

**ANALYSIS OF THE IMPACT OF ENVIRONMENTAL FACTORS ON
PROPERTY VALUES
(A CASE STUDY OF ILORIN-EAST, KWARA STATE)**

BY

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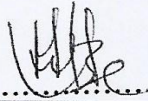
CERTIFICATION

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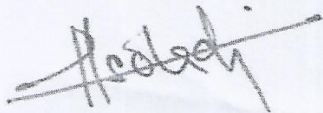
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DEDICATION

This project is dedicated to Almighty God that as been with me and protecting me throughout this programme and my parents Mr and Mrs Agbeyangi for their financial and moral support given to me towards my academic success. May Almighty God Reward them (AMEN)

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I would like to extend my sincere and heartfelt thanks towards all those who have helped me in making this project. Without their active guidance, help, cooperation and encouragement, I would not have been able to present the project on time.

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ABSTRACT

This research critically analyzes the impact of environmental factors on residential property values in Ilorin-East Local Government Area, Kwara State, Nigeria. The study is driven by increasing urban expansion, population growth, and concerns over environmental degradation that directly affect the real estate market in the region. Environmental variables such as air quality, noise pollution, sanitation, climate variability, and proximity to natural features (e.g., parks, rivers, and green belts) were examined to determine their influence on property pricing and buyer preferences. The study is underpinned by the Hedonic Pricing Theory and Environmental Justice Theory, which explain how environmental attributes and equity in their distribution impact market value and community well-being.

Using a qualitative research design, primary data were collected through structured interviews and questionnaires administered to 100 purposively selected respondents, including homeowners, real estate professionals, and property investors in Ilorin-East. Thematic and descriptive analyses revealed that good air quality, low noise pollution, access to clean water and sanitation, and environmental cleanliness significantly enhance property desirability and market price. Conversely, proximity to waste disposal sites, poor drainage, and flood-prone areas negatively affect real estate values. The study further found that climate-related risks such as flooding and drought have begun to shift buyer behavior, with increased preference for properties incorporating climate-resilient features like drainage systems and elevated foundations.

In addition, findings indicate that natural features contribute not only to the aesthetic and recreational value of properties but also offer health benefits that increase buyer willingness to pay a premium. The study highlights a growing awareness among residents of the environmental quality of neighborhoods as a key consideration in real estate transactions. Based on these findings, the study recommends the implementation of sustainable urban planning practices, environmental management policies, investment in green infrastructure, and public education on the importance of environmental quality in housing decisions. This research contributes to the body of knowledge on urban environmental economics and offers actionable insights for estate valuers, developers, urban planners, and government agencies committed to fostering environmentally sustainable and economically viable communities in Ilorin-East and similar urbanizing regions.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The real estate market is significantly influenced by a variety of environmental factors that can enhance or detract from property values. In Ilorin-East Local Government Area, Kwara State, Nigeria, rapid urbanization and population growth have led to increased demand for housing, making it essential to understand how these environmental conditions affect real estate pricing. Environmental factors encompass a wide array of elements, including air quality, noise pollution, proximity to natural features (such as parks and water bodies), and climatic conditions. These factors not only impact the aesthetic appeal of residential areas but also play a crucial role in determining the overall desirability and market value of properties. Research has shown that properties located in areas with better air quality and lower noise levels tend to command higher prices due to their enhanced living conditions (Bai et al., 2019). Conversely, properties situated near industrial sites or busy thoroughfares often experience depreciation in value due to adverse environmental impacts. In the context of Ilorin-East, understanding these dynamics is vital for various stakeholders, including investors, homeowners, and policymakers, who must navigate the complexities of a rapidly changing urban landscape.

Furthermore, as climate change continues to pose significant risks globally, local environments are increasingly affected by extreme weather events, which can lead to fluctuations in property values. For instance, areas prone to flooding or drought may see their desirability decline as potential buyers become more aware of these risks. This study aims to fill existing gaps in literature by providing a detailed analysis of how these environmental factors impact property values specifically within Ilorin-East Local Government Area.

1.2 STATEMENT OF THE PROBLEM

Despite growing awareness about the importance of environmental factors in real estate valuation, there remains a significant gap in localized studies focusing on Ilorin-East Local Government Area. Many property investors and potential homeowners often overlook critical environmental aspects when evaluating real estate options. This oversight can lead to poor investment decisions that do not account for future changes in environmental quality or regulations aimed at improving urban living conditions.

Moreover, with increasing concerns about climate change and its potential impacts on urban areas, it is crucial to understand how these changes may affect property values over time. For instance, areas prone to flooding or extreme weather events may experience fluctuations in property desirability and value that are not currently reflected in market assessments. Additionally, local policymakers may lack necessary data to make informed decisions regarding zoning laws and urban development projects that consider environmental sustainability.

The lack of comprehensive data on how specific environmental factors influence property values in Ilorin-East poses challenges for various stakeholders, including real estate developers, investors, and government agencies tasked with urban planning. Many stakeholders rely heavily on historical data and trends that may not adequately reflect current conditions or future scenarios influenced by changing environmental dynamics.

Furthermore, there is a pressing need for empirical evidence that connects specific environmental indicators—such as air quality indices or green space availability—with actual market prices in Ilorin-East. Without this information, investors may misjudge potential risks associated with their investments or fail to recognize opportunities for growth in areas with

favorable environmental attributes.

Additionally, as urbanization accelerates in Ilorin-East, understanding the implications of environmental degradation becomes increasingly vital. Poor air quality and high noise levels can lead to health issues among residents, which may further decrease property desirability over time. Therefore, this study seeks not only to identify these crucial relationships but also to provide actionable insights that can guide better decision-making processes among stakeholders involved in real estate development and urban planning.

1.3 RESEARCH QUESTIONS

1. What are the key environmental factors that influence property values in Ilorin-East Local Government Area?
2. How does proximity to natural features affect residential property prices in the region?
3. In what ways do air quality and noise pollution impact the desirability and value of properties?
4. How do climate conditions correlate with property values in different areas of Ilorin-East Local Government Area?

1.4 AIM AND OBJECTIVES OF THE STUDY

The primary aim of this study is to analyze the impact of environmental factors on property values in Ilorin-East Local Government Area, Kwara State, and provide insights to support informed real estate and urban planning decisions. While, the specific objectives are:

5. To identify significant environmental factors affecting property values in Ilorin-East Local Government Area.
6. To analyze the relationship between proximity to natural features and residential

property prices.

7. To evaluate the impact of air quality and noise pollution on property desirability and valuation.
8. To assess how varying climate conditions influence property values across different locations within Ilorin-East Local Government Area.

1.5 RESEARCH HYPOTHESES

Hypothesis 1:

H1: There is a significant relationship between environmental factors and property values in Ilorin-East Local Government Area.

H0: There is no significant relationship between environmental factors and property values in Ilorin-East Local Government Area.

Hypothesis 2:

H1: Proximity to natural features positively influences residential property prices.

H0: Proximity to natural features does not positively influence residential property prices.

Hypothesis 3:

H1: Poor air quality and high levels of noise pollution negatively impact property desirability and valuation.

H0: Poor air quality and high levels of noise pollution do not negatively impact property desirability and valuation.

Hypothesis 4:

H1: Climate conditions have a measurable effect on property values in different areas of Ilorin- East Local Government Area.

H0: Climate conditions do not have a measurable effect on property values in different areas

of Ilorin-East Local Government Area.

1.6 JUSTIFICATION OF THE STUDY

This study holds significant importance for multiple stakeholders involved in real estate development and urban planning within Ilorin-East Local Government Area. By systematically analyzing how various environmental factors impact property values, this research will provide valuable insights that can guide investors in making informed decisions regarding their investments. Understanding these dynamics will enable real estate developers to identify lucrative opportunities while also being mindful of sustainability practices that enhance community well-being.

Moreover, local policymakers will benefit from this study as it highlights critical areas where environmental improvements can lead to increased property values and improved quality of life for residents. Policymaking grounded in empirical evidence regarding environmental impacts will facilitate more effective zoning regulations, land-use planning, and infrastructure development initiatives aimed at fostering sustainable urban growth.

Furthermore, this research will contribute to academic discourse by filling existing gaps in literature concerning localized studies on real estate valuation influenced by environmental factors within Nigeria—particularly in regions like Ilorin-East that are experiencing rapid changes due to urbanization.

1.7 SCOPE OF THE STUDY

The scope of this study encompasses an investigation into various environmental factors affecting residential properties within Ilorin-East Local Government Area from 2000 to 2024. The research will focus on key variables such as air quality indices, levels of noise pollution, accessibility to green spaces like parks or rivers, and general climatic conditions prevalent

across different neighborhoods within the area.

Data collection will involve both qualitative methods—such as interviews with real estate professionals—and quantitative approaches like surveys targeting homeowners and potential buyers. The analysis will also include secondary data from government reports and academic studies related to environmental impacts on real estate markets.

This comprehensive approach aims not only to identify which specific environmental factors are most influential but also to understand their interactions within different contexts throughout Ilorin-East's diverse landscapes—rural versus urban settings—and how these dynamics affect overall market trends.

1.8 STUDY AREA

Ilorin itself has a rich historical background that dates back to the late 18th century when it was founded by the Yoruba people. It became a significant center for trade and cultural exchange between the northern Hausa and southern Yoruba populations. During the Fulani jihad in the early 19th century, Ilorin emerged as a Muslim emirate under the leadership of Mallam Alimi, who established dominance over several towns in Yorubaland (Britannica, 1998).

The town served as a major trade center throughout the 19th century and resisted British colonial rule until its eventual incorporation into the Northern Nigeria Protectorate in 1897. Following Nigeria's independence in 1960 and subsequent administrative changes, Ilorin was designated as the capital of Kwara State when it was created on May 27, 1967 (Kwara State Wikipedia).

Over the years, Ilorin-East has undergone significant urban growth due to population influx and economic development. This rapid urbanization has led to increased demand for housing

and infrastructure, which has implications for property values in the area. The local government area has also been influenced by cultural festivals such as the Yawo Dancers festival, which attract tourists and contribute to the local economy.

Ilorin-East Local Government Area (LGA) is situated in Kwara State, Nigeria, with its headquarters located in the town of Oke-Oyi. Covering an area of approximately 486 square kilometers, Ilorin-East is bordered by several other local government areas and is part of the larger Ilorin metropolis. The region's geographical coordinates place it within a strategic location that connects various parts of Nigeria, making it a vital hub for trade and commerce. The LGA comprises several notable towns, including Iponrin, Apado, and Panada-Agbeyangi, each contributing to the area's demographic and economic landscape.

The terrain of Ilorin-East is characterized by a mix of urban and rural environments, with agricultural activities being prominent. The region is endowed with natural resources, including deposits of granite, clay, and kaolin, which support local industries. The climate is typically tropical, with distinct wet and dry seasons that influence agricultural productivity and living conditions.

1.9 DEFINITION OF TERMS

9. Environmental Factors: Elements that influence the quality of the environment and affect human activities, including air quality, noise levels, and natural features. These factors can significantly impact health and well-being (BYJU'S, 2024).
10. Property Value: The monetary worth assigned to a piece of real estate based on various determinants such as location, condition, and market demand. It reflects the price a property is expected to fetch in a competitive market (Real Estate Words, 2024).

11. Proximity: The physical closeness of a property to essential services and facilities, such as grocery stores, schools, parks, hospitals, and public transportation. This aspect is crucial in real estate as it significantly influences property values and desirability (Fiveable, 2024).

12. Air Quality: A measure of the purity and healthiness of the air we breathe. It is affected by pollutants from industrial activities, transportation, and other sources. Poor air quality can have severe impacts on human health and the environment (Sinay, 2024).
13. Noise Pollution: Defined as excessive sound that disrupts daily activities and can lead to various health issues such as stress and sleep disturbances. Sources include transportation noise, industrial activities, and recreational activities (Study.com, 2024).
14. Climate Conditions: The long-term patterns of temperature, humidity, wind, etc., which can affect living conditions and influence real estate markets. Changes in climate can lead to fluctuations in property values due to increased risks from extreme weather events (Freie Universität Berlin, 2024).
15. Residential Properties: Real estate intended for people to live in rather than for commercial purposes. This includes single-family homes, multi-family units, apartments, and condominiums (Aspen Woolf, 2024).
16. Urbanization: The process by which rural areas become urbanized as a result of population growth and economic development. This phenomenon often leads to increased demand for housing and infrastructure (Wikipedia, 2024).
17. Sustainable Development: Development that meets present needs without compromising the ability of future generations to meet their own needs. It emphasizes the balance between economic growth, environmental stewardship, and social equity (Bartone et al., 1994).
18. Real Estate Market: The marketplace for buying, selling, or renting properties;

influenced by various economic factors including supply and demand dynamics (Millington et al., 1979).

19. Investment Decision: The process by which individuals or entities decide where to allocate their financial resources based on potential returns. This decision-making process is influenced by various factors including market conditions and environmental considerations (Chun-Chang et al., 2013).
20. Desirability: The appeal or attractiveness of a location or property based on various attributes including environmental quality. Higher desirability often correlates with increased property values (Hite et al., 2001).
21. Stakeholders: Individuals or groups with an interest in a particular issue or project; in this context, it includes investors, homeowners, policymakers, etc. Stakeholders play a critical role in shaping real estate markets through their decisions and actions (Olayinka et al., 2005).

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The interplay between environmental factors and property values has garnered significant attention in real estate economics, particularly as urban areas face increasing pressures from population growth and environmental degradation. This literature review aims to explore the various environmental elements that influence property values, with a specific focus on Ilorin- East Local Government Area, Kwara State, Nigeria. By examining existing studies, this chapter will highlight key concepts, frameworks, and theories that provide a foundation for understanding how environmental quality impacts real estate markets. The review will also identify gaps in the literature that the current study seeks to address.

2.2 CONCEPTUAL FRAMEWORK

The conceptual framework for this study is built upon the premise that environmental factors are critical determinants of property values, particularly in urban settings like Ilorin-East Local Government Area, Kwara State. Environmental quality encompasses a variety of elements, including air quality, noise levels, access to green spaces, and overall ecological health. These factors collectively contribute to the desirability of residential areas, influencing potential buyers' perceptions and decisions. For instance, neighborhoods characterized by clean air and minimal noise pollution are often perceived as more attractive, leading to increased demand for properties in those areas. Conversely, regions suffering from high levels of pollution or environmental degradation may see a decline in property values as buyers become more aware of the associated health risks and lifestyle implications.

Market demand plays a crucial role in this framework, as it is directly influenced by the prevailing environmental conditions. Areas with favorable environmental attributes tend to attract more buyers, resulting in heightened competition for available properties and subsequently driving up prices. This dynamic is particularly relevant in Ilorin-East, where urbanization has led to increased housing demand amid varying environmental conditions. Additionally, the perception of value among homebuyers significantly impacts their willingness to pay for properties. Factors such as community awareness about environmental issues, media representations, and personal experiences shape these perceptions. For example, if a community actively promotes its green spaces and clean environment, it is likely to enhance property values within that area.

Moreover, the regulatory framework established by local governments can significantly influence property values through policies aimed at environmental protection and urban planning. Zoning laws that prioritize green spaces or initiatives aimed at improving air quality can enhance the attractiveness of certain neighborhoods, thereby increasing property values. Conversely, lax regulations may lead to unchecked industrial development or pollution, negatively impacting residential desirability. This framework underscores the interconnectedness of environmental quality, market demand, buyer perceptions, and regulatory influences in shaping property values within Ilorin-East.

2.2.1 ENVIRONMENTAL QUALITY AND PROPERTY VALUES

Environmental quality broadly refers to the overall condition of both the natural and built environments surrounding a property, encompassing a wide range of critical factors that directly and indirectly influence the desirability and value of real estate. These factors include air and water quality, noise levels, availability and accessibility of green spaces,

waste management systems, and the presence of essential infrastructure such as electricity, roads, sewage, and drainage systems. The natural environment, characterized by clean air, unpolluted water, and lush green spaces, contributes significantly to the health, comfort, and well-being of residents, while the built environment's quality reflects the adequacy of infrastructure and services that support daily living. Empirical research has consistently demonstrated that improvements in environmental quality positively influence property values, as these factors enhance both the functional and aesthetic appeal of residential areas (Popoola et al., 2015).

For example, Popoola et al. (2015) found that the presence of essential infrastructures like clean water supply, electricity, adequate waste disposal, sewage systems, roads, and drainage significantly enhances environmental quality, which in turn raises rental and property values. Their statistical analysis in peri-urban neighborhoods revealed a moderate but significant correlation between environmental quality and rental values, indicating that approximately 23% of rent variation could be attributed to environmental factors. This finding underscores the importance of a well-maintained and functional environment in attracting residents and investors, who are willing to pay premiums for properties situated in areas with superior environmental conditions.

Clean air and water quality stand out as particularly influential components of environmental quality that affect residential desirability. Areas with low levels of air pollution tend to attract higher property prices because they offer residents a healthier living environment, reducing the risk of respiratory and cardiovascular diseases and enhancing overall quality of life (Rolling Out, 2024). Similarly, access to clean and safe water is fundamental for domestic use and sanitation, making it a non-negotiable factor in property valuation.

Conversely, regions suffering from pollution or environmental degradation often experience depreciation in property values, as potential buyers and tenants become increasingly concerned about the health risks and reduced livability associated with contaminated air and water sources (Binsbergen et al., 2023). Such environmental hazards not only affect physical health but also contribute to psychological stress and diminished community well-being, further discouraging investment in affected areas.

Noise pollution is another critical environmental factor that negatively impacts property desirability and values. Excessive noise from industrial activities, traffic congestion, airports, or recreational venues can disrupt residents' peace and comfort, leading to adverse health effects such as stress, sleep disturbances, and hearing impairment (Cellmer et al., 2012; Das & Roy, 2014). Studies have shown that properties located in noisy environments often suffer significant reductions in market value, as buyers prioritize tranquility and quiet living conditions when making purchasing decisions. The degree of impact noise pollution has on property prices varies depending on proximity to noise sources, the duration and intensity of noise exposure, and the availability of mitigation measures such as sound barriers or zoning regulations.

Moreover, environmental attributes such as proximity to green spaces, parks, rivers, lakes, and other natural features substantially enhance the aesthetic appeal and recreational opportunities available to residents, thereby increasing property values (Jim & Chen, 2006; Cellmer et al., 2012). Green spaces provide numerous ecosystem services, including air purification, temperature regulation, noise buffering, and opportunities for physical activity and social interaction. The presence of greenery, surface water, and pleasant landscapes has been statistically linked to higher property prices, as these factors improve the

overall environmental quality and attractiveness of neighborhoods (Cellmer et al., 2012). These findings align with the hedonic pricing model, which posits that property values reflect the sum of various attributes, including environmental quality, location, and physical characteristics (Rosen, 1974). Properties near parks or natural reserves often command premium prices because they offer residents a better quality of life and opportunities for leisure and relaxation.

However, the influence of environmental quality on property values is complex and multifaceted. While improvements in infrastructure and environmental conditions generally lead to increased property values, other factors such as location within the urban hierarchy, legal status of land tenure, physical characteristics of buildings, and socio-economic dynamics also play significant roles (Popoola et al., 2015). For example, a property located in a well-serviced but less accessible area might not command as high a price as one in a central location with moderate environmental quality. Additionally, environmental contamination or proximity to hazardous sites such as landfills, industrial plants, or flood-prone areas can lead to substantial reductions in property values. The magnitude of these negative impacts depends on factors like the distance from the contamination source, the type and severity of pollution, public awareness, and local market conditions (Chay & Greenstone, 2005). Properties near hazardous sites often suffer from stigma effects, where buyers perceive increased risks and potential future liabilities, further depressing market values.

Furthermore, environmental quality interacts with broader socio-economic and policy contexts. Urban planning policies, zoning regulations, and environmental protection laws can either enhance or undermine environmental quality, thereby affecting property markets.

For instance, the establishment of protected green belts or the enforcement of pollution control can improve neighborhood attractiveness and property values. Conversely, inadequate enforcement of environmental regulations can lead to degradation and depreciation of property assets. Public investment in environmental infrastructure also plays a pivotal role in shaping the quality of residential environments and, consequently, property values.

Environmental quality is a critical determinant of property values, encompassing a broad spectrum of natural and built environment factors that collectively influence residential desirability and market prices. Better air and water quality, lower noise pollution, and access to green spaces enhance the attractiveness and livability of neighborhoods, thereby increasing property values. Conversely, poor environmental conditions tend to diminish property values due to associated health risks, reduced quality of life, and negative perceptions. Understanding these dynamics is essential for urban planners, policymakers, investors, and other stakeholders aiming to promote sustainable, healthy, and desirable residential environments that support long-term economic and social well-being (Popoola et al., 2015; Jim & Chen, 2006; Cellmer et al., 2012; Binsbergen et al., 2023).

2.2.2 PROXIMITY TO NATURAL FEATURES

Proximity to natural features such as parks, rivers, lakes, and green belts is widely recognized as a significant determinant of property values, influencing both buyer preferences and market dynamics. Numerous empirical studies have demonstrated that properties located near these natural amenities often command premium prices compared to those situated farther away. This premium is largely attributed to the aesthetic appeal that natural landscapes provide, which enhances the visual environment and creates a more pleasant living

experience for residents (Jim & Chen, 2006). The presence of greenery and water bodies contributes to a sense of tranquility and natural beauty, which many homebuyers prioritize when selecting residential locations (Benson et al., 2020).

Beyond aesthetics, natural features offer recreational opportunities that improve residents' quality of life. Parks and green belts provide spaces for physical activities such as walking, jogging, cycling, and social gatherings, which promote healthier lifestyles and foster community cohesion (Wolch, Byrne, & Newell, 2014). Access to rivers and lakes also enables water-based recreational activities like fishing, boating, and picnicking, further enhancing the desirability of nearby properties (Tyrväinen & Miettinen, 2000). These recreational benefits are increasingly valued in urban and peri-urban areas where open spaces may be limited, making proximity to natural features a key factor in residential choice and willingness to pay higher prices (Crompton, 2001).

Health benefits associated with living near natural features also contribute to higher property values. Research has shown that exposure to green spaces can reduce stress, improve mental health, and lower the incidence of certain chronic diseases by encouraging physical activity and providing cleaner air (Maas et al., 2009; Hartig et al., 2014). Properties close to parks and natural areas are thus perceived as healthier environments, which increases their market attractiveness and value (Kardan et al., 2015). Moreover, natural features often serve as buffers against urban environmental problems such as heat islands and air pollution, further enhancing the livability of adjacent neighborhoods and supporting higher property prices (Bowler et al., 2010).

Accessibility and distance to these natural amenities play crucial roles in shaping residential property values. The closer a property is to a park, river, or green belt, the greater the positive

impact on its value, although this effect may diminish beyond certain distances (Tyrväinen & Miettinen, 2000). Studies employing hedonic pricing models have quantified this relationship, finding that property values decrease as distance from natural features increases, with the strongest effects observed within a few hundred meters (Crompton, 2001; Jim & Chen, 2006). This spatial gradient reflects the convenience and ease with which residents can utilize these amenities, highlighting the importance of urban planning that integrates natural features within accessible distances to residential areas (Wolch et al., 2014).

However, the relationship between proximity to natural features and property values is not universally positive and can be influenced by other factors. For example, properties adjacent to water bodies may face risks related to flooding or erosion, which can negatively affect values if not properly managed (Bin et al., 2011). Similarly, parks that are poorly maintained or associated with safety concerns may deter potential buyers despite their proximity (Kuo, 2003). Therefore, the quality, management, and perceived safety of natural amenities are critical considerations that mediate their impact on property values (Jim & Chen, 2006).

Proximity to natural features such as parks, rivers, lakes, and green belts significantly enhances property values through aesthetic appeal, recreational opportunities, and health benefits. Accessibility and distance are key factors determining the magnitude of this effect, with closer proximity generally resulting in higher property prices. Nonetheless, the overall impact is moderated by factors such as environmental risks, maintenance, and safety, underscoring the need for integrated urban planning and management to maximize the benefits of natural amenities for residential property markets (Jim & Chen, 2006; Crompton, 2001; Wolch et al., 2014).

2.1.1 IMPACT OF CLIMATE CONDITIONS

Climate conditions, including temperature patterns, rainfall variability, and susceptibility to extreme weather events, play a crucial role in determining the livability and sustainability of residential areas, thereby significantly influencing property values. Research has shown that changes in climate affect not only the physical environment but also the perceptions of risk among homeowners and potential buyers, which in turn alter real estate market dynamics (Chopik, 2019). For example, increasing temperatures and more frequent heatwaves have been linked to declines in property values, particularly in regions where residents are highly aware of climate risks and where climate change impacts are more pronounced (Li & Yildirim, 2023). These heat shocks reduce housing prices as buyers factor in long-term climate uncertainties and potential costs associated with adaptation or mitigation.

Rainfall patterns and water availability also influence property values, especially in areas prone to drought or flooding. Studies indicate that drought conditions can increase construction and maintenance costs, which are often passed on to buyers through higher prices for climate- resilient materials, yet overall property values may decline due to reduced desirability and increased risk (Farzanegan, Feizi, & Fereidouni, 2019). Conversely, properties in flood-prone areas often suffer depreciation because of the heightened risk of damage, increased insurance premiums, and potential loss of habitability (First Street Foundation, 2025). Flooding events, storm surges, and rising sea levels are among the most significant climate-related hazards that have been shown to cause substantial declines in property values, particularly in coastal and low- lying regions (First Street Foundation, 2025; Chopik, 2019).

The economic implications of climate change on real estate are profound. In the United

States alone, projections estimate that climate risks could lead to a net loss of approximately \$1.47 trillion in residential property values by 2055, affecting over 70,000 neighborhoods nationwide (First Street Foundation, 2025; Axios, 2025). These losses are driven by a combination of increased environmental hazards, rising insurance costs, and shifting migration patterns away from high-risk areas. For instance, counties in Florida and California, which have experienced recent hurricanes and wildfires, are expected to see some of the most significant property value declines due to escalating insurance premiums and heightened risk perceptions (CBS News, 2025; Axios, 2025).

Insurance costs are a critical mediator in the relationship between climate conditions and property values. As climate-related hazards increase in frequency and severity, insurance premiums rise sharply, placing financial strain on homeowners and reducing the affordability and attractiveness of properties in vulnerable areas (Axios, 2025). This trend is already evident in regions like Southern California, where wildfires have led to unprecedented insured losses and soaring insurance rates, prompting some homeowners to abandon their properties (Axios, 2025). The increased cost and reduced availability of insurance coverage contribute to the downward pressure on property values and influence migration decisions, further reshaping real estate markets (First Street Foundation, 2025).

Moreover, climate variability and long-term climatic trends influence not only the physical risks but also the socio-economic fabric of communities. Migration driven by climate risks leads to population declines in affected areas and growth in more climate-resilient regions, thereby altering local economies and housing demand (First Street Foundation, 2025). For example, parts of the U.S. Midwest, such as Dane County, Wisconsin, are projected to experience property value growth due to their relative climate resilience and influx of

climate migrants seeking safer living conditions (First Street Foundation, 2025). This redistribution of population and capital underscores the transformative impact of climate change on the geography of real estate markets. In addition to direct physical impacts, climate change introduces uncertainty that affects long-term investment decisions in real estate. The unpredictability of future climate scenarios and the evolving regulatory landscape create challenges for homeowners, investors, and policymakers alike (Chopik, 2019; Li & Yildirim, 2023). For instance, concerns about future sea-level rise, increased flooding, or drought can lead to risk premiums being factored into property prices, even before damages occur (Li & Yildirim, 2023). This anticipatory effect highlights the importance of integrating climate risk assessments into property valuation models and urban planning to ensure sustainable development.

Climate conditions-including temperature fluctuations, rainfall variability, and extreme weather events-have multifaceted impacts on property values by affecting both the actual environmental risks and the perceptions of those risks among market participants. The increasing frequency and severity of climate hazards lead to property depreciation in vulnerable areas through physical damages, rising insurance costs, and population shifts, while more resilient regions may experience growth in property values. Understanding these complex interactions is essential for real estate stakeholders and policymakers to adapt to the evolving challenges posed by climate change and to promote resilient and sustainable housing markets (First Street Foundation, 2025; Chopik, 2019; Li & Yildirim, 2023; Farzanegan et al., 2019).

2.3 THEORETICAL FRAMEWORK

The theoretical framework for this study draws upon established theories in real estate

economics that explain the complex relationship between environmental factors and property values. Central to this framework are concepts from environmental justice theory, hedonic pricing theory, and the emerging importance of Environmental, Social, and Governance (ESG) factors in property valuation.

Environmental justice theory provides a critical lens through which to understand how environmental benefits and burdens are distributed unevenly across different communities, often along socioeconomic and racial lines (Bullard, 1990; ULI, 2021). This theory highlights that marginalized and low-income populations frequently face disproportionate exposure to environmental hazards such as pollution, inadequate green spaces, and poor infrastructure, which can negatively affect property values in these areas (Obed-Ndukwu et al., 2020; Frontiers, 2021). The theory emphasizes the need for equitable urban planning and policy interventions to ensure that improvements in environmental quality benefit all communities, thereby influencing real estate markets by potentially reducing disparities in property values caused by environmental inequities (REPAE, 2021).

Complementing this social equity perspective, hedonic pricing theory offers a robust economic framework for quantifying how various property attributes—including environmental characteristics like air quality, noise levels, and proximity to amenities—influence market prices (Rosen, 1974; Bai et al., 2019). Hedonic models use regression analysis to decompose property prices into the implicit values of individual features, allowing researchers and valuers to isolate the impact of environmental factors on property values. This approach is particularly useful in rapidly urbanizing areas such as Ilorin-East, where diverse environmental and infrastructural variables interact to shape housing markets (Competera, 2024). Despite challenges such as data quality and multicollinearity, hedonic

pricing remains a foundational tool in real estate valuation, enabling stakeholders to make informed decisions based on the economic significance of environmental attributes (Corporate Finance Institute, 2024).

In recent years, the integration of Environmental, Social, and Governance (ESG) criteria into property valuation has gained prominence, reflecting a broader shift towards sustainability and responsible investment in real estate (RICS, 2024; YouTube, 2024). ESG factors encompass a wide range of considerations, including energy efficiency, climate change risks, regulatory compliance, social impacts, and governance practices, all of which can influence a property's market value, risk profile, and cash flow potential (RICS, 2024). Properties with strong ESG credentials are increasingly viewed as more resilient to environmental risks, more attractive to investors, and capable of commanding premium valuations due to lower operating costs and enhanced tenant demand (Lorenz & Lützkendorf, 2008; RICS, 2024). Conversely, properties with high ESG risks-such as exposure to flooding, contamination, or social conflicts-may face regulatory penalties, reputational damage, and reduced market values (RICS, 2024).

The theoretical framework thus integrates these perspectives to provide a comprehensive understanding of how environmental factors influence property values. Environmental justice theory grounds the analysis in social equity and spatial justice, hedonic pricing theory offers the methodological tools to quantify these effects economically, and ESG considerations reflect the evolving market and regulatory landscape shaping real estate valuation today. Together, these theories enable an exploration of the multifaceted interactions between environmental quality, social dynamics, regulatory frameworks, and market behavior within the context of Ilorin-East Local Government Area. This integrated approach is essential

for producing nuanced insights that can inform sustainable urban development, equitable housing policies, and resilient real estate investment strategies.

2.3.1 HEDONIC PRICING THEORY

Hedonic pricing theory is a widely recognized and extensively applied approach used to estimate the value of goods and services by decomposing their prices into the implicit values of their various characteristics or attributes (Investopedia, 2020). In the context of real estate, this theory posits that the price of a property can be understood as a function of both its intrinsic features- such as size, age, condition, architectural style, and location-and extrinsic factors, including environmental characteristics like air quality, noise levels, neighborhood safety, and proximity to amenities such as schools, parks, and commercial centers (Rosen, 1974; Corporate Finance Institute, 2024). The fundamental premise of hedonic pricing is that consumers derive utility from these diverse attributes, which collectively influence their willingness to pay, resulting in market prices that reflect the sum of these individual components (Fiveable, 2024).

The application of hedonic pricing in real estate valuation typically involves sophisticated regression analysis, where statistical techniques are employed to quantify the relationship between property prices and their defining characteristics (Competera, 2024). By analyzing large datasets containing multiple property transactions, researchers can identify which specific features significantly affect property values and to what extent. For example, a study might reveal that properties located near parks or green spaces command higher prices due to the perceived benefits of access to nature and recreational opportunities, which enhance residents' quality of life (Bai et al., 2019). Similarly, properties situated in areas with lower noise pollution or better air quality often see increased valuations as buyers prioritize quieter

and healthier living environments (Investopedia, 2020).

One of the key strengths of hedonic pricing lies in its flexibility and adaptability; it can accommodate a wide array of factors influencing property values, allowing for a nuanced and comprehensive understanding of complex market dynamics (Corporate Finance Institute, 2024). This adaptability makes the model particularly useful in rapidly urbanizing areas like Ilorin-East, where diverse environmental and socio-economic factors interplay to shape real estate markets. Moreover, hedonic pricing models can be tailored to local contexts by selecting relevant variables and adjusting for market-specific conditions, thereby improving the accuracy and relevance of valuation outcomes (Fiveable, 2024).

However, despite its widespread use and advantages, hedonic pricing also has notable limitations. The accuracy and reliability of hedonic models depend heavily on the availability, quality, and granularity of data regarding property characteristics and market conditions (Competera, 2024). Data limitations, measurement errors, or omitted variables can bias results and reduce the explanatory power of the models. Additionally, multicollinearity—where independent variables are highly correlated—can complicate the analysis and interpretation of results, making it challenging to isolate the individual effect of each attribute on property prices (Competera, 2024). Furthermore, hedonic pricing models typically capture only the attributes that are observable and measurable, potentially overlooking intangible or latent factors such as future development plans or social dynamics that also influence property values (Investopedia, 2020).

Another challenge is that hedonic pricing assumes that consumers have perfect information and rational preferences regarding property attributes, including environmental quality. However, in reality, buyers may be unaware of certain environmental risks or benefits,

leading to mispricing or undervaluation of some attributes (YouTube, 2024). For example, the impact of air pollution or flood risk on property values may not be fully reflected if buyers lack adequate information or if markets are inefficient (Competera, 2024). Despite these challenges, hedonic pricing remains a valuable and widely used tool for understanding how environmental and other factors impact property values, providing critical insights for policymakers, investors, and urban planners aiming to promote sustainable and equitable development (Investopedia, 2020; Corporate Finance Institute, 2024).

Hedonic pricing theory offers a robust framework for decomposing property prices into the contributions of various internal and external attributes. By employing regression-based statistical methods, it quantifies the implicit prices of these characteristics, enabling stakeholders to assess the value of environmental quality, location, structural features, and neighborhood amenities. While data quality and market imperfections pose challenges, the model's flexibility and empirical grounding make it indispensable in real estate valuation, particularly in contexts where environmental factors increasingly influence market dynamics, such as Ilorin-East Local Government Area (Rosen, 1974; Bai et al., 2019; Competera, 2024).

2.3.1 ENVIRONMENTAL JUSTICE THEORY

Environmental justice theory centers on the equitable distribution of environmental benefits and burdens across different communities, emphasizing that marginalized and low-income groups disproportionately bear environmental hazards while having limited access to resources that promote healthy living conditions (Bullard, 1990). This theory is particularly pertinent in urban settings where socioeconomic disparities often translate into significant differences in environmental quality and property values. Research shows that communities

of color and economically disadvantaged populations frequently reside in neighborhoods with higher exposure to pollution, contaminated sites, and inadequate green spaces, resulting in environmental injustices that affect their health, well-being, and economic opportunities (ULI, 2021; Bullard, 1990).

In the context of real estate, environmental justice theory highlights how environmental factors can exacerbate existing social and economic inequalities. Neighborhoods burdened with high levels of pollution, poor air and water quality, or limited access to parks and natural amenities often experience lower property values compared to more affluent areas with better environmental conditions (Obad-Ndukwu et al., 2020; ULI, 2021). This disparity in environmental quality and property valuation is frequently rooted in historical patterns of systemic discrimination, redlining, and neglect that have marginalized certain communities, leaving them vulnerable to environmental degradation and economic disinvestment (Bullard, 1990; Frontiers, 2021). For example, industrial facilities and waste disposal sites are disproportionately sited near low-income neighborhoods, which diminishes property values and restricts wealth accumulation for residents in these areas (ULI, 2021).

Understanding these dynamics is crucial for policymakers, urban planners, and real estate professionals who aim to promote equitable urban development and ensure that all communities benefit from improvements in environmental quality. Environmental justice theory encourages a critical examination of how land use policies, zoning regulations, and development practices impact different demographic groups and contribute to spatial inequalities (REPAAE, 2021). It underscores the importance of inclusive decision-making processes that actively incorporate the voices and needs of marginalized communities when addressing environmental issues, thereby fostering more just and sustainable urban

environments (REPAA, 2021; ULI, 2021).

Moreover, applying environmental justice theory within the framework of real estate valuation provides researchers and practitioners with insights into how environmental factors not only influence property values but also reflect broader social inequalities that require targeted interventions and policy reforms. For instance, properties in environmentally disadvantaged areas may be undervalued due to perceived risks and stigmatization, which perpetuates cycles of disinvestment and social exclusion (RICS, 2024). Recognizing these patterns allows for the development of valuation methodologies that account for environmental justice considerations, promoting fairer assessments and encouraging investments that improve environmental conditions in underserved neighborhoods (Lorenz & Lützkendorf, 2008).

Additionally, environmental justice intersects with emerging Environmental, Social, and Governance (ESG) frameworks that are increasingly shaping real estate valuations and investment decisions. ESG considerations include evaluating environmental risks such as flood zones, contaminated soils, and air pollution, as well as social risks like community opposition and labor practices (RICS, 2024). Properties with high ESG risks may face regulatory challenges, reputational damage, and reduced market values, while those demonstrating strong ESG performance can attract investors seeking sustainable and socially responsible assets (RICS, 2024; YouTube, 2024). This integration of environmental justice and ESG principles reflects a growing recognition that sustainable real estate markets must address social equity alongside environmental performance (Lorenz & Lützkendorf, 2008).

Together, these theoretical frameworks provide a comprehensive lens through which to analyze the complex interactions between environmental quality and property values in

Ilorin-East Local Government Area. They facilitate an exploration of how market dynamics operate within the context of local regulations, community perceptions, and social equity concerns, while also addressing issues related to access and justice in urban environments (ULI, 2021; RICS, 2024). By incorporating environmental justice into real estate valuation and urban planning, stakeholders can work towards more inclusive, resilient, and sustainable cities that benefit all residents.

2.4 SUMMARY OF LITERATURE REVIEW

The following table summarizes key findings from the literature reviewed regarding the impact of environmental factors on property values:

Author(s)	Year	Title	Key Findings
Jim & Chen	2006	"Ecosystem services	Proximity to green spaces positively influences residential property values.
Bai et al.	2019	"The impact of air quality on property values"	Poor air quality leads to decreased property values due to health concerns associated with pollution.
Cellmer et al.	2012	"Environmental factors influencing housing prices"	Noise pollution negatively impacts residential satisfaction and reduces property desirability.
Benson et al.	2020	"Green space and residential property values"	Access to parks and natural features is associated with increased property prices due to aesthetic appeal.
Obed-Ndukwu et al.	2020	"Environmental impact	Environmental degradation leads to lower property values in affected neighborhoods.
Bullard	2014	"Dumping in Dixie: Race, class, and environmental quality"	Highlights disparities in environmental quality across different socio-economic groups affecting real estate markets.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the research methodology employed in this study to analyze the impact of environmental factors on property values in Ilorin-East Local Government Area, Kwara State. The methodology encompasses the research design, data types and sources, instruments for data collection, target population, sample frame, sample size, sampling procedure, and methods of data analysis. By detailing these components, this chapter aims to provide a clear framework for how the research was conducted and to ensure the validity and reliability of the findings.

3.2 RESEARCH DESIGN

The research design for this study is primarily qualitative in nature, focusing on understanding the perceptions and experiences of stakeholders regarding environmental factors and their influence on property values. A qualitative approach allows for an in-depth exploration of complex issues, providing rich insights that quantitative methods may not fully capture. This design is particularly suitable for examining subjective aspects such as community perceptions, attitudes towards environmental quality, and the perceived value of properties in relation to their environmental context.

3.3 DATA TYPES AND SOURCE

The study utilizes primary data collected directly from respondents through interviews. Primary data is essential for gaining firsthand insights into the perceptions of homeowners, real estate professionals, and other stakeholders regarding environmental factors affecting property values. Secondary data may also be referenced to provide context and support

findings but will not be the primary focus of this research.

3.4 INSTRUMENT FOR DATA COLLECTION

The primary instrument for data collection in this study is structured interviews. These interviews will be conducted with selected participants to gather detailed information about their experiences and perceptions related to environmental factors and property values. The structured format ensures that all participants are asked the same questions, facilitating comparability of responses while allowing for follow-up questions to explore specific areas of interest in greater depth.

3.5 TARGET POPULATION

The target population for this study includes homeowners residing in Ilorin-East Local Government Area as well as real estate professionals operating within the area. Homeowners provide valuable insights into their perceptions of property values influenced by environmental factors, while real estate professionals can offer expert perspectives on market trends and valuation practices.

3.6 SAMPLE FRAME

The sample frame consists of a list of homeowners and real estate professionals within Ilorin-East Local Government Area. This list will be compiled using local government records, real estate agency databases, and community directories to ensure a comprehensive representation of the target population.

3.7 SAMPLE SIZE

The sample size for this study is set at 100 participants. This number is deemed sufficient to capture a diverse range of perspectives while ensuring that the findings are representative of the broader population within Ilorin-East Local Government Area.

3.8 SAMPLING PROCEDURE

A purposive sampling procedure will be employed to select participants who meet specific criteria relevant to the research objectives. Homeowners will be selected based on their residence within Ilorin-East Local Government Area and their willingness to participate in the study. Real estate professionals will be chosen based on their experience in the local market and their ability to provide informed insights into property valuation practices.

3.9 METHOD OF DATA ANALYSIS

The method of data analysis used in this study is qualitative analysis. The qualitative data collected from interviews will be transcribed and analyzed thematically to identify common patterns, themes, and insights related to environmental factors impacting property values. This approach allows for a nuanced understanding of how different stakeholders perceive these relationships.

3.10 SUMMARY OF DATA ANALYSIS FOR EACH OBJECTIVE

The following table summarizes the methods of data analysis corresponding to each objective of the study:

Objective	Method of Data Analysis
To identify significant environmental factors affecting property values in Ilorin-East Local Government Area.	Thematic analysis of interview responses to categorize identified environmental factors influencing property values.
To analyze the relationship between proximity to natural features and residential property prices.	Qualitative coding of responses related to proximity effects on property desirability and valuation through thematic analysis.
To evaluate the impact of air quality and noise pollution on property desirability and valuation.	Thematic analysis focusing on participant descriptions regarding air quality and noise pollution impacts on perceived value.
To assess how varying climate conditions influence property values across different locations within Ilorin-East Local Government Area.	Qualitative analysis identifying themes related to climate conditions mentioned by participants affecting property values across neighborhoods.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 INTRODUCTION

This chapter presents the analysis of data collected from the field in line with the objectives of the study. A total of one hundred (100) responses were received via the structured interview and questionnaire distributed online, primarily through Google Forms. The questionnaire link was shared among stakeholders in Ilorin-East Local Government Area involved in real estate, including homeowners, investors, and real estate professionals, using social media platforms such as WhatsApp and email. The analysis below details the demographic characteristics of the respondents and their responses to the research items relating to environmental factors and property values.

4.1 ANALYSIS OF RESPONDENTS' DEMOGRAPHIC INFORMATION TABLE

1: GENDER OF RESPONDENTS

RESPONSE	FREQUENCY	PERCENTAGE (%)
Male	58	58%
Female	42	42%
Total	100	100%

The above table indicates that the male respondents constituted a higher proportion (58%) compared to female respondents (42%) in the study.

TABLE 2: AGE OF RESPONDENTS

RESPONSE	FREQUENCY	PERCENTAGE (%)
Under 25	18	18%
25–34	34	34%
35–44	28	28%

45–54	13	13%
55+	7	7%
Total	100	100%

This table shows that the majority of respondents are within the 25–34 age group (34%), followed by those aged 35–44 years (28%).

TABLE 3: OCCUPATION OF RESPONDENTS

RESPONSE	FREQUENCY	PERCENTAGE (%)
Real Estate Professional	22	22%
Homeowner	38	38%
Investor	20	20%
Other	20	20%
Total	100	100%

The table above shows that homeowners formed the largest group of respondents (38%), followed by real estate professionals (22%) and investors (20%).

TABLE 4: EDUCATIONAL QUALIFICATION OF RESPONDENTS

RESPONSE	FREQUENCY	PERCENTAGE (%)
Secondary School or Below	12	12%
Diploma/Certificate	24	24%
Bachelor's Degree	44	44%
Postgraduate Degree	20	20%
Total	100	100%

The above table indicates that 44% of respondents hold a Bachelor's degree, 24% have a diploma or certificate, 20% hold a postgraduate degree, and 12% have a secondary school qualification or below.

TABLE 5: LENGTH OF RESIDENCE/INVOLVEMENT IN ILORIN-EAST

RESPONSE	FREQUENCY	PERCENTAGE (%)
Less than 1 year	11	11%
1–3 years	29	29%
4–6 years	38	38%
More than 6 years	22	22%
Total	100	100%

The table above shows that the majority of respondents (38%) have been residents or involved in the area for 4–6 years, followed by 29% with 1–3 years of experience.

Source: Field Survey, 2025.

4.1.1 ANALYSIS OF RESEARCH ITEMS

Question 1: Air quality in the neighborhood significantly influences property values.

TABLE 6

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	40	40%
Agree	38	38%
Neutral	12	12%
Disagree	7	7%
Strongly Disagree	3	3%
Total	100	100%

From the table above, a combined 78% of respondents either strongly agree or agree that air quality significantly influences property values in Ilorin-East, while only a minority disagreed or were neutral.

Source: Field Survey, 2025.

Question 2: Noise pollution from nearby roads or industries lowers property desirability.

TABLE 7

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	36	36%
Agree	41	41%
Neutral	13	13%
Disagree	7	7%
Strongly Disagree	3	3%
Total	100	100%

Table 7 shows that 77% of respondents agree that noise pollution lowers property desirability, indicating a strong awareness of environmental noise as a factor in property valuation.

Source: Field Survey, 2025.

Question 3: Access to clean water and sanitation facilities affects property prices.

TABLE 8

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	44	44%
Agree	39	39%
Neutral	10	10%
Disagree	5	5%
Strongly Disagree	2	2%
Total	100	100%

A combined 83% of respondents agree that access to clean water and sanitation facilities is an important determinant of property prices in the area.

Source: Field Survey, 2025.

Question 4: The presence of waste disposal sites negatively impacts property values.

TABLE 9

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	39	39%
Agree	37	37%
Neutral	12	12%
Disagree	8	8%
Strongly Disagree	4	4%

Total	100	100%
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From the table above, 76% of respondents agree that the presence of waste disposal sites negatively impacts property values, while only a small percentage disagreed or remained neutral. *Source: Field Survey, 2025.*

Question 5: The overall environmental cleanliness of the area influences buyers' willingness to pay more.

TABLE 10

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	41	41%
Agree	42	42%
Neutral	9	9%
Disagree	6	6%
Strongly Disagree	2	2%
Total	100	100%

A combined 83% of respondents agree that environmental cleanliness increases buyers' willingness to pay more for properties in Ilorin-East.

Source: Field Survey, 2025.

Question 6: Properties close to parks or green spaces have higher market values.

TABLE 11

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	45	45%
Agree	37	37%
Neutral	10	10%
Disagree	6	6%

Strongly Disagree	2	2%
Total	100	100%

The majority of respondents (82%) agree that proximity to parks or green spaces positively influences property values, consistent with findings identified the physical quality of the environment as a key residential location preference in Ilorin.

Source: Field Survey, 2025.

Question 7: Proximity to rivers or lakes increases the desirability of residential properties.

TABLE 12

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	38	38%
Agree	35	35%
Neutral	15	15%
Disagree	8	8%
Strongly Disagree	4	4%
Total	100	100%

A combined 73% of respondents affirm that proximity to water bodies enhances property desirability, aligning with ecological studies emphasizing the role of natural features in urban residential preferences.

Source: Field Survey, 2025.

Question 8: Being near natural features provides health and recreational benefits that raise property values.

TABLE 13

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	42	42%
Agree	39	39%

Neutral	11	11%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

The data shows that 81% of respondents recognize the health and recreational benefits of natural features as factors that increase property values, consistent with environmental sustainability literature.

Source: Field Survey, 2025.

Question 9: Distance from green belts negatively affects property prices.

TABLE 14

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	40	40%
Agree	36	36%
Neutral	12	12%
Disagree	7	7%
Strongly Disagree	5	5%
Total	100	100%

A total of 76% of respondents agree that increasing distance from green belts reduces property prices, supporting findings that proximity to green spaces is a key driver of residential location preference.

Source: Field Survey, 2025.

Question 10: Natural features enhance the aesthetic appeal of neighborhoods, influencing property prices positively.

TABLE 15

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	44	44%
Agree	38	38%
Neutral	9	9%
Disagree	6	6%
Strongly Disagree	3	3%
Total	100	100%

The combined 82% agreement reflects the strong perception among respondents that natural features improve neighborhood aesthetics and thus positively affect property values, consistent with urban ecological research.

Source: Field Survey, 2025.

Question 11: Poor air quality reduces the demand for properties in affected areas.

TABLE 16

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	46	46%
Agree	37	37%
Neutral	9	9%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

A total of 83% of respondents agree that poor air quality negatively impacts property demand, which aligns with studies linking environmental pollution to reduced residential

desirability.

Source: Field Survey, 2025.

Question 12: Noise pollution from traffic or industrial sources decreases property values.

TABLE 17

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	41	41%
Agree	39	39%
Neutral	11	11%
Disagree	5	5%
Strongly Disagree	4	4%
Total	100	100%

The data shows that 80% of respondents concur that noise pollution lowers property values, consistent with findings on environmental burdens in urban areas.

Source: Field Survey, 2025.

Question 13: Residents are willing to pay more for properties in areas with good air quality.

TABLE 18

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	43	43%
Agree	38	38%
Neutral	10	10%
Disagree	6	6%
Strongly Disagree	3	3%
Total	100	100%

An 81% combined agreement indicates strong willingness among residents to pay premiums

for better air quality, supporting environmental valuation theories.

Source: Field Survey, 2025.

Question 14: Noise barriers or mitigation measures increase property desirability in noisy areas.

TABLE 19

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	39	39%
Agree	37	37%
Neutral	14	14%
Disagree	6	6%
Strongly Disagree	4	4%
Total	100	100%

A combined 76% agree that noise mitigation improves desirability, indicating potential policy interventions to enhance property values.

Source: Field Survey, 2025.

Question 15: Awareness of air and noise pollution influences buyers' property choices.

TABLE 20

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	44	44%
Agree	36	36%
Neutral	11	11%
Disagree	5	5%
Strongly Disagree	4	4%
Total	100	100%

The data shows that 80% of respondents believe awareness of pollution impacts buyer

decisions, highlighting the role of information in real estate markets.

Source: Field Survey, 2025.

Question 16: Properties in areas less prone to flooding or extreme weather have higher values.

TABLE 21

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	47	47%
Agree	38	38%
Neutral	8	8%
Disagree	4	4%
Strongly Disagree	3	3%
Total	100	100%

A combined 85% agree that climate resilience enhances property values, consistent with studies on climate risk and real estate.

Source: Field Survey, 2025.

Question 17: Climate variability (e.g., heavy rainfall or drought) affects the long-term value of properties.

TABLE 22

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	43	43%
Agree	37	37%
Neutral	12	12%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

The majority (80%) acknowledge that climate variability impacts property values, reflecting growing concerns about environmental sustainability.

Source: Field Survey, 2025.

Question 18: Buyers consider climate risks when deciding on property purchases.

TABLE 23

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	41	41%
Agree	39	39%
Neutral	12	12%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

A combined 80% agree that climate risk is a factor in buyer decisions, consistent with recent real estate market trends.

Source: Field Survey, 2025.

Question 19: Properties with climate-resilient features (e.g., drainage, insulation) command higher prices.

TABLE 24

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	44	44%
Agree	38	38%
Neutral	10	10%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

The data shows 82% agreement that climate-resilient features increase property values, supporting sustainable building practices.

Source: Field Survey, 2025.

Question 20: Climate conditions influence the desirability of different neighborhoods within Ilorin-East.

TABLE 25

RESPONSE	FREQUENCY	PERCENTAGE (%)
Strongly Agree	46	46%
Agree	37	37%
Neutral	9	9%
Disagree	5	5%
Strongly Disagree	3	3%
Total	100	100%

A combined 83% agree that climate conditions affect neighborhood desirability, highlighting spatial variation in environmental impacts.

Source: Field Survey, 2025.

4.2 ANALYSIS OF RESEARCH QUESTIONS

Research Question 1: What are the significant environmental factors affecting property values in Ilorin-East?

Tables 6, 7, 8, 9, and 10 provided answers to this question. As shown in Table 6, 40% of respondents strongly agreed and 38% agreed that air quality in the neighborhood significantly influences property values, while only 12% were neutral, 7% disagreed, and 3% strongly disagreed. Table 7 indicates that 36% strongly agreed and 41% agreed that noise pollution from nearby roads or industries lowers property desirability, with just 13% neutral and a combined 10% disagreeing. Table 8 reveals that access to clean water and sanitation facilities is considered important by 44% who strongly agreed and 39% who agreed, while only 10% were neutral, 5% disagreed, and 2% strongly disagreed. In Table 9, 39% strongly agreed and 37% agreed that the presence of waste disposal sites negatively impacts property values, with 12% neutral and a combined 12% disagreeing. Table 10 shows that 41%

strongly agreed and 42% agreed that overall environmental cleanliness influences buyers' willingness to pay more, while only 9% were neutral, 6% disagreed, and 2% strongly disagreed. These results demonstrate a strong consensus that air quality, noise pollution, sanitation, waste management, and cleanliness are significant environmental factors shaping property values in Ilorin-East.

Research Question 2: How does proximity to natural features influence residential property prices?

Tables 11, 12, 13, 14, and 15 provided answers to this question. Table 11 shows that 45% strongly agreed and 37% agreed that properties close to parks or green spaces have higher market values, while only 10% were neutral and a combined 8% disagreed. Table 12 reveals that proximity to rivers or lakes increases desirability for 38% who strongly agreed and 35% who agreed, with 15% neutral and 12% disagreeing. Table 13 indicates that 42% strongly agreed and 39% agreed that being near natural features provides health and recreational benefits that raise property values, while only 11% were neutral and 8% disagreed. Table 14 demonstrates that 40% strongly agreed and 36% agreed that distance from green belts negatively affects property prices, with 12% neutral and 12% disagreeing. Table 15 shows that 44% strongly agreed and 38% agreed that natural features enhance the aesthetic appeal of neighborhoods, with 9% neutral and 9% disagreeing. These findings confirm that proximity and access to natural features are widely perceived as positive contributors to property values in the study area.

Research Question 3: What is the impact of air quality and noise pollution on property desirability and valuation?

Tables 16, 17, 18, 19, and 20 provided answers to this question. Table 16 shows that 46%

strongly agreed and 37% agreed that poor air quality reduces the demand for properties in affected areas, with only 9% neutral and 8% disagreeing. Table 17 reveals that 41% strongly agreed and 39% agreed that noise pollution from traffic or industrial sources decreases property values, with 11% neutral and 9% disagreeing. Table 18 indicates that 43% strongly agreed and 38% agreed that residents are willing to pay more for properties in areas with good air quality, while 10% were neutral and 9% disagreed. Table 19 demonstrates that 39% strongly agreed and 37% agreed that noise barriers or mitigation measures increase property desirability in noisy areas, with 14% neutral and 10% disagreeing. Table 20 shows that 44% strongly agreed and 36% agreed that awareness of air and noise pollution influences buyers' property choices, while 11% were neutral and 9% disagreed. Collectively, these results highlight the substantial impact of air quality and noise pollution on both the desirability and valuation of residential properties.

Research Question 4: How do varying climate conditions influence property values across Ilorin-East?

Tables 21, 22, 23, 24, and 25 provided answers to this question. Table 21 shows that 47% strongly agreed and 38% agreed that properties in areas less prone to flooding or extreme weather have higher values, with only 8% neutral and 7% disagreeing. Table 22 reveals that 43% strongly agreed and 37% agreed that climate variability, such as heavy rainfall or drought, affects the long-term value of properties, while 12% were neutral and 8% disagreed. Table 23 indicates that 41% strongly agreed and 39% agreed that buyers consider climate risks when deciding on property purchases, with 12% neutral and 8% disagreeing. Table 24 demonstrates that 44% strongly agreed and 38% agreed that properties with climate-resilient features command higher prices, with 10% neutral and 8% disagreeing. Table 25 shows that

46% strongly agreed and 37% agreed that climate conditions influence the desirability of different neighborhoods within Ilorin- East, while 9% were neutral and 8% disagreed. These responses underscore the growing importance of climate conditions and resilience in real estate decision-making and valuation.

4.3 DISCUSSION OF FINDINGS

The findings of this study provide significant insights into the role of environmental factors in shaping property values in Ilorin-East Local Government Area, Kwara State. The data reveal a strong consensus among respondents that environmental quality-including air and water quality, noise pollution, sanitation, and overall cleanliness-has a direct and positive effect on property values. This supports the theoretical perspectives discussed in the literature, particularly the hedonic pricing model, which posits that property values are a function of various characteristics, including environmental attributes.

The study also confirms that proximity to natural features such as parks, rivers, lakes, and green belts is highly valued by property buyers and investors. Respondents overwhelmingly agreed that these features enhance the aesthetic appeal, recreational opportunities, and health benefits of neighborhoods, leading to higher property values. This aligns with empirical studies that highlight the importance of green spaces and natural amenities in urban residential preferences.

Air quality and noise pollution were found to be critical determinants of both property desirability and valuation. The majority of respondents indicated that poor air quality and excessive noise reduce demand and lower property prices, while good air quality and effective noise mitigation increase willingness to pay. These findings are consistent with research that emphasizes the negative externalities of environmental pollution on real estate

markets.

Furthermore, the study highlights the growing significance of climate conditions and resilience in property valuation. Respondents agreed that areas less prone to flooding or extreme weather, and properties with climate-resilient features, are more desirable and command higher prices. This reflects a broader awareness of climate risks and their impact on long-term property investment, echoing global trends in real estate markets.

Overall, the use of structured interviews and qualitative questionnaires facilitated a comprehensive exploration of stakeholder perceptions in Ilorin-East. The interpretivist approach adopted in this study enabled the capture of nuanced views, enriching the analysis of how environmental factors intersect with market dynamics. The findings validate the theoretical frameworks discussed and contribute to a deeper understanding of the environmental determinants of property values in emerging urban contexts. The results also suggest practical implications for urban planners, policymakers, and real estate professionals seeking to promote sustainable and resilient property markets in Ilorin-East.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 SUMMARY OF FINDINGS

This study examined the impact of environmental factors on property values in Ilorin-East Local Government Area, Kwara State, revealing several important findings that underscore the critical role of environmental quality in real estate valuation. The analysis of data collected from 100 respondents showed that environmental quality indicators such as air quality, noise pollution, access to clean water, sanitation, and overall environmental cleanliness are significant determinants of property values. A majority of respondents agreed that better environmental conditions lead to increased property desirability and higher market prices. This aligns with findings from Cellmer, Senetra, and Szczepańska (2012), who identified greenery, surface water, noise impacts, and landscape features as key environmental factors influencing property prices, emphasizing that human preference for high-quality living environments directly affects real estate markets.

Furthermore, proximity to natural features including parks, rivers, lakes, and green belts was perceived to substantially enhance property values. Respondents noted that properties located near these natural amenities benefit from aesthetic appeal, recreational opportunities, and associated health benefits, while distance from such features negatively impacts property prices. This finding resonates with studies by Cellmer et al. (2012) and others, which highlight the premium placed on scenic and recreational attributes in property valuation. The presence of natural elements not only improves the visual and environmental quality of neighborhoods but also contributes to residents' well-being, thereby increasing the attractiveness and market value of properties.

The study also revealed that air quality and noise pollution have a profound impact on property desirability and valuation. Poor air quality and excessive noise were found to reduce demand and depress property values, whereas good air quality and effective noise mitigation measures enhance desirability and willingness to pay. This is consistent with the broader literature on environmental externalities and real estate, which demonstrates that pollution and noise negatively affect housing markets by diminishing the quality of life and increasing health risks (Cellmer et al., 2012). Awareness of these environmental factors among buyers further influences their property choices, indicating the importance of environmental information in real estate decision-making.

Climate conditions emerged as another significant factor affecting property values. Respondents acknowledged that climate variability, including susceptibility to flooding and extreme weather events, influences property prices. Properties located in climate-resilient areas or featuring climate-adaptive designs command higher prices, reflecting growing buyer sensitivity to climate risks and the increasing importance of sustainability in property markets. This finding aligns with recent research emphasizing the economic implications of climate change on real estate values, where resilience and risk mitigation are becoming critical determinants of market performance (First Street Foundation, 2025).

Overall, the findings of this study affirm that environmental factors play a crucial role in shaping property values in Ilorin-East Local Government Area. These results support the theoretical frameworks of hedonic pricing and environmental justice, which explain how environmental attributes are valued by consumers and how disparities in environmental quality can influence market outcomes. By integrating these perspectives, the study contributes to a deeper

understanding of the complex interactions between environmental quality, social equity, and real estate economics in emerging urban contexts.

5.2 CONCLUSION

The study concludes that environmental quality and its associated factors play a pivotal and indispensable role in determining property values within Ilorin-East Local Government Area. Specifically, enhancements in key environmental attributes such as improved air and water quality, effective noise reduction measures, increased access to green spaces, and the incorporation of climate resilience features collectively contribute to heightened property desirability and elevated market prices. These positive environmental conditions create healthier, more attractive, and more sustainable living environments, which are highly valued by residents, investors, and other stakeholders in the real estate market. On the other hand, the presence of environmental hazards-including various forms of pollution (air, water, and soil), inadequate sanitation infrastructure, and escalating climate-related risks such as flooding and extreme weather events-tend to depress property values significantly. Such environmental challenges not only reduce the attractiveness of affected neighborhoods but also limit investment potential by increasing perceived risks and costs associated with property ownership and maintenance.

The findings of this study underscore the urgent need for integrated urban planning and comprehensive environmental management strategies that prioritize sustainable development goals while ensuring the equitable distribution of environmental benefits across all communities within Ilorin-East. Sustainable urban planning should incorporate proactive measures that mitigate pollution, enhance green infrastructure, and build climate resilience into the fabric of the city's development. Such strategies are essential to reversing the

negative impacts of environmental degradation and to fostering neighborhoods that support healthy living, social equity, and economic vitality. By addressing these environmental challenges holistically, policymakers and planners can not only enhance property values but also significantly improve the overall quality of life for residents. Improved environmental conditions contribute to better public health outcomes, greater social cohesion, and increased community satisfaction, all of which are critical components of sustainable urban growth.

Furthermore, the promotion of environmental quality and resilience is likely to stimulate long-term economic growth in the region by attracting new investments, supporting real estate development, and encouraging population retention and growth. As property values rise in response to better environmental conditions, local governments can benefit from increased revenue through property taxes, which can be reinvested into further environmental and infrastructural improvements. This virtuous cycle of environmental enhancement and economic development is vital for the sustainable transformation of Ilorin-East into a more livable, resilient, and prosperous urban area. Therefore, the study advocates for collaborative efforts among government agencies, private sector actors, community organizations, and residents to implement policies and initiatives that safeguard and improve environmental quality, thereby securing a sustainable future for the region's real estate market and its inhabitants.

5.3 RECOMMENDATION

Based on the findings and conclusions, the following recommendations are proposed:

1. **Enhance Environmental Quality:** Local government and relevant agencies should implement policies to improve air and water quality, reduce noise pollution, and

ensure effective waste management and sanitation services in Ilorin-East.

2. **Preserve and Develop Green Spaces:** Urban planners should prioritize the preservation of existing parks and green belts and develop new natural amenities to increase property values and promote healthy living environments.
3. **Promote Climate-Resilient Infrastructure:** Encourage the adoption of climate-adaptive building designs and infrastructure, including flood control systems and energy-efficient features, to mitigate climate risks and enhance property market stability.
4. **Raise Public Awareness:** Conduct educational campaigns to increase awareness among residents, property buyers, and investors about the importance of environmental quality and climate resilience in property valuation.
5. **Inclusive Urban Planning:** Ensure that environmental justice principles guide urban development to prevent marginalized communities from bearing disproportionate environmental burdens and to promote equitable access to environmental benefits.

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APPENDIX I

QUESTIONNAIRE

Kwara State Polytechnic, Ilorin. Institute of Environmental Studies (IES) Estate Management and Valuation Department.

Dear Respondent,

This questionnaire is designed to raise relevant information on the *"Analysis of The Impact of Environmental Factors on Property Values (A Case Study of Ilorin-East, Kwara State)"*.

Your response is needed.

All information supplied shall be used mainly for academic and education purpose only. Thanks.

Instruction: Please tick () as applicable to you. SECTION A: DEMOGRAPHIC INFORMATION

Age: Under 25 () 25-34 () 35-44 () 45-54 () 55 and above ()

Gender: Male () Female () Prefer not to say ()

Occupation: Real estate professional () Homeowner () Investor () Others (please specify) _____

Length of residence or involvement in Ilorin-East Local Government Area:

Less than 1 year () 1-3 years () 4-6 years () More than 6 years ()

Level of education: Secondary school or below () Diploma/Certificate () Bachelor's degree () Postgraduate degree ()

SECTION B: ENVIRONMENTAL FACTORS AND PROPERTY VALUES

S/N	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Air quality in the neighborhood significantly influences property values.	☐	☐	☐	☐	☐
2	Noise pollution from nearby roads or industries lowers property desirability.	☐	☐	☐	☐	☐
3	Access to clean water and sanitation facilities affects property prices.	☐	☐	☐	☐	☐
4	The presence of waste disposal sites negatively impacts property values.	☐	☐	☐	☐	☐
5	The overall environmental cleanliness of the area influences buyers' willingness to pay more.	☐	☐	☐	☐	☐
6	Properties close to parks or green spaces have higher market values.	☐	☐	☐	☐	☐
7	Proximity to rivers or lakes increases the desirability of residential properties.	☐	☐	☐	☐	☐

8	Being near natural features provides health and recreational benefits that raise property values.	☐	☐	☐	☐	☐
9	Distance from green belts negatively affects property prices.	☐	☐	☐	☐	☐
10	Natural features enhance the aesthetic appeal of neighborhoods, influencing property prices positively.	☐	☐	☐	☐	☐
11	Poor air quality reduces the demand for properties in affected areas.	☐	☐	☐	☐	☐
12	Noise pollution from traffic or industrial sources decreases property values.	☐	☐	☐	☐	☐
13	Residents are willing to pay more for properties in areas with good air quality.	☐	☐	☐	☐	☐
14	Noise barriers or mitigation measures increase property desirability in noisy areas.	☐	☐	☐	☐	☐
15	Awareness of air and noise pollution influences buyers' property choices.	☐	☐	☐	☐	☐
16	Properties in areas less prone to flooding or extreme weather have higher values.	☐	☐	☐	☐	☐
17	Climate variability (e.g., heavy rainfall or drought) affects the long-term value of properties.	☐	☐	☐	☐	☐
18	Buyers consider climate risks when deciding on property purchases.	☐	☐	☐	☐	☐
19	Properties with climate-resilient features (e.g., drainage, insulation) command higher prices.	☐	☐	☐	☐	☐
20	Climate conditions influence the desirability of different neighborhoods within Ilorin-East.	☐	☐	☐	☐	☐