



ASSESSMENT OF PUBLIC PERCEPTION ON ENVIRONMENTAL IMPACT ASSESSMENT IN KADUNA METROPOLIS, KADUNA STATE, NIGERIA

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ABSTRACT

This study evaluates public perception of Environmental Impact Assessment (EIA) processes in Kaduna State, Nigeria, with particular emphasis on awareness, inclusivity, transparency, and barriers to participation. A mixed-methods design was adopted, utilising structured questionnaires administered to 384 respondents, with only 363 returning. Results indicate that 71.63% of respondents were aware of EIA, with information obtained mainly through government agencies (33.06%) and social media platforms (27.55%). Nonetheless, only 41.32% perceived the process as inclusive, while 17.36% regarded it as non-transparent, citing limited access to information and mistrust of institutions. Public participation was similarly low (41.32%), constrained primarily by lack of awareness (55.10%), mistrust (41.32%), and inadequate access to relevant information (33.06%). The study concludes that although perceptions of EIA in Kaduna Metropolis are relatively positive, critical gaps remain in awareness, inclusivity, and transparency. The study recommends implementing comprehensive awareness campaigns, promoting educational and community-based programs, improving transparency in decision-making, and involving community leaders and representatives in EIA processes to foster trust, inclusivity, and ownership.

Keywords: Environmental Impact Assessment; Public perception; Awareness; Sustainable development

INTRODUCTION

Environmental Impact Assessment (EIA) is a globally recognised tool for promoting sustainable development by evaluating the environmental, social, and economic implications of proposed projects. Introduced under the United States' National Environmental Policy Act (NEPA) of 1969, EIA has since been adopted in over 100 countries, serving as a cornerstone of environmental governance (Morgan, 2012). Its primary objective is to integrate environmental considerations into development planning to safeguard ecological systems, public health, and social well-being (Abaza, Bisset, & Sadler, 2004).

A key determinant of EIA effectiveness is public perception and participation, which foster inclusivity, transparency, and trust in decision-making processes (Jay, Jones & Slinn, 2007; Hansen, Blaikie & Gough, 2016). International frameworks, such as the European Union's EIA Directive and national legislation in countries such as Canada and Australia, require public consultation, ensuring that stakeholders' voices are incorporated into project evaluations (European Commission, 2014; Noble & Nwanekezie, 2017). Similarly, institutions such as the World Bank and UNEP emphasise EIA as central to achieving the Sustainable Development Goals (SDGs), particularly those relating to sustainable cities and climate action (UNEP, 2020).



Despite its global adoption, EIA's success is shaped by contextual factors, including governance quality, institutional capacity, and public awareness. In many African countries, while frameworks exist, such as those in South Africa and Kenya that mandate public involvement, implementation is hindered by limited awareness, inadequate access to information, weak enforcement, and mistrust of government institutions (Abaza et al., 2004; Adebayo & Ojo, 2020). Communities affected by extractive or large-scale infrastructure projects often face exclusion from meaningful consultations, reducing confidence in the process (Nwafor, 2006).

In Nigeria, EIA is regulated by the Environmental Impact Assessment Act No. 86 of 1992, which legally requires assessments for projects with significant environmental implications. However, implementation challenges persist. Public participation is often minimal, enforcement is weak, and the process is widely perceived as a bureaucratic formality rather than a tool for meaningful environmental protection (Ogbonna et al., 2016; Adelekan, 2011). Corruption, political interference, and limited stakeholder capacity further undermine trust, as evidenced in controversies surrounding oil exploration projects in the Niger Delta (Nwafor, 2006).

Research on Environmental Impact Assessment (EIA) in Nigeria reveals significant challenges in public awareness and participation. Anukwonke and Muoghalu (2019) found low awareness and inadequate mitigation measures across three communities in Anambra State, despite completed EIA projects, raising concerns about the effectiveness of environmental management. Similarly, Nwoko (2013) identified systemic shortcomings in Nigeria's EIA system, including inadequate public participation, poor-quality assessments, and weak monitoring capabilities that prevent EIA from serving as an effective project-planning tool for sustainable development. Public participation remains problematic, with Silas (2013) finding that 54% of EIA reports submitted to the Federal Ministry of Environment between 2001 and 2012 showed low public participation. However, Adetarami et al. (2024) showed that rural residents in Oyo State recognise the importance of public participation in EIA processes, though lack of transparency was identified as a significant barrier. Educational level and access to extension services were substantial determinants of public perception regarding EIA utilisation.

Kaduna State exemplifies these challenges at the subnational level. Rapid industrialisation and urbanisation in the state heighten the demand for effective EIA practices, yet public awareness and participation remain low. Studies indicate that cultural attitudes, education levels, and weak regulatory enforcement significantly shape public perception of EIA in Kaduna (Aliyu et al., 2018; Ogbonna et al., 2016). The lack of inclusivity and transparency in environmental decision-making raises concerns about the EIA's ability to mitigate the ecological impacts of development projects in the state. For the effective implementation of the EIA Act, public awareness levels and perceptions must be ascertained. This is the gap this study seeks to address by assessing public awareness of and perceptions regarding EIA in Kaduna Metropolis, Nigeria.

STUDY AREA

Kaduna is the capital city of Kaduna State, located in northwestern Nigeria. Geographically, the area lies between latitudes 10°23' and 10°43' North of the Equator and longitudes 7°17' and 7°37' East of the Greenwich Meridian (see Figure 1). Kaduna metropolis comprises Kaduna North Local Government Area (LGA), Kaduna South LGA, the southern part of Igabi LGA, and the northern part of Chikun LGA. The city is situated approximately 912 km north of the Gulf of

Guinea, 390 km from Nigeria's northern border, and about 180 km from Abuja, the nation's capital. Kaduna covers an estimated land area of 35 km² (Ariko et al., 2018).

The city experiences a tropical continental climate characterised by distinct wet and dry seasons. The dry season, which extends from October to April, is strongly influenced by the north-east trade wind known as the Harmattan, particularly between November and February. This period is rainless mainly. The wet season occurs between May/June and October, dominated by south-east winds (Ariko et al., 2017).

Vegetation in the study area falls within the Northern Guinea Savanna zone, characterised by grasses with scattered trees rarely exceeding 15 feet in height. Rainfall patterns significantly influence vegetation, which appears lush and evergreen during the wet season but pale brown and dry during the dry season (Ariko et al., 2024).

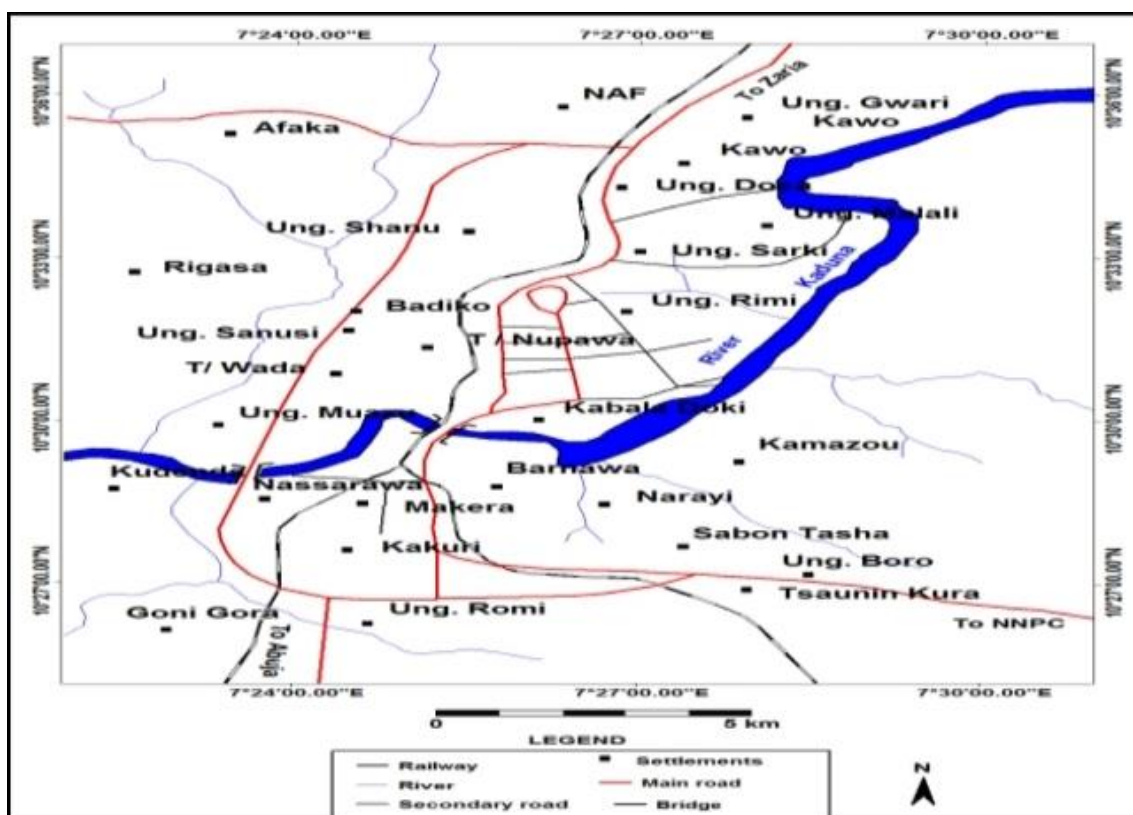


Figure 1: Map of the Study Area

Source: Adapted from the Administrative Map of Kaduna State, 2025

METHODOLOGY

A multi-stage sampling technique was employed in data collection. Kaduna Metropolis was stratified into four major local government areas: Kaduna North, Kaduna South, Chikun, and Igabi. Within these strata, households were selected using simple random sampling to assess their awareness, perceptions, and participation in Environmental Impact Assessment (EIA) processes.

The sample size was determined using Krejcie and Morgan’s (1970) sampling table, resulting in a total of 384 respondents from a base population estimate of 1.3 million (Ariko et al., 2017). Data were collected through structured questionnaires; only 363 questionnaires were retrieved from the respondents. Descriptive statistics were applied to evaluate respondents’ levels of awareness and perceptions regarding EIA.

RESULTS AND DISCUSSION

Demographic Characteristics of the Respondents

Results from this study demonstrated an imbalanced gender representation, with 54.69 % of respondents identified as male, 44.27 % as female, and a negligible 1.04 % identified as others, as shown in Figure 2. Although the results predict some gender imbalance, both male and female perspectives were represented, enabling analysis of how gender may influence Environmental Impact Assessment (EIA) awareness and perceptions.

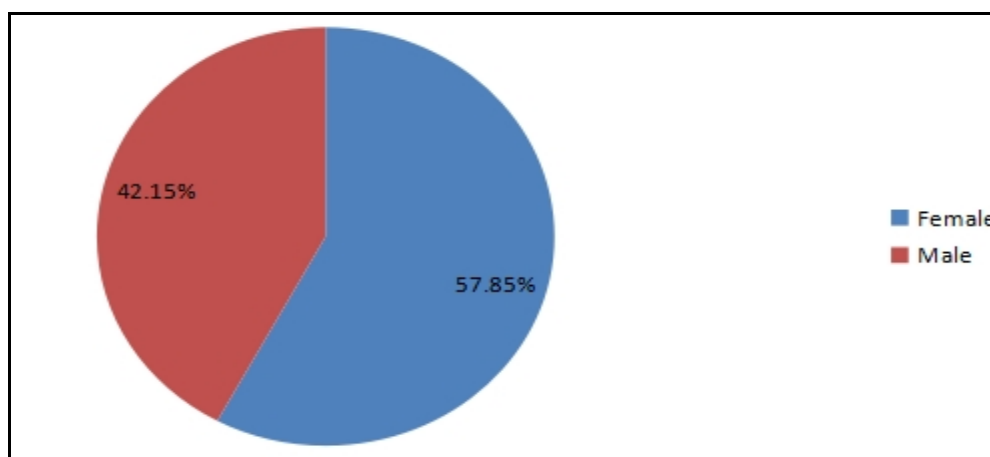


Figure 2: Gender Distribution of the Respondents

A youthful demographic predominates in the study, with nearly 70% of respondents between 18 and 35 years, as shown in Figure 3. The majority of respondents are in the 26–35 years category (39.06%), followed by those aged 18–25 years (31.25%). This suggests that younger and middle-aged adults are more actively engaged in surveys and environmental issues, possibly due to higher exposure to education and awareness campaigns on EIA. This demographic profile is significant since younger populations tend to be more receptive to public engagement and innovation in environmental governance.

Educational attainment among respondents (Figure 4) is relatively high, with 52.08% having a tertiary education, 31.25% secondary education, 13.02% primary education, and 3.65% with no formal education. This indicates a relatively educated population, which may enhance awareness and understanding of EIA processes. However, the presence of respondents with lower educational qualifications underscores the need for simplified communication strategies to reach all segments of society.

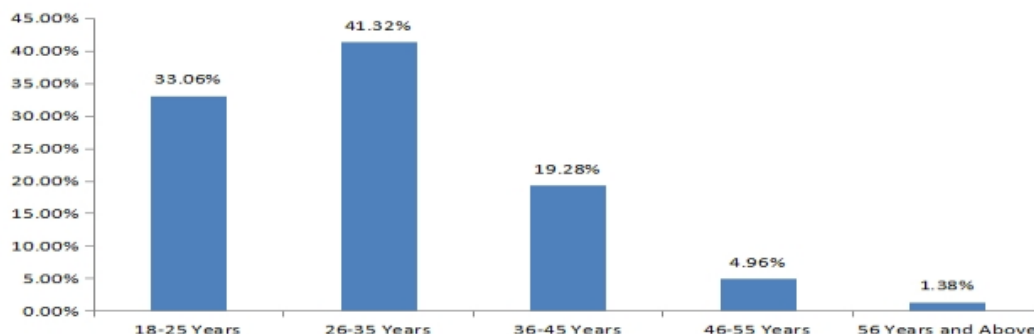


Figure 3: Age Group Distribution of Respondents

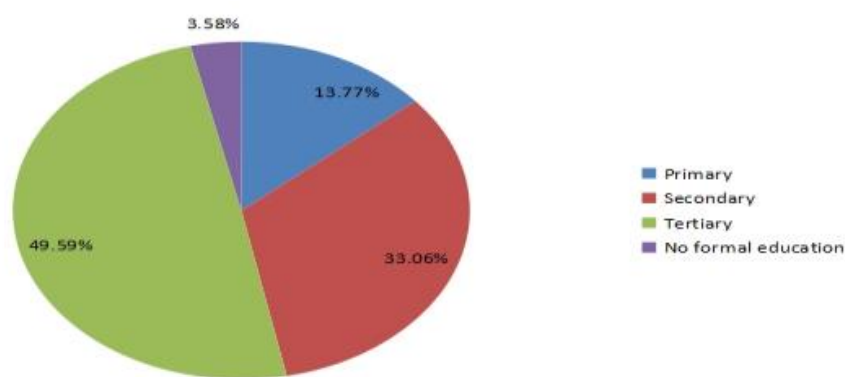


Figure 4: Educational Qualification of the Respondents

Respondents' Level of Awareness of Environmental Impact Assessment

Awareness of EIA is generally high (Figure 5), with 71.63 % of respondents reporting knowledge of the process, while 27.08 % indicated no awareness. This suggests that awareness campaigns and educational initiatives have been relatively effective, though efforts need to be intensified to address the nearly 30 % who remain uninformed, particularly in less-educated communities.

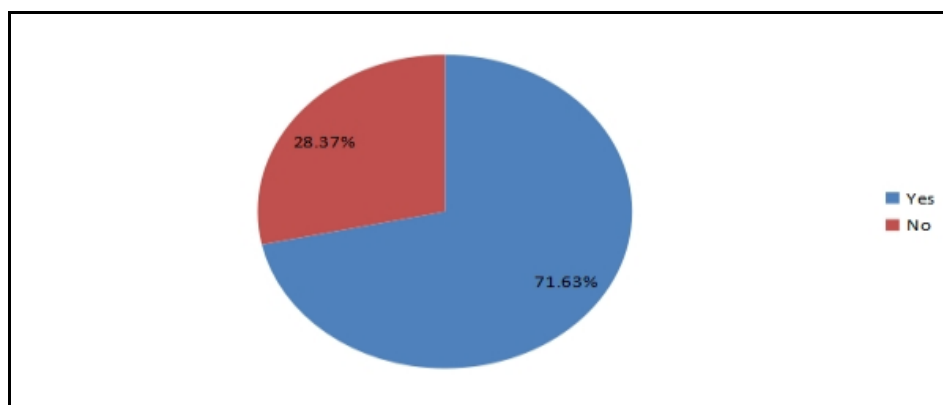


Figure 4: Awareness of the EIA Process of Respondents

Respondents identified Government Agencies (33.06%) and social media (27.55%) as the primary sources of EIA information. Non-Governmental Organizations (NGOs) account for

22.04%, while Community Leaders (13.77%) and other channels (3.58%) play a less prominent role (Table 1). These findings highlight the importance of government-led initiatives and digital platforms in raising awareness, while also pointing to the need for stronger engagement of local leaders and alternative communication channels. These findings aligned with those of Daniel (2025), who suggested that government agencies are significant sources of EIA awareness in developing countries. However, given differences in demographic groups such as age, education, and trust in government institutions, this knowledge does not always convert into a deeper understanding or active participation. These trends are consistent with findings from relevant local studies conducted in Kaduna State, such as studies on the effects of quarrying in Sabon Gari LGA (Mu'awiyya & Ogunleye, 2012) and solid waste management in Saminaka (Jajere et al., 2025), which emphasise the role that institutional credibility and socioeconomic backgrounds have in environmental participation.

Table 1: Source of Information about Environmental Impact Assessment

Source of Information	Frequency	Percentage
Government Agencies	120	33.06
Non-Governmental Organizations (NGOs)	80	22.04
Social Media	100	27.55
Community Leaders	50	13.77
Other	13	3.58
Total	363	100.00

Source: Author's Analysis, 2025

Levels of understanding of EIA vary among respondents (Table 2). The majority of the respondents (41.32%) reported a moderate understanding, 27.55% indicated a high understanding, and 13.77% reported a very high understanding. Conversely, 17.36% (low + very low) demonstrated limited knowledge of the process. These findings reveal that while general awareness exists, there is considerable room to improve public understanding through targeted education and capacity-building initiatives. This result varies slightly from what Alonge et al. (2022) found in their study on the participation of the EIA system and the social impacts of developmental activities in Ajaokuta, Kogi State. Their result indicated lower understanding (20.3% of the respondents). This implies that people in the Kaduna metropolis have relatively higher knowledge of EIA compared to those in Ajaokuta. However, the result aligned slightly with Agaja (2013), who found that approximately 44% of respondents in Nigeria know EIA.

Table 2: Level of Understanding of Environmental Impact Assessment Process

Level of Understanding	Frequency	Percentage
Very High	50	13.77
High	100	27.55
Moderate	150	41.32
Low	50	13.77
Very Low	13	3.59
Total	363	100.00

Source: Author's Analysis, 2025

The results reveal mixed perceptions of transparency (Table 3). A combined 24.79% of respondents considered the EIA process transparent, with 41.32% rating it moderately transparent. However, 33.88% perceived the process as not transparent, pointing to gaps in openness and accountability. Participation levels were also limited, with only 41.32% reporting direct involvement in EIA activities, compared to 58.68% who had never participated (Table 4). This suggests significant challenges in awareness, inclusivity, and engagement, particularly among less-educated populations. This finding confirmed Ibrahim et al.'s (2025) assertion that only 31% of Nigerians participate in the EIA process and attributed the lack of transparency as the major discouraging factor.

Table 3: Perception of Transparency in Environmental Impact Assessment

Perception of Transparency	Frequency	Percentage
Very Transparent	50	13.77
Transparent	40	11.02
Moderately Transparent	150	41.32
Not Transparent	110	30.30
Very Not Transparent	13	3.58
Total	363	100.00

Source: Author's Analysis, 2025

The respondents identified motivating factors for participation (Table 4), including awareness of EIA benefits (41.32%), trust in government agencies (27.55%), and access to reliable information (33.06%). In contrast, the most significant barriers (Table 5) were lack of awareness (23.69%), distrust in the process (27.55%), and inadequate or unclear information (17.63%). Practical challenges such as time constraints (11.85%) are not far from what Alonge, Ishaya, and Mundi (2022) and Ibrahim, Andrew, and Micheal (2025) reported in their studies. Both studies attributed low participation in the EIA process to low information and awareness, both locally and globally. This really calls for a more widespread awareness campaign across different fora to sensitise people to the need to imbibe the culture of EIA. Similar to this study, these studies highlight how crucial it is to bridge awareness and meaningful involvement through effective communication, community trust, and the active inclusion of varied stakeholder voices (Robinson & Bond, 2003; Mwangunga, 2023).

Table 4: Factors Encouraging Participation in Environmental Impact Assessment

Factors Encouraging Participation	Frequency	Percentage
Awareness of EIA benefits	150	41.32
Trust in government agencies	100	27.55
Availability of information	60	16.53
Community involvement	36	9.92
Personal interest in environmental issues	14	3.86
Other	3	0.82
Total	363	100.00

Source: Author's Analysis, 2025

Furthermore, demographic factors play a crucial role in shaping EIA participation and perception, as shown by comparisons with environmental noise pollution research in Zaria and contextual analyses of formal and informal governance roles in Kaduna and wider Nigerian settings (Abraham et al., 2022). Collectively, these results support flexible, locally based EIA methods that leverage pre-existing social structures, bolster agency legitimacy, and ensure significant and representative public involvement in Kaduna Metropolis.

Table 5: Factors Discouraging Participation in Environmental Impact Assessment

Factors Discouraging Participation	Frequency	Percentage
Lack of awareness	86	23.69
Lack of trust in the process	100	27.55
Inadequate information	64	17.63
Time constraints	43	11.85
Lack of interest	60	16.53
Other	10	2.75
Total	363	100.00

Source: Author's Analysis, 2025

CONCLUSION AND RECOMMENDATIONS

The findings demonstrate that although perceptions of EIA in Kaduna Metropolis are relatively positive, critical gaps remain in awareness, inclusivity, and transparency. The study underscores the central role of public perception in the success of EIA processes and emphasises the need for targeted interventions to strengthen participation.

Accordingly, the study recommends implementing comprehensive awareness campaigns, promoting educational and community-based programs, and improving transparency in decision-making. Involving community leaders and representatives in EIA processes is also advocated to foster trust, inclusivity, and ownership. By adopting these strategies, policymakers and regulatory authorities can enhance the effectiveness of EIA and contribute to sustainable environmental governance in Kaduna Metropolis, Kaduna State and Nigeria at large.

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