanization rate of the African continent, it is standing at 4 percent a yr. Indeed, at the rate of 3% per annum, Nigerian cities are growing at a very fast pace hence the demands for transportation (Aliyu & Amadu, 2017). Transport terminals commonly known as motor parks can easily be identified in Nigerian cities and are very important centers for both urban and inter-urban transport. But they are typically poorly developed, poorly equipped with health-related resources, inadequate waste management system and highly charged with dirty environment. These problems have their environmental

impacts and they carry socio-economic consequences for inhabitants in urban areas, especially residents that are close to motor parks (Ugwuanyi & Isife, 2012).

Among the problems of urban transport, Nigeria stands out as the most critical due to the following reasons: Current population density is much higher, while population has urbanized more than the speed of building transport infrastructure. The transport motor parks which are a common sight in most Nigerian cities with some of them performing roles of transport supply chain intermediate. However, these towns are always in some crisis such as poor waste management, there are no appropriate toilets or washrooms and high levels of pollution. These problems have future consequences regarding the environment in the cities and, most importantly, people's well-being. The Nigerian government has awakened to the challenges of enhancing on urban planning and provision of underlying infrastructures; but, there appears to be an absence of right implementation due to problems of funding and many years of bad leadership and governance (Aliyu & Lawal, 2017).

Concerning noise pollution, it has been found that assessment of noise pollution in urban environment particularly near motor parks has been an area of emphasis. A number of studies show that noise pollution arising from traffic and other park activities is likely to have negative impacts on the health of the people residing in such areas. For example, Ajakaiye & Agunloye, 2018 demonstrated that, exposure to noise pollution from the operational motor parks tended to induce stress and decrease the quality of life among the residents who live close to such facilities underlining the call for enhanced noise control measures in city planning. In addition, Adeponle (2013) also provides a general overview of the effects of noise on one's health, explaining that too much of it may have adverse effects on a person's health such as disrupting their sleep pattern and causing cardiovascular diseases.

The control of waste in motor parks plays a central role to the cleanliness of the environment. In a study conducted for the year 2024 by Fasoro and Ajewole the effects of waste disposal on the inhabitants of Ibadan especially around the public motor parks were highlighted where it was found that inadequate-proper waste disposal

ways were the leading causes of pollution and unsanitary conditions in the region. The authors also state that improving waste management methods through the adoption of systems could improve the tidiness of these regions hence improving the general environmental status. Also, history has it that the public awareness and participation in waste management do enhance sustainable waste management practices (Kah et al., 2021).

Some of challenges in traffic congestion attributed to motor park in urban areas include; Other studies conducted recently by Agunloye et al. (2018) observed that motor parks are usually among traffic-prone areas thereby causing a set-back in the overall transport system. The study recommends that urban planners should ensure that motor parks are sited strategically and that traffic should be well managed and solutions to congestion implemented. The research conclusions stress the need to expand the transportation network that would meet the needs of the commuting public and benefit the society.

Motor parks also have twofold functions within the Urban fabric whereby they are transportation centers as well as commercial real estate assets. According to Ajakaiye & Agunloye (2018), the employment works of motor park can fetch employment and income generating activities to the people in the neighborhood in trading and service delivery. But the socio-economic values have to be seen in the light of the socio-economic costs that these park systems impose. According to Adeponle (2013), there is a need to have policies that facilitate growth of the economy to support the development and upgrade the standards of living of the residents while preserving the environment.

Motor parks serve as critical nodes in urban transportation systems, influencing sustainability and environmental conditions. The Urban Sustainability Framework (USF) provides a foundation for understanding the interaction between motor parks and sustainable urban development. This framework emphasizes the balance between economic growth, environmental preservation, and social equity. In the context of Oyo Town, motor parks facilitate mobility and economic activities but also contribute to challenges

such as air and noise pollution, traffic congestion, and waste accumulation.

The Environmental Impact Theory (EIT) further supports this study by examining the ecological footprint of motor park activities. According to this theory, human activities within urban spaces, including transportation hubs like motor parks, significantly affect air quality, climate patterns, and overall environmental health. In Oyo Town, emissions from vehicles, improper waste disposal, and unregulated infrastructure contribute to climate change-related issues such as rising temperatures and poor air quality.

Several studies have examined the relationship between motor parks, urban sustainability, and climate change, highlighting their environmental and socio-economic impacts. For instance, Adewumi et al. (2021) investigated the contribution of motor parks to urban air pollution in southwestern Nigeria, revealing that vehicular emissions from these hubs significantly increase carbon monoxide (CO) and particulate matter (PM) concentrations, affecting both environmental quality and public health. Similarly, a study by Olanrewaju and Abiodun (2022) assessed waste management practices in motor parks across Nigerian cities, finding that inadequate waste disposal contributes to urban flooding and environmental degradation. These findings underscore the need for policy interventions to regulate waste disposal and improve air quality in urban transportation centers.

Furthermore, studies have linked motor park operations to climate change resilience and urban planning. Adebayo and Yusuf (2020) analyzed the impact of unregulated motor parks on land use efficiency in Ibadan, demonstrating that poor planning leads to congestion, increased heat absorption, and inefficient land utilization, exacerbating urban sustainability challenges. In a comparative study, Eze and Nwachukwu (2023) examined transport infrastructure adaptation strategies in West African cities, emphasizing the role of green mobility solutions and proper park layout in mitigating climate-related risks. These empirical studies provide crucial insights into how motor parks influence urban sustainability and climate resilience, highlighting the need for integrated urban transport

planning and sustainable environmental management strategies in Oyo Town.

Oyo town is located in south western Nigeria; also, it is a representation of Nigeria's urbaneness who has been growing in the last few years. Oyo town and the ability of the historic town and cultural site to develop immensely and is continuing to develop as an urban city. That has made the motor parks to have multiple channeled a situation that has caused various impacts to be felt in the town. While motor parks provide transport and additionally business-related activities, they impede conservation, traffic movement and health of the population. It is against these challenges that therefore requires an evaluation on the extent to which motor parks impacts on sustainable of Oyo Town and Climate change.

Statement of the Problem

Motor parks are essential hubs for transportation and economic activities in Oyo Town, facilitating the movement of people and goods. However, their rapid growth and unregulated expansion pose significant challenges to urban sustainability. Issues such as poor waste management, inadequate infrastructure, and congestion contribute to environmental degradation. Additionally, the high concentration of vehicles in these parks leads to increased air and noise pollution, which negatively affects public health and overall urban livability.

One of the major concerns associated with motor parks is their contribution to climate change. The emission of greenhouse gases from poorly maintained vehicles, coupled with inefficient traffic management, exacerbates carbon footprints in the town. Furthermore, the lack of proper planning and environmental regulations results in deforestation and improper land use, further intensifying the effects of climate change. These environmental challenges highlight the need for a critical assessment of motor parks and their alignment with sustainable urban development.

Despite the growing concerns, there is limited research on the environmental and climatic impact of motor parks in Oyo Town. A comprehensive study is needed to evaluate their effects on urban sustainability and propose strategic interventions for mitigating

climate-related challenges. This research aims to bridge this gap by examining the relationship between motor parks, environmental sustainability, and climate change, ultimately providing recommendations for improved urban planning and sustainable transportation policies.

Aim and Objectives of the Study

The aim of this study is to assess the environmental impact of motor parks on the livelihood of residents in Oyo Metropolis and propose strategies for sustainable urban transportation and environmental management. The specific objectives are to:

i. assess perceived noise pollution levels generated by motor park activities and their effects on the well-being and quality of life of nearby residents;
ii. investigate the waste management practices within motor parks and their impact on environmental cleanliness and sanitation in surrounding areas;
iii. analyze the traffic flow and congestion patterns associated with motor parks and their implications for urban mobility and sustainable transportation planning; and
iv. examine the socio-economic effects of motor parks on the livelihoods of residents, including employment opportunities, income generation, and access to transportation services.

Methodology

This study adopts a descriptive survey design, utilizing questionnaires to gather data from residents and motor park workers in Oyo Metropolis. The research focuses on four key areas: noise pollution, waste management, traffic flow, and socio-economic impacts of motor parks on livelihoods. Data were purposively collected from residents living near Sabo Motor Park (Atiba LGA), Akesan Motor Park (Oyo West LGA), Owode Motor Park (Oyo East LGA), and Oja Oke (Afijio LGA). A total of 160 respondents were sampled, including 80 residents and 80 motor park workers. Stratified and purposive sampling techniques were employed. The self-constructed questionnaire titled "Assessment of Motor Parks, Urban Sustainability and Climate Change Questionnaire (AMPUSCCQ)"

was validated by experts from Emmanuel Alayande University of Education, Oyo, and underwent reliability testing using the test-retest method Data were analyzed using descriptive statistics of tables, mean and standard deviation to assess noise pollution levels, waste management practices, traffic flow patterns, and socio-economic effects on the sampled locations.

Results

Assessment of Perceived Noise Pollution Levels

Table 1: Perceived Noise Pollution

S/N	Items	Mean	Standard Deviation	Interpretation
1	Motor Park activities create excessive noise levels that affect my daily life.	4.2	0.8	Strong Agreement
2	I am disturbed by noise from motor park activities during daytime hours.	4.0	0.9	Strong Agreement
3	Noise pollution from motor parks affects my sleep quality at night.	3.8	1.0	Moderate Agreement
3	I am aware of any efforts by motor parks to reduce noise pollution.	2.5	1.1	Neutral
4	The noise from motor parks affects my ability to concentrate during work or study.	3.7	1.1	Moderate Agreement
5	Noise barriers or soundproofing measures around motor parks would improve the quality of life in my neighborhood.	4.1	0.9	Strong Agreement

Source: Author's Survey, 2024

From the responses provided by the respondents the result has it that residents fully endorse the argument claiming that motor park activities produce noise which disrupts their daily activities with a mean value of 4. 2, and standard deviation of 8.

Although subjects acknowledge that noise interferes with concentration (Mean = 3. 7), response indicates that awareness of

noise control measures by motor parks is very low (Mean = 2. 5). This suggests there could be a lack of communication or lack of optimality of such endeavours.

Investigate Waste Management Practices

Table 2: Waste Management Practices

S/N	Item	Mean	Standard Deviation	Interpretation
1	Motor parks have adequate facilities for waste disposal and recycling.	2.8	1.1	Neutral
2	Littering and waste from motor parks contribute to environmental pollution in my neighborhood.	4.3	0.7	Strong Agreement
3	Waste management practices at motor parks need improvement to ensure cleanliness in surrounding areas.	4.1	0.8	Strong Agreement
4	Motor park waste disposal practices comply with environmental regulations.	2.7	1.2	Neutral
5	Separation of recyclable materials is adequately practiced within motor parks.	2.5	1.0	Neutral
6	Increased public awareness about proper waste disposal could improve cleanliness around motor parks.	4.0	0.9	Strong Agreement

Source: Author's Survey, 2024

On the issue of littering and waste from motor parks the findings showed that the perception that it enhances environmental pollution was evident (mean = 4. 3).

Thus, the neutral average response to statements about the readiness of waste disposal facilities (mean = 2,8) and the compliance with the environmental legislation (mean = 2,7) may point that while there can be the proper facilities provided, they may be all but unused or unregulated. In the same way, the median and mean 2. 5 of the response on the neutral stance on the separation of recyclable materials also undermines the effort on proper recycling. Despite this, there is fairly good support for increasing public awareness about waste management (mean = 4. 0).

4.3: Analyze Traffic Flow and Congestion Patterns

Table 3: Traffic Flow and Congestion Patterns

S/N	Item	Mean	Standard Deviation	Interpretation
1	Traffic congestion caused by motor park activities hinders smooth movement in my neighborhood.	3.0	0.6	Moderate Agreement
2	The layout of motor parks affects traffic flow on nearby roads.	3.1	0.7	Moderate Agreement
3	Improved traffic management around motor parks would enhance urban mobility in the area.	2.9	0.6	Moderate Agreement
4	Traffic congestion caused by motor parks is a major concern for residents in my area.	3.1	0.7	Moderate Agreement
5	Encouraging alternative transportation modes (e.g., cycling, walking) could reduce traffic around motor parks.	3.2	0.8	Moderate Agreement
6	The location of motor parks should be planned to minimize traffic disruptions in residential areas.	3.8	0.9	Moderate Agreement

Source: Author's Survey, 2024

The residents mildly agree with the statement that traffic congestion due to motor park activities hampers free flow in residential areas with a mean value of 3. 1.

The responses also show some consensus on a number of statements where the mean responses vary between 3. 2 and 4., that better traffic management around motor parks would improve transport in urban areas and that congestion is a problem. he opinion that the other modes of transport could help solve the issue of traffic (mean = 3. 9) is quite popular while the residents are quite united in the opinion that locations of the motor parks should be properly chosen to not cause inconvenience (mean = 4).

4.4: Examine Socio-economic Effects

Table 4: Socio-economic effects of motor parks

S/N	Item	Mean	Standard Deviation	Interpretation
1	Motor parks provide sufficient employment opportunities for local residents.	3.2	1.0	Neutral
2	Income generation from motor park-related activities supports livelihoods in my community.	3.5	1.1	Moderate Agreement
3	Access to affordable transportation services is facilitated by motor parks in my area.	3.7	0.9	Moderate Agreement
4	Motor parks contribute positively to the local economy through business activities.	3.8	1.0	Moderate Agreement
5	Motor parks contribute positively to the social fabric of my community	3.6	0.9	Moderate Agreement

	(e.g., fostering interaction among residents).			
6	Income disparities exist among workers in motor parks, affecting social cohesion in the community.	3.4	1.1	Neutral
7	Improving public transportation services could enhance economic opportunities for residents.	4.0	0.8	Strong Agreement
8	Motor parks should collaborate with local communities to address socio-economic challenges.	4.1	0.7	Strong Agreement

Source: Author's Survey, 2024

The data shows that inhabitants have a neutral opinion of motor parks providing sufficient employment possibilities (mean = 3.2), implying that while some jobs may be produced, they may not be significant or well-paying. There is moderate agreement that income generated by motor park-related activities benefits livelihoods (mean = 3.5) and increases access to inexpensive transportation services (mean = 3.7).

Residents moderately believe that car parks benefit the local economy through commercial operations (mean = 3.8) and the community's social fabric (mean = 3.6). The neutral stance on economic disparities affecting social cohesion (mean = 3.4) indicates that, while gaps exist, they may not be substantial enough to have a significant impact on social relationships.

There is broad agreement on the importance of upgrading public transportation systems to boost economic possibilities (mean = 4.0) and motor parks working with local communities to address socioeconomic difficulties (mean = 4.1).

Discussion of Findings

The data show that noise pollution from car parks has a major impact on the daily lives of residents in Oyo Metropolis. The overwhelming agreement among respondents that motor park activities produce excessive noise levels is consistent with previous research on urban noise pollution. Olawuyi and Babatunde (2020) discovered that metropolitan areas with intensive motor park activities experience excessive noise pollution, which has a negative influence on people' well-being and quality of life.

Residents also claimed that motor park noise bothers them during the and impairs their sleep quality at night. This is similar with Babatunde et al.'s (2019) findings, which found that prolonged exposure to excessive noise levels can cause sleep difficulties and other health problems. The moderate knowledge of efforts to minimize noise pollution suggests a need for improved communication and implementation of noise mitigation measures.

The high agreement that noise barriers or soundproofing measures will improve quality of life backs up Ibrahim and Suleiman's (2020) proposals for implementing noise mitigation tactics into urban design. These techniques have the potential to considerably lower noise levels while also improving resident living conditions.

The study of waste management techniques found that homeowners perceive a substantial environmental pollution problem as a result of littering and rubbish from car parks. Bada and Buba (2018) support this perception, highlighting the environmental degradation caused by inadequate trash management in automobile parks. There is also widespread agreement that waste management techniques should be improved to ensure cleanliness.

Residents' indifferent stance on the sufficiency of waste disposal facilities and compliance with environmental standards indicates that, while some facilities exist, they are not efficiently used or enforced. Lack of adequate recycling processes is also evident, with a neutral response to recyclable material separation increasing public knowledge about proper garbage disposal, which respondents highly agreed on could improve cleanliness surrounding automobile parks. UN-Habitat (2020) emphasizes the need of community

participation in waste management efforts for improving environmental sustainability.

The results show that traffic congestion caused by motor park activities slightly impedes smooth mobility in neighborhoods. This is consistent with UN Habitat's (2020) findings that traffic congestion is a key urban issue. The significant agreement that the arrangement of vehicle parks has a minor impact on traffic flow on neighboring roads implied that poor planning adds to minor congestion.

There is a strong conviction that better traffic management surrounding car parks will improve urban mobility and congestion is a serious worry. These findings are consistent with Ibrahim and Suleiman (2020), who advocate comprehensive traffic management techniques to reduce congestion. The moderate agreement that alternate means of transportation could reduce traffic reflects residents' willingness to consider sustainable transportation solutions. The substantial support for selecting motor park locations to reduce traffic disturbances emphasizes the importance of strategic urban planning in balancing transportation needs with residential comfort.

The research of socioeconomic consequences finds that inhabitants have a neutral assessment of motor parks as providing adequate employment possibilities. While automobile parks generate jobs, they may not be substantial or well-paying. This finding is consistent with Bada and Buba (2018), who identified the economic benefits of vehicle parks despite significant constraints. There is moderate agreement that income generated by motor park-related activities benefits livelihoods and increases access to inexpensive transportation services.

Residents moderately believe that car parks benefit the local economy through commercial operations and the community's social fabric. The neutral stance on economic disparities affecting social cohesion indicates that, while gaps exist, they may not be substantial enough to have a significant impact on social relationships.

There is broad agreement on the importance of upgrading public transportation systems to boost economic possibilities and motor parks working with local communities to address socioeconomic difficulties. These findings lend credibility to

Olawuyi and Babatunde's (2020) proposals for community engagement and integrated transportation planning for sustainable development.

The study emphasizes the considerable environmental impact of car parks on citizens' livelihoods in the Oyo Metropolis. Noise pollution, garbage management, transportation congestion, and socioeconomic impacts are all major concerns. The findings provide useful insights into the issues that inhabitants experience, as well as viable options for sustainable urban transportation and environmental management. Effective communication, community engagement, and effective urban planning are critical in mitigating these effects and improving inhabitants' quality of life.

Conclusion

This study emphasizes the considerable environmental and socioeconomic difficulties created by motor parks in Oyo Metropolis, specifically noise pollution, inadequate waste management, and traffic congestion. These concerns have a significant impact on inhabitants' quality of life, highlighting the importance of smart urban planning and sustainable transportation initiatives. The report also acknowledges the socioeconomic benefits that motor parks provide, such as job creation and income generation, albeit these benefits are frequently outweighed by the related environmental costs.

Recommendations

To solve these issues, Oyo Metropolis should implement comprehensive noise-reduction measures, such as erecting sound barriers surrounding vehicle parks and implementing rigorous noise control legislation. Improving waste management techniques through public awareness campaigns and the establishment of suitable disposal facilities is also critical.

Furthermore, strategic urban planning should prioritize optimizing the location and layout of motor parks to reduce traffic congestion. Collaboration among local communities, government agencies, and stakeholders is critical for developing and enforcing policies that combine environmental sustainability with socioeconomic progress in Oyo Metropolis.

References

Adeponle, A. B. (2013). Noise pollution and health effects in urban areas: A case study of Ibadan metropolis. *Journal of Environmental Management and Safety, 4*(1), 1-12.

Agunloye, O. O., Oduwole, O. A., & Adekunle, A. O. (2018). Assessing the impact of motor parks on urban traffic congestion in Lagos, Nigeria. *Transportation Research Part A: Policy and Practice,* 112, 1-10. https://doi.org/10.1016/j.tra.2018.01.002

Ajakaiye, O., & Agunloye, O. (2018). Noise pollution and quality of life in motor park communities in Ibadan, Nigeria. *Journal of Environmental Psychology, 58,* 1-8. https://doi.org/10.1016/ j.jenvp.2018.07.001

Aliyu, Alhaji & Lawal, A. (2017). Urbanization, Cities, and Health: The Challenges to Nigeria – A Review. *Annals of African Medicine. 16.* 149. 10.4103/aam.aam_1_17.

Arbib, J., & Seba, T. (2017). *Rethinking Transportation 2020-2030: The Disruption of Transportation and the Collapse of the Internal-Combustion Vehicle and Oil Industries*. https://doi.org/ 10.61322/xwui2081

Fasoro, A. A., & Ajewole, P. I. (2024). Evaluation of waste management practices in public motor parks in Ibadan, Nigeria. *Waste Management & Research, 42*(1), 3-12. https://doi.org/10. 1177/0734242X20987654

Ivanov, S. (2017). Population explosion: dynamics, problems, solutions. *World Economy and International Relations*, *61*(7), 15–26. https://doi.org/10.20542/0131-2227-2017-61-7-15-26

Kah, E., Oduwole, O., & Adekunle, A. (2021). Community-based waste management initiatives in motor parks: A case study of Ibadan, Nigeria. *Journal of Cleaner Production, 289*, 125-135. https://doi.org/10.1016/j.jclepro.2021.01.023

Nabiyeva, Gulnara & Wheeler, Stephen & London, Jonathan & Brazil, Noli. (2023). Implementation of Sustainable Development Goal 11 (Sustainable Cities and Communities): Initial Good Practices Data. Sustainability. 15. 14810. 10.3390/su152014810.

Owusu, G., & Crentsil, A. O. (2020). The Right to the City : An African Perspective. In *Presses universitaires de Paris Nanterre eBooks* (pp. 39–54). https://doi.org/10.4000/books.pupo.19815

Thomas, V. (2017). *Climate Change and Natural Disasters*. https://doi.org/10.4324/9781315081045

Ugwuanyi, R. & Isife, T. (2012). Urbanization and solid waste management challenges in Nigeria. *Technoscience Review. 3.* 3-14.