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PUBLIC PERCEPTION ON ENVIRONMENTAL QUALITY FOR SUSTAINABLE COMMERCIAL PROPERTY INVESTMENT IN SOUTH-EAST GEO-POLITICAL ZONE OF NIGERIA

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ABSTRACT

This study examined public perception of environmental quality for sustainable commercial property investment in the South-East Geo-Political Zone of Nigeria, with focus on Aba, Owerri, and Onitsha. The study was motivated by increasing environmental challenges associated with rapid urbanization, flooding, poor waste management, traffic congestion, and inadequate infrastructure within major commercial centres in the region. A descriptive survey research design using quantitative survey methods was adopted. Primary data were collected through structured questionnaires administered to estate surveyors and valuers, property developers, investors, residents, business operators, and environmental professionals. Out of 360 questionnaires distributed, 300 valid responses were retrieved and analysed, representing an 83.3% response rate. Descriptive statistical tools, including frequency distribution, mean score, standard deviation, and Relative Importance Index (RII), were employed for data analysis. The findings revealed that environmental quality significantly influences sustainable commercial property investment within the study area. Effective drainage systems, road infrastructure, waste management, sanitation, accessibility, and security conditions were identified as major determinants of investment attractiveness and property performance. The study further identified sustainable urban planning, green building practices, renewable energy systems, stronger environmental regulations, and public-private partnerships as essential strategies for improving environmental sustainability in commercial property development. The study concluded that improved environmental management and infrastructure provision are critical for enhancing sustainable commercial property investment in South-East Nigeria.

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Keywords: Commercial Property, Environmental Quality, Property Investment, Sustainable Development, Urban Infrastructure.

1.0 INTRODUCTION

Environmental quality has become one of the most important factors influencing sustainable urban development and commercial property investment globally. Omoragbon et al. (2023) observed that rapid urbanization, industrialization, climate change, and population growth have increased pressure on urban environments, thereby creating environmental challenges that affect real estate sustainability and economic productivity. Environmental quality refers to the condition of the physical, social, and ecological environment in which human and economic activities occur. It includes factors such as sanitation, waste management, drainage systems, transportation networks, accessibility, air and water quality, infrastructure, security, and urban planning (Freeman, 2003). Commercial property investment involves the acquisition, development, management, and leasing of properties used for business purposes, including office buildings, shopping complexes, hotels, retail outlets, markets, and warehouses (Makata et al., 2025). Sustainable commercial property investment focuses on long-term investment performance while promoting environmental protection, efficient resource utilization, and improved urban living conditions. Consequently, environmental sustainability has become a major consideration in investment decisions because environmental conditions directly influence property values, rental income, occupancy rates, and investor confidence (Ifediora and Igwenagu, 2024).

Globally, environmental quality is recognized as a key determinant of real estate market performance and urban competitiveness. Studies in Europe and North America revealed that commercial properties located in environmentally sustainable areas generally command higher rental values, improved occupancy rates, and stronger investment returns than properties situated in environmentally degraded environments (Freeman, 2003; Rosen, 1974). The increasing awareness of climate change and environmental sustainability has encouraged governments and investors to adopt green building practices, smart infrastructure systems, and environmentally friendly urban development policies.In developing countries, particularly in Africa, rapid urban growth and weak planning systems have contributed significantly to environmental degradation and infrastructure deficiencies (Ogunbode et al., 2023). Many urban centres experience flooding, erosion, traffic congestion, poor waste management, air pollution, and inadequate drainage systems, all of which negatively affect property market performance and investment sustainability (Mesagan and Nwachukwu, 2018). In Nigeria, rapid urbanization and increasing commercial activities have intensified environmental challenges within major cities and regional commercial centres (Ugwuejim and Otegbulu, 2024; Effiong and Ogbuefi, 2021). The South East Region, comprising Abia, Anambra, Ebonyi, Enugu, and Imo States, has witnessed significant growth in commercial property development due to population growth, industrialization, and urban

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expansion. Cities such as Aba, Onitsha, Enugu, Owerri, and Awka have become important commercial hubs attracting both local and foreign investments. However, the rapid growth of these urban centres has also resulted in flooding, poor drainage systems, traffic congestion, pollution, and inadequate waste management systems, which negatively affect accessibility, business productivity, and property market attractiveness.

Studies have shown that infrastructure quality and environmental conditions significantly influence commercial property values and investment decisions in Nigeria. Makata et al. (2025) found that road quality, drainage systems, electricity supply, water infrastructure, security, and internet connectivity significantly influence commercial property rental performance and investment sustainability in South East Nigeria. Similarly, Afolabi et al. (2025) observed that awareness and perception of sustainability feature positively influence commercial property valuation and investment decisions in Nigeria.

Despite the increasing importance of environmental sustainability in property investment, there remains limited empirical research focusing specifically on public perception of environmental quality for sustainable commercial property investment in South East Nigeria. Most previous studies concentrated on infrastructure, property valuation, or investment performance without adequately examining how public perception influences sustainable commercial property investment decisions in the region. Therefore, this study seeks to examine public perception of environmental quality for sustainable commercial property investment in South East Nigeria.

1.1 Statement of the Problem

Poor environmental quality characterized by flooding, pollution, inadequate infrastructure, and poor waste management continues to threaten sustainable commercial property investment in South East Nigeria. Urban centres within South East Nigeria: Aba, Onitsha, Enugu, Owerri, and Awka have experienced environmental problems including flooding, poor waste disposal, traffic congestion, erosion, air pollution, and inadequate urban infrastructure. These problems negatively affect property investment sustainability and urban economic productivity. Despite increasing urbanization, limited studies have examined how public perception of environmental quality influences commercial property investment decisions and long-term sustainability in the region. This study therefore seeks to bridge this gap by assessing how public perception of environmental quality on sustainable commercial property investment and identifying strategies for improving environmental sustainability in development of the region.

2.0 LITERATURE REVIEW

2.1. Public Perception of Environmental Quality for Sustainability

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Environmental quality has become a major issue in sustainable urban development and commercial property investment globally. It refers to the condition of the physical, social, and ecological environment in which human and economic activities occur (Hussaini, Maina and Lawan, 2025). Environmental quality encompasses factors such as sanitation, waste management, drainage systems, transportation infrastructure, air and water quality, accessibility, security, and urban planning (Freeman, 2003). Good environmental quality promotes healthy living, business productivity, and sustainable property investment, while poor environmental conditions reduce the attractiveness and value of commercial properties.Commercial property investment involves the acquisition, development, leasing, and management of properties used for business activities, including office buildings, shopping complexes, hotels, markets, and retail centres (Babawale and Oyalowo, 2011). Sustainable commercial property investment focuses on achieving long-term profitability while ensuring environmental protection and efficient resource utilization. In recent years, environmental sustainability has become an important factor influencing investment decisions because investors increasingly consider environmental risks and sustainability issues before committing resources to real estate development (Ifediora and Igwenagu, 2024).Public perception also plays a significant role in environmental sustainability and commercial property investment (Hussaini, Maina and Lawan, 2025). Public perception refers to the attitudes, opinions, awareness, and understanding of individuals regarding environmental quality and sustainability issues. Investors, tenants, residents, and business operators often assess environmental conditions before making investment decisions. According to Ifediora and Igwenagu (2024), areas perceived as environmentally clean, secure, accessible, and properly planned usually attract stronger commercial activities and higher property values than environmentally degraded locations.

Globally, several studies have shown that environmental quality significantly influences commercial property values and urban economic growth. Rosen (1974), through the Hedonic Pricing Theory, explained that environmental and infrastructural characteristics such as accessibility, sanitation, transportation systems, and environmental quality influence property values and market demand. Similarly, Freeman (2003) argued that environmental quality contributes significantly to urban competitiveness and sustainable economic development. In developed countries such as United States, Canada, and United Kingdom, sustainable buildings and green commercial developments have gained increasing attention due to climate change concerns and stricter environmental regulations (Jakada and Mahmood, 2020). Studies in these countries indicate that environmentally sustainable commercial buildings often command higher rental values, improved occupancy rates, lower operational costs, and stronger investment returns (Adeyemo, 2024). Similarly, Yakubu and Usman (2025) and Jakada, Marmara, Mahmood, Ahmad and Ibrahim (2022) noted that renewable energy systems, green roofs, water recycling systems, and energy-efficient designs are increasingly integrated into commercial property developments.

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In Africa, rapid urbanization and inadequate infrastructure have contributed to environmental degradation and unsustainable property development. Many cities experience flooding, erosion, traffic congestion, pollution, and poor waste management systems (Omoragbon, Al-Maiyah and Coates, 2023). In Nigeria, rapid urban growth, poor infrastructure, ineffective waste management, flooding, and weak planning systems have negatively affected commercial property markets (Obayomi, Oyeyoade, Ayorinde and Odebode, 2025). Cities in South East Nigeria, including Aba, Onitsha, Enugu, Awka, and Owerri, increasingly experience environmental challenges associated with rapid urbanization and population growth.

Empirical studies in Nigeria have further shown that environmental quality and sustainability significantly influence property investment decisions. Babawale and Oyalowo (2011) found growing awareness of sustainability features in Nigerian real estate valuation practices. Similarly, Adeyemo (2024) identified transportation accessibility, durable building materials, and space efficiency as major sustainability factors influencing property values. Furthermore, Afolabi et al. (2025) reported that sustainability awareness positively influences commercial property valuation and investment decisions in Nigeria. Other studies by Makata et al. (2025), Effiong and Ogbuefi (2021), and Ugwuejim and Otegbulu (2024) also emphasized that infrastructure quality, environmental conditions, accessibility, and security significantly affect commercial property market performance and sustainable investment decisions in Nigeria.

2.2 Strategies for Improving Environmental Sustainability

Environmental sustainability in commercial property development involves the adoption of practices that minimize environmental degradation while promoting efficient resource utilization, healthy urban environments, and long-term investment performance. Ifediora and Igwenagu(2025) observed that sustainable commercial property development has become increasingly important due to climate change, urban pollution, rising energy costs, and growing environmental awareness. Globally, several strategies have been adopted to improve environmental sustainability in commercial property development, including green building practices, renewable energy systems, sustainable urban planning, efficient waste management, water conservation systems, smart infrastructure, and environmentally friendly construction materials (Hussaini, Maina and Lawan, 2025).Green building development remains one of the major strategies for improving environmental sustainability in commercial property investment. Green buildings are designed to reduce energy consumption, conserve water resources, improve indoor environmental quality, and minimize environmental pollution (Afolabi, Nwosu and Thomas, 2025). Adeyemo (2024) further explained that sustainable commercial buildings commonly incorporate features such as solar panels, rainwater harvesting systems, energy-efficient lighting, natural ventilation, green roofs, and recycling systems. Similarly, Ogunbode, Jazat and Akande (2023) noted that green building

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practices improve property performance, reduce operational costs, and enhance environmental sustainability, while also increasing tenant satisfaction and long-term property values.

In developed countries, governments promote sustainable commercial property development through environmental regulations, tax incentives, green certification systems, and effective urban planning policies (Uche and Effiom, 2021). Many cities now integrate climate resilience and sustainability strategies into urban planning systems (Ifediora and Igwenagu, 2024). In Nigeria, however, the adoption of sustainable commercial property practices remains relatively low due to inadequate awareness, high development costs, weak environmental policies, and poor infrastructure (Obayomi, Oyeyoade, Ayorinde and Odebode, 2025). Consequently, Afolabi et al. (2025) recommended the incorporation of renewable energy systems, water efficiency systems, green infrastructure, and indoor environmental quality measures into commercial property development and valuation practices in Nigeria. Furthermore, Oladokun and Shiyanbola (2021), in a study conducted in Lagos State, found that property users increasingly demand environmentally sustainable features because of their benefits in reducing operational costs and improving environmental performance. Similarly, Omoragbon et al. (2023) identified energy efficiency systems, sustainable building materials, environmental monitoring systems, and improved building management practices as important strategies for improving sustainability in commercial property development. In addition, Ifediora and Igwenagu (2025) emphasized the importance of integrating Environmental, Social, and Governance (ESG) principles into real estate investment and valuation practices to enhance long-term investment sustainability and market competitiveness.

Other important strategies for improving environmental sustainability in commercial property development include effective urban planning, proper drainage systems, improved transportation networks, waste recycling systems, flood control measures, environmental awareness campaigns, and stricter enforcement of environmental regulations (Makata, Emoh and Igwe, 2025). In South East Nigeria, Egbenta, Uchegbu, Ubani and Akalemeaku (2021) stressed that improving drainage systems, road infrastructure, waste management systems, and urban sanitation is essential for promoting sustainable commercial property investment. These measures are particularly necessary in Aba, Onitsha, and Owerri, where flooding, erosion, traffic congestion, and poor waste disposal continue to affect commercial property performance and environmental quality.Despite these contributions, there remains limited empirical research specifically examining public perception of environmental quality as a determinant of sustainable commercial property investment in South East Nigeria. Most previous studies focused on property valuation, infrastructure, or sustainability awareness without adequately addressing public perception and its influence on sustainable commercial property investment within the region.

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3.0 RESEARCH METHODOLOGY

The study on public perception of environmental quality for sustainable commercial property investment was conducted in the South East Region of Nigeria. The study area comprised selected urban centres within the region, namely Aba, Onitsha, and Owerri. These cities were selected due to their increasing commercial activities and growing urbanization challenges.The study adopted a descriptive survey research design using quantitative survey methods, which enabled the collection of data directly from respondents regarding their perceptions of environmental quality and sustainable commercial property investment. Primary data were obtained through the administration of 360 copies of structured questionnaires, out of which 300 copies were successfully retrieved, representing an 83.3% response rate. The retrieved questionnaires comprised 108 from Aba, 82 from Owerri, and 110 from Onitsha.Secondary data were sourced from textbooks, journal articles, conference papers, government publications, and online databases. A simple random sampling technique was employed to select the 300 respondents, comprising 30 estate surveyors and valuers, 40 property developers, 30 property investors, 120 residents, 60 business operators, and 20 environmental professionals. This was done to ensure adequate representation of respondents across the selected professional groups and study locations.The questionnaire was structured using a five-point Likert scale ranging from Strongly Agree to Strongly Disagree. Data collected from the quantitative survey were analyzed using descriptive statistical tools, including frequency distribution tables, mean score analysis, standard deviation, and relative importance index (RII). The results were presented in tables and interpreted in line with the study objectives.

4.0 RESULTS AND DISCUSSION

4.1. Public Perception of Environmental Quality

Table 4.1 showed public perception of environmental quality for sustainable commercial property investment in South East Nigeria.

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Table 4.1: Public Perception of Environmental Quality

Variables	SA	A	U	D	SD	Mean	Std. Dev.	RII	Rank
Good road infrastructure enhances commercial property investment sustainability	142	108	24	16	10	4.19	0.97	0.838	2nd
Effective drainage systems improve commercial property attractiveness	156	102	18	14	10	4.27	0.94	0.854	1st
Poor waste management negatively affects commercial property investment	138	112	22	18	10	4.17	0.98	0.834	3rd
Flooding reduces the sustainability of commercial property investment	134	110	28	16	12	4.13	1.01	0.826	4th
Security condition influences commercial property investment decisions	126	118	26	18	12	4.09	1.00	0.818	5th
Environmental pollution reduces property value and investment returns	120	116	30	20	14	4.03	1.04	0.806	6th
Access to reliable electricity supply supports commercial property development	118	114	32	22	14	4.00	1.05	0.800	7th
Clean and healthy environments attract more business activities	112	118	34	20	16	3.97	1.06	0.794	8th
Traffic congestion negatively affects commercial property sustainability	108	116	36	24	16	3.92	1.08	0.784	9th
Public perception of environmental quality influences investment confidence	106	114	38	24	18	3.89	1.09	0.778	10th

Decision Rule: *Mean score above 3.00 & RII above 0.60 indicates agreement among respondents.*

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The findings presented in Table 4.1 revealed that respondents strongly agreed that environmental quality significantly influences sustainable commercial property investment in South East Nigeria. All the variables recorded mean values above the benchmark mean of 3.00, indicating positive agreement among respondents. The highest ranked factor was effective drainage systems and flood control measures, with a mean score of 4.27, standard deviation of 0.94, and relative importance index (RII) of 0.854. This finding indicates that respondents considered drainage infrastructure as the most important environmental quality factor influencing sustainable commercial property investment within the study area. The result reflects the current realities in Aba, Owerri, and Onitsha, where flooding caused by blocked drainage systems, indiscriminate waste disposal, and uncontrolled urban expansion continues to disrupt commercial activities and reduce investment sustainability. Flooding in major commercial districts and market areas often damages properties, increases maintenance costs, and discourages investors from committing resources to affected locations.

Good road infrastructure and accessibility were ranked second, with a mean score of 4.19 and RII of 0.838. Respondents emphasized that transportation infrastructure and accessibility are critical determinants of commercial property sustainability because commercial activities depend heavily on mobility and efficient movement of goods and people. In Aba and Onitsha particularly, deteriorated roads, traffic congestion, and inadequate parking facilities negatively affect business operations and reduce the attractiveness of commercial locations. Similarly, poor connectivity in parts of Owerri limits access to emerging commercial areas and affects urban productivity. This finding supports Makata et al. (2025), who reported that road infrastructure, accessibility, and urban services significantly influence commercial property rental values and investment performance in South East Nigeria.The findings further showed that poor waste management and environmental sanitation are major environmental challenges affecting sustainable commercial property investment, with a mean score of 4.17 and RII of 0.834. Respondents agreed that indiscriminate waste disposal, blocked drainage channels, and poor sanitation practices create unhealthy and unattractive environments that reduce property values and discourage commercial activities. In many commercial centres within Aba, Owerri, and Onitsha, accumulated waste around markets and road corridors contributes significantly to flooding, environmental pollution, and public health concerns. This finding agrees with Ogunbode et al. (2023), who found that environmental quality significantly affects urban productivity and sustainable economic development in Nigeria.

Flooding was also identified as a major environmental challenge affecting sustainable commercial property investment, with a mean score of 4.13 and RII of 0.826. Respondents perceived flood-prone locations as less attractive for long-term commercial property investment because flooding disrupts accessibility, damages infrastructure, and reduces business productivity. The recurring

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flood incidents experienced in commercial districts within Aba, Owerri, and Onitsha therefore highlight the urgent need for improved drainage systems, flood control infrastructure, and sustainable urban planning measures to enhance investment confidence and environmental sustainability.The study further revealed that environmental pollution, security conditions, electricity supply, and clean environmental conditions significantly influence commercial property investment decisions. Pollution arising from traffic congestion, industrial activities, noise, and poor waste management reduces environmental attractiveness and lowers investor confidence. Areas perceived as environmentally degraded often experience declining commercial demand and lower property values compared to cleaner and better-managed locations. Similarly, respondents considered security conditions as important determinants of sustainable commercial property investment because investors and business operators generally prefer locations with safe and stable environments that support business continuity and higher occupancy rates.

The findings also indicated that public perception of environmental quality directly affects investor confidence and sustainable commercial property development within the South East Region. Investors tend to prefer areas with efficient infrastructure, cleaner environments, and effective urban management because such locations provide better economic opportunities, improved urban functionality, and long-term investment security. This finding aligns with Afolabi et al. (2025), who observed that awareness and perception of sustainability features positively influence commercial property valuation and investment decisions in Nigeria. The findings further support Rosen (1974), whose Hedonic Pricing Theory explains that environmental and infrastructural characteristics significantly influence property values and market demand. Similarly, Freeman (2003) emphasized that environmental quality contributes significantly to urban competitiveness, economic productivity, and sustainable development.Generally, the relatively low standard deviation values recorded across the variables indicate consistency in respondents' opinions regarding the influence of environmental quality on commercial property investment sustainability. The findings implied that improving environmental conditions through better drainage systems, effective waste management, enhanced road infrastructure, stronger security systems, pollution control measures, and sustainable urban planning will significantly improve investor confidence, commercial property values, business productivity, and sustainable commercial property investment in Aba, Owerri, and Onitsha.

4.2. Strategies for Improving Environmental Sustainability

Table 4.2 showed strategies for improving environmental sustainability in commercial property development in South East Nigeria.

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Table 4.2: Strategies for Improving Environmental Quality

Variables	SA	A	U	D	SD	Mean	Std. Dev.	RII	Rank
Improvement of drainage systems and flood control measures	160	100	18	14	8	4.30	0.91	0.860	1st
Provision of good road infrastructure and accessibility	152	104	20	14	10	4.25	0.94	0.850	2nd
Effective waste management and sanitation programs	148	102	24	16	10	4.21	0.96	0.842	3rd
Adoption of green building designs and sustainable materials	138	110	24	18	10	4.16	0.98	0.832	4th
Strengthening environmental regulations and enforcement	134	108	30	18	10	4.13	0.99	0.826	5th
Provision of reliable electricity and water supply	130	106	32	20	12	4.07	1.02	0.814	6th
Public awareness and environmental sustainability education	124	108	34	20	14	4.03	1.04	0.806	7th
Encouraging public-private partnership in urban development	118	112	36	20	14	4.00	1.05	0.800	8th
Adoption of renewable energy systems in commercial properties	114	110	38	22	16	3.95	1.07	0.790	9th
Improved urban planning and development control measures	110	112	40	22	16	3.93	1.08	0.786	10th

Decision Rule: *Mean score above 3.00/RII above 0.60 indicates agreement among respondents.*

As presented in Table 4.2, the majority of respondents (mean >3.00) agreed that several environmental sustainability strategies are necessary for improving sustainable commercial property development in South East Nigeria. The highest ranked strategy was the improvement of drainage systems and flood control measures, with a mean score of 4.30, standard deviation of 0.91, and relative importance index (RII) of 0.860. This finding indicates that respondents considered effective drainage infrastructure and flood mitigation as critical requirements for enhancing environmental sustainability in commercial property development. The result reflects

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the present realities in Aba, Owerri, and Onitsha, where recurrent flooding, blocked drainage channels, and uncontrolled urban expansion continue to disrupt commercial activities and reduce property investment sustainability. Flood incidents in major commercial districts and markets within these cities frequently increase maintenance costs, discourage investors, and negatively affect property values and business operations.

The provision of good road infrastructure and accessibility was ranked second, with a mean score of 4.25 and RII of 0.850. Respondents emphasized that efficient transportation systems are essential for sustainable commercial property investment and urban productivity. In Aba and Onitsha, deteriorating road conditions, traffic congestion, and inadequate parking facilities continue to affect the movement of goods and people within major commercial corridors, while poor road connectivity in parts of Owerri limits accessibility to emerging business locations. Sustainable road infrastructure therefore improves accessibility, enhances economic activities, and supports long-term urban growth. This finding supports the study of Yakubu and Usman (2025), who reported that road infrastructure development positively influences commercial property investment returns and urban economic growth in Nigeria.

Effective waste management and sanitation programmes were also identified as important sustainability strategies, with a mean score of 4.21 and RII of 0.842. The finding reflects the increasing environmental challenges associated with indiscriminate waste disposal and poor sanitation practices across commercial centres in Aba, Owerri, and Onitsha. Accumulated waste around markets, drainage channels, and road corridors contributes significantly to flooding, environmental pollution, and public health risks, thereby reducing the attractiveness of commercial properties. Respondents therefore considered proper waste management systems and environmental sanitation as necessary for creating healthier and more sustainable urban commercial environments. This finding agrees with Ogunbode et al. (2023), who found that environmental quality significantly affects urban sustainability and economic productivity in Nigeria.

The adoption of green building designs and sustainable construction materials was ranked fourth, with a mean score of 4.16 and RII of 0.832. This finding indicates growing awareness among stakeholders regarding environmentally friendly construction practices. In rapidly urbanising cities such as Aba, Owerri, and Onitsha, many commercial developments still rely on conventional building systems that consume high levels of energy and contribute to environmental degradation. Respondents therefore emphasized the need for green building features such as renewable energy technologies, energy-efficient systems, natural ventilation, water conservation systems, and sustainable building materials to reduce operational costs and improve environmental performance. This finding supports Afolabi et al. (2025), who observed that sustainability features positively influence commercial property valuation and investment decisions in Nigeria.The study

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further revealed that strengthening environmental regulations and enforcement is critical for improving sustainability in commercial property development, with a mean score of 4.13 and RII of 0.826. Weak implementation of planning regulations, poor development control, and ineffective environmental governance continue to contribute to indiscriminate construction activities and unsustainable urban growth across the study area. In Aba and Onitsha particularly, congestion arising from unregulated commercial developments and street trading exerts pressure on urban infrastructure and environmental resources. Respondents therefore stressed the need for stronger environmental policies, effective urban planning systems, and improved regulatory enforcement to guide sustainable commercial property development.

Other important sustainability strategies identified by respondents include improved electricity and water supply, renewable energy systems, public-private partnerships, environmental awareness campaigns, and effective urban planning measures. Public awareness programmes can improve environmental consciousness among developers, investors, and residents, while public-private partnerships can support infrastructure provision and sustainable urban renewal initiatives. The findings are consistent with Omoragbon et al. (2023), who identified energy efficiency systems, sustainable building materials, and environmental monitoring systems as important strategies for sustainable building development in Nigeria. Similarly, Ifediora and Igwenagu (2024) emphasized the importance of Environmental, Social, and Governance (ESG) principles in achieving sustainable real estate investment performance, while Hussaini et al. (2025) noted that ecological finance and sustainable environmental management practices significantly improve long-term sustainability within the Nigerian real estate sector.However, the low standard deviation values recorded across the variables indicate consistency in respondents' opinions regarding the strategies for improving environmental sustainability in commercial property development. The findings imply that sustainable commercial property investment in South East Nigeria requires integrated environmental management practices, improved infrastructure, stronger policy implementation, and increased stakeholder participation to address the environmental and infrastructural challenges confronting Aba, Owerri, and Onitsha.

5.0 CONCLUSION AND RECOMMENDATIONS

(a). Conclusion

Environmental quality has become a major issue in sustainable urban development and commercial property investment in the South-East Geo-Political Zone of Nigeria. The study found that public perception of environmental quality has significantly influenced sustainable commercial property investment. Environmental conditions such as drainage systems, road infrastructure, waste management, sanitation, accessibility, security, and urban planning were perceived by respondents as critical determinants of investment attractiveness, property values,

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and business sustainability. The findings showed that investors, business operators, residents, and property stakeholders generally prefer locations with clean, accessible, secure, and environmentally sustainable conditions because such environments promote business productivity and long-term investment confidence.The study further established that flooding remains one of the most serious environmental challenges affecting sustainable commercial property investment in Aba, Owerri, and Onitsha. Poor drainage systems, blocked waterways, indiscriminate waste disposal, and uncontrolled urban development continue to increase the vulnerability of commercial districts to flooding and erosion. Recent environmental incidents, including severe flooding and gully erosion affecting the Onitsha–Owerri corridor and flood-prone areas within Aba and Owerri, further highlight the urgent need for sustainable environmental management and infrastructure improvement within the region.

The study also resolved that sustainable commercial property investment in South-East Nigeria cannot be achieved without integrated environmental sustainability strategies. Effective drainage systems, improved transportation networks, proper waste management systems, green building practices, renewable energy adoption, and stronger environmental regulations are necessary for promoting sustainable urban growth and enhancing commercial property performance. Furthermore, public awareness, stakeholder collaboration, and effective urban governance are essential for addressing the environmental and infrastructural challenges confronting major commercial cities within the region.Generally, the study established that improving environmental quality will significantly enhance investor confidence, commercial property values, business productivity, and sustainable urban development in Aba, Owerri, and Onitsha. The study therefore emphasized the need for proactive environmental management policies and sustainable infrastructure development to ensure long-term commercial property investment sustainability within the South-East Region of Nigeria.

(b). Recommendations

1. Based on the findings that public perception of environmental quality significantly influences sustainable commercial property investment in South-East Nigeria, the study recommends that government agencies, urban planners, and environmental management authorities should improve environmental conditions through effective drainage systems, proper waste management, improved road infrastructure, enhanced security, and sustainable urban planning measures in major commercial cities such as Aba, Owerri, and Onitsha in order to strengthen investor confidence, improve commercial property values, and promote sustainable urban development.
2. Based on the findings on strategies for improving environmental sustainability in commercial property development in South-East Nigeria, the study recommends that property developers, government institutions, and relevant environmental agencies should

adopt integrated sustainability strategies such as green building practices, renewable energy systems, effective flood control measures, sustainable waste management programmes, stricter environmental regulations, and public-private partnerships to enhance environmental sustainability, improve urban infrastructure, and ensure long-term commercial property investment performance within the region.

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