

Assessment of Inclusive Design Elements and Users' Perception of Accessibility in Local Government Secretariat Buildings in Kwara State, Nigeria

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Abstract- Inclusive design is fundamental to ensuring equitable access to public buildings by accommodating users with diverse physical abilities and functional needs. However, many local government secretariat buildings in Nigeria continue to exhibit accessibility deficiencies that limit effective service delivery and user satisfaction. This study assessed the availability of inclusive design elements and examined users' perceptions of accessibility in selected local government secretariat buildings in Kwara State, Nigeria. A descriptive cross-sectional research design employing a mixed-method approach was adopted. Eight secretariat buildings were selected using multistage sampling, while 373 questionnaires were administered to staff members, of which 356 were valid for analysis, representing a 95.4% response rate. Field observations complemented the questionnaire survey, and data were analysed using descriptive statistics, including frequencies, percentages, Mean Weighted Values (MWV), and Aggregate Weighted Values (AWV). The findings revealed considerable variation in the implementation of inclusive design elements across the selected secretariats. Oke-Ero (AWV = 4.20) and Kaiama (AWV = 3.92) demonstrated the highest accessibility performance, whereas Offa (AWV = 2.05), Asa (AWV = 2.38), and Moro (AWV = 2.41) recorded poor accessibility levels. Signage clarity and circulation spaces consistently achieved higher accessibility ratings, while entrance ramps and accessible toilet facilities emerged as the weakest inclusive design elements across most buildings. The study concludes that the inconsistent provision of inclusive design features limits equitable access to local government secretariat buildings in Kwara State. It recommends systematic retrofitting of existing facilities, stricter enforcement of accessibility standards, and the integration of inclusive design principles into the planning and development of future public administrative buildings.

Keywords: inclusive design, accessibility, public buildings, local government secretariats, user perception, universal design, kwara state.

I. INTRODUCTION

Public buildings are fundamental to effective governance because they provide spaces where citizens access administrative, social, and civic services (Bumma, Ayagere, and Amakiri-Whyte, 2020). Among these facilities, local government secretariat buildings serve as the primary interface between government institutions and the public, accommodating employees, elected officials, contractors, visitors, older adults, and persons with disabilities. As such, these buildings should provide environments that are safe, accessible, and convenient for users with diverse physical, sensory, and cognitive abilities. Achieving these qualities has become a key objective of inclusive design, which advocates for environments that can be used equitably by the widest possible range of users without the need for adaptation or specialized design (United Nations, 2006; Steinfeld and Maisel, 2012).

Inclusive design has gained increasing attention in architecture and urban development because it promotes accessibility, usability, and social inclusion while improving the overall quality of the built environment. Rather than focusing solely on persons with disabilities, inclusive design recognizes the diversity of human abilities throughout the life course and seeks to eliminate environmental barriers that restrict participation in everyday activities. Consequently, accessibility features such as ramps, accessible parking, wide circulation routes,

appropriate sanitary facilities, effective wayfinding systems, and clear signage have become essential components of contemporary public buildings (Steinfeld and Maisel, 2012; Clarkson et al., 2013). Furthermore, the United Nations Convention on the Rights of Persons with Disabilities emphasizes accessibility as a fundamental human right and calls on governments to ensure equal access to public facilities and services (United Nations, 2006).

Despite growing international recognition of inclusive design, its implementation in many developing countries remains inconsistent. Physical barriers, inadequate accessibility provisions, weak policy enforcement, and limited awareness among design professionals continue to restrict equal access to public buildings. In Nigeria, although the Discrimination Against Persons with Disabilities (Prohibition) Act, 2018 established legal requirements for accessible public infrastructure, evidence indicates that compliance remains inadequate across many public facilities. A recent review of Nigeria's National Building Code further observed that while the Code contains accessibility provisions, many are insufficiently detailed to effectively promote universal design practices, thereby limiting their implementation in practice.

Empirical studies conducted in Nigeria similarly report deficiencies in the provision of inclusive design elements within public buildings. For example, studies assessing public buildings in Lagos and Abuja found inadequate provision of ramps, tactile surfaces, accessible sanitary facilities, sensory information systems, and wayfinding elements, despite increased awareness of universal design principles among built environment professionals. These shortcomings reduce independent mobility, limit equitable access to public services, and negatively influence users' experiences, particularly for persons with disabilities and older adults.

Although accessibility has received increasing research attention, existing studies have concentrated primarily on educational institutions, healthcare facilities, religious buildings, commercial centres, and other public facilities (Ede, et al., 2023; Buba, et al., 2025; Gupta, et al., 2025). Comparatively little

empirical evidence exists on inclusive design within local government secretariat buildings, despite their importance as centres of public administration and service delivery. Furthermore, previous investigations have focused predominantly on physical compliance with accessibility standards, with limited consideration of users' perceptions of accessibility and the influence of users' socio-economic characteristics on their experiences within these buildings. Understanding users' perceptions is essential because accessibility is not determined solely by the presence of physical features but also by how effectively these features support movement, navigation, comfort, and service delivery for different categories of users.

II. LITERATURE REVIEW

Inclusive Design in Public Buildings

Inclusive design has become one of the fundamental principles of contemporary architecture because it seeks to create environments that can be accessed, understood, and used by people with diverse abilities, ages, and socio-economic backgrounds. Unlike conventional architectural approaches that often prioritize the needs of the average user, inclusive design recognizes human diversity as an essential design consideration from the earliest stages of planning. The concept extends beyond providing access for persons with disabilities and aims to create environments that are safe, convenient, equitable, and comfortable for all categories of users throughout their life cycle (Haruna, et al., 2021).

In public buildings, inclusive design contributes significantly to improving accessibility, functionality, and user experience. Government buildings, healthcare facilities, educational institutions, transportation terminals, and commercial centres are expected to provide equitable access to services regardless of users' physical, sensory, or cognitive abilities. Consequently, the design of entrances, circulation routes, waiting areas, sanitary facilities, parking spaces, and communication systems should accommodate a wide range of users while minimizing physical and psychological barriers. Recent studies have shown that inclusive public buildings not only improve accessibility for

vulnerable populations but also enhance operational efficiency, user satisfaction, and social participation (Abdel-Razek, et al., 2024).

The growing emphasis on inclusive design has also shifted architectural practice from compliance-based accessibility toward user-centred environments that integrate safety, flexibility, comfort, and dignity. Rather than treating accessibility as an additional requirement introduced after construction, current design approaches advocate for accessibility to be integrated into the entire design process. This approach reduces future renovation costs while promoting sustainable and socially responsive public infrastructure.

Assessment of Inclusive Design Elements

The evaluation of inclusive design in public buildings commonly involves assessing the availability, adequacy, and effectiveness of physical accessibility features. These include accessible parking spaces, barrier-free entrances, ramps, handrails, elevators, wide circulation routes, accessible sanitary facilities, reception areas, tactile paving, directional signage, Braille information systems, and emergency communication facilities. Together, these elements determine the extent to which buildings support independent movement and equitable access for diverse users.

Recent research demonstrates that accessibility cannot be measured solely by the presence of design elements. Instead, the quality, functionality, maintenance, and integration of these facilities determine whether they effectively support users. For example, the mere provision of ramps may not improve accessibility if gradients are too steep, handrails are absent, or connections to circulation routes are inadequate. Similarly, accessible toilets that fail to provide sufficient maneuvering space or appropriate fittings may not adequately serve wheelchair users. Consequently, building performance evaluations increasingly combine physical observation with user assessments to determine the practical effectiveness of inclusive design features.

Users' Perception of Accessibility in Public Buildings
Although observational building audits provide valuable information regarding compliance with accessibility standards, they often fail to capture users' actual experiences within the built environment. Consequently, many recent studies have emphasized users' perceptions as an important indicator of building performance. Users interact with buildings differently depending on their mobility, age, familiarity with the facility, educational background, and frequency of use. These experiences provide practical insights into the effectiveness of inclusive design elements that may not be identified through physical inspection alone (Alkali, et al., 2024).

Perception-based assessments generally examine users' opinions regarding ease of access, movement within buildings, adequacy of circulation spaces, accessibility of sanitary facilities, parking convenience, effectiveness of wayfinding systems, and overall satisfaction with the built environment. Studies consistently indicate that buildings with well-integrated accessibility features record higher levels of user satisfaction, shorter navigation times, improved service efficiency, and greater confidence among users. Conversely, poorly designed circulation routes, inaccessible entrances, inadequate waiting areas, and ineffective signage negatively influence users' experiences and discourage independent use of public facilities.

Inclusive Design in Nigerian Public Buildings

In Nigeria, inclusive design has gained increasing attention following legislative reforms promoting equal access to public infrastructure. Nevertheless, empirical investigations continue to report significant deficiencies in the implementation of accessibility provisions across many public buildings. Common challenges include the absence of ramps and elevators, inadequate accessible parking, narrow circulation routes, inaccessible sanitary facilities, poor directional signage, and limited consideration of sensory accessibility. These deficiencies remain particularly evident in administrative buildings that were constructed before the introduction of

contemporary accessibility standards (Obianyo, et. al., 2021).

Studies conducted across different Nigerian cities have consistently shown that many public buildings demonstrate only partial compliance with accessibility requirements. While some facilities provide basic circulation infrastructure such as pedestrian walkways and ramps, specialized accessibility features including tactile floor guides, Braille signage, accessible reception counters, hearing support systems, and inclusive communication facilities remain largely unavailable. This situation significantly limits independent movement for persons with disabilities and reduces the effectiveness of public service delivery.

Despite the increasing body of research on accessibility in Nigeria, most investigations have concentrated on hospitals, universities, commercial facilities, transportation terminals, religious buildings, and recreational spaces. Comparatively few studies have examined local government secretariat buildings, even though these facilities constitute one of the most frequently visited categories of public buildings. Furthermore, many existing studies emphasize compliance with accessibility regulations without adequately examining users' perceptions of accessibility or considering how socio-economic characteristics influence users' experiences within administrative environments (Abdel-Razek, et al., 2024).

III. METHODOLOGY

Research Design

This study adopted a descriptive cross-sectional research design using a mixed-method approach to evaluate inclusive design elements in selected local government secretariat buildings in Kwara State, Nigeria. The quantitative component assessed users' perceptions of accessibility through structured questionnaires, while the qualitative component involved direct observation of existing inclusive design elements within the selected buildings. The integration of these approaches enabled a comprehensive assessment by combining users'

experiences with physical evaluation of building facilities.

Study Area

The study was conducted in Kwara State, North-Central Nigeria. The state comprises sixteen (16) Local Government Areas (LGAs), each with a functional administrative secretariat serving as the headquarters for local governance and public service delivery. These secretariat buildings accommodate administrative offices, service centres, meeting spaces, and public waiting areas that are accessed daily by government employees and members of the public. Eight secretariat buildings Ilorin East, Ilorin South, Moro, Asa, Offa, Ekiti, Kaiama, and Oke-Ero were selected for the study to provide representative evidence of inclusive design practices across the state.

Population and Sampling Procedure

The study population comprised staff members working in the selected local government secretariat buildings, who constituted the primary users of the facilities. A multistage sampling technique was employed. In the first stage, all sixteen local government secretariats in Kwara State were identified. In the second stage, eight secretariats, representing approximately 50% of the total, were selected based on accessibility, geographical distribution, and their ability to represent the characteristics of local government secretariat buildings within the state.

The selected secretariats had a combined workforce of 5,421 staff members. Using Slovin's formula at a 95% confidence level and a 5% margin of error, a sample size of 373 respondents was determined. Structured questionnaires were proportionately distributed across the selected secretariats based on staff population. Of the questionnaires administered, 356 were correctly completed and returned, representing a response rate of 95.4%, which formed the basis of the analysis.

Data Collection

Primary data were collected using two complementary instruments: a structured questionnaire and an observation checklist. The

questionnaire captured respondents' socio-economic characteristics, including gender, age, educational background, impairment status, and frequency of building use, as well as their perceptions of the accessibility of inclusive design elements. Accessibility was assessed using a five-point Likert scale ranging from 1 (Not accessible at all) to 5 (Highly accessible).

The observation checklist was used to evaluate the presence or absence of key inclusive design elements within each secretariat building. These elements included accessible parking spaces, entrance ramps, handrails, pedestrian pathways, wheelchair-accessible doors, circulation spaces, accessible toilets, reception facilities, directional signage, Braille signage, tactile floor guides, and public announcement systems. The observational assessment complemented the questionnaire responses by providing objective evidence of existing accessibility provisions.

Variables Measured

The study examined two principal variables. The independent variable was inclusive design elements, operationalized through the availability of accessibility features such as ramps, accessible parking, circulation routes, sanitary facilities, wayfinding systems, and communication facilities. The dependent variable was users' perception of accessibility, measured using indicators including ease of building access, parking accessibility, entrance ramps, toilet accessibility, circulation spaces, and signage clarity. In addition, respondents' socio-economic characteristics were analysed to describe the study population and provide context for interpreting users' perceptions.

Method of Data Analysis

Quantitative data were analysed using descriptive statistics in the Statistical Package for the Social Sciences (SPSS). Frequencies and percentages were used to summarise respondents' socio-economic characteristics and the availability of inclusive design elements. Users' perceptions of accessibility were analysed using Mean Weighted Values (MWV) derived from the five-point Likert scale, while Aggregate Weighted Values (AWV) were used to compare accessibility performance across the

selected secretariat buildings. The findings were presented using tables and interpreted to identify patterns in the provision of inclusive design elements and users' perceptions of accessibility across the study area.

IV. FINDINGS

Respondents' Profile

The socio-demographic characteristics of respondents provide insight into how different user groups interact with secretariat buildings. The variables, including gender, age, occupation, frequency of visit, and impairment status, help assess users' accessibility needs, mobility patterns, and experiences, thereby evaluating the inclusiveness of existing buildings.

Gender

Table 1 shows that males represent the majority of respondents (60.1%), females account for 37.1%, and 2.8% preferred not to disclose their gender. The representation of both genders provides diverse perspectives on accessibility, safety, privacy, and spatial comfort within secretariat buildings.

Age

The age distribution in Table 1 indicates that respondents aged 18–30 years form the largest group (33.1%), followed by 31–40 years (27.0%). Those aged 41–50 years, 51–60 years, and 60 years above account for 20.2%, 12.9%, and 6.7% respectively. The dominance of working-age users reflects active engagement with public services, while the inclusion of older users highlights the need for age-responsive inclusive design.

Frequency of Visit

Table 1 reveals that 45.5% of respondents visit the secretariat daily, followed by weekly visitors (24.7%), occasional visitors (15.2%), and monthly visitors (14.6%). The high proportion of regular users indicates familiarity with the buildings, while occasional users provide insight into navigation and first-time user experiences.

Impairment Status

The findings show that 13.8% of respondents have physical, sensory, or mobility impairments, while

86.2% reported no impairment (Table 1). Despite the smaller proportion, users with impairments provide important perspectives on accessibility challenges,

emphasizing the need for inclusive designs that accommodate diverse user needs.

Table 1: Socio-economic Profile of the Respondents

Variable	Variable	Frequency (N)	Percentage (%)
Gender	Male	214	60.1
	Female	132	37.1
	Prefer not to say	10	2.8
	Total	356	100.0
Age	18–30	118	33.2
	31–40	96	27.0
	41–50	72	20.2
	51–60	46	12.9
	60+	24	6.7
	Total	356	100.0
Educational background	Secondary school	156	43.8
	HND/ First/ Postgraduate degree	92	25.9
	OND/NCE	58	16.3
	Primary education	50	14.0
	Total	356	100.0
Impairment Status	Yes	49	13.8
	No	307	86.2
Total		356	100.0

Inclusive Design Elements in the Secretariats

This section evaluates existing inclusive design elements in selected Local Government Secretariats in Kwara State, focusing on external accessibility, interior facilities, wayfinding, and communication systems. The findings in Table 2 reveal variations in the provision of inclusive features, with most facilities demonstrating limited integration of accessibility principles.

Among the sampled secretariats, Ekiti recorded relatively higher availability of inclusive elements, including ramps, pedestrian pathways, accessible reception desks, and public announcement systems. Ilorin East and Ilorin South also showed moderate provision of basic features such as pedestrian pathways and ramps; however, specialized facilities like elevators, Braille signage, and tactile guides remained inadequate.

Similarly, Moro, Asa, Offa, and Kaiama secretariats showed better provision of basic circulation elements

but poor availability of specialized accessibility facilities. Across all secretariats, public announcement systems (62.3%), clear pedestrian pathways (59.7%), and directional signage (55.1%) were the most available features. In contrast, elevators (26.0%), tactile floor guides (21.7%), and Braille signage (23.1%) recorded the lowest availability.

Results indicate that while some basic accessibility provisions exist, inclusive design implementation remains inadequate. The limited provision of specialized features highlights the need for improved planning strategies that address the needs of persons with disabilities, elderly users, and individuals with mobility challenges.

Table 2: Inclusive Design Elements across the Selected Local Government Secretariats (n = 350)

S / N	Inclusive Design Element	Ilorin East (n=64)			Ilorin South (n=59)			Moro (n=48)			Asa (n=44)			Offa (n=26)			Ekiti (n=37)			Kaiama (n=32)			Oke-Ero (n=40)			Overall (N=350)			
		A	N	%	A	N	%	A	N	%	A	N	%	A	N	%	A	N	%	A	N	%	A	N	%	A	N	%	% N A
External Environment																													
1	Accessible parking spaces	30	34	46.9	24	35	40.7	17	31	35.4	15	29	34.1	9	17	34.6	15	22	40.5	12	20	37.5	18	22	45.0	14	20	40.0	60.0
2	Ramp at entrance	35	29	54.7	28	31	47.5	22	26	45.8	20	24	45.5	11	15	42.3	18	19	48.6	14	18	43.8	23	17	57.5	17	19	77.9	51.1
3	Handrails on ramps	25	39	39.1	21	38	35.6	16	32	33.3	15	29	41.1	8	18	30.8	14	23	37.8	11	21	34.4	22	18	55.0	13	28	67.7	62.3
4	Clear pedestrian pathways	42	22	65.6	34	25	57.6	22	22	54.2	22	20	52.5	15	11	57.7	22	15	59.5	19	13	59.4	27	13	67.5	20	11	64.9	40.3
5	Drop-off point	33	31	51.6	28	31	47.5	22	26	45.8	20	24	45.5	12	14	46.2	19	18	51.4	15	17	46.9	25	15	62.5	17	16	77.6	50.3
Interior Accessibility																													
6	Wide doors (wheelchair accessible)	31	33	48.4	26	33	44.1	20	28	41.7	18	26	40.9	10	16	38.5	17	20	45.9	13	19	40.6	24	16	60.0	15	19	43.4	54.6
7	Corridors wide enough	27	37	42.2	23	36	39.0	18	30	37.5	17	27	38.6	9	17	46.6	15	22	40.5	12	20	37.5	23	17	57.5	14	16	46.1	58.9
8	Accessible toilets	23	41	35.9	19	40	32.2	15	33	31.3	14	30	31.8	7	19	26.9	13	24	35.1	10	22	31.3	21	19	52.5	12	28	44.9	65.1
9	Elevator/Lift	17	47	26.6	14	45	30.7	11	37	29.9	10	34	29.7	4	22	15.4	8	29	21.6	7	25	21.9	20	20	50.0	9	19	31.9	74.0
10	Reception desk (accessible height)	29	35	45.3	25	34	42.4	19	29	39.6	18	26	40.9	10	16	38.5	16	21	43.2	13	19	40.6	24	16	60.0	15	16	48.6	56.0

Wayfinding and Communication																													
1 1	Clear directional signage	3 7	2 7	5 7.8	3 1	2 8	5 2.5	2 4	2 4	5 0.0	2 2	2 2	5 0.0	1 3	1 3	5 0.0	2 0	1 7	5 4.1	1 6	1 6	5 0.0	3 0	1 0	7 5.0	1 9	1 5	5 5.1	44 .9
1 2	Braille signage	1 4	5 0	2 1.9	1 2	4 7	2 0.3	9	3 9	1 8.8	8	3 6	1 8.2	4	2 2	1 5.4	8	2 9	2 1.6	6	2 6	1 8.8	2 0	2 0	5 0.0	8 1	2 6	2 3.1	76 .9
1 3	Tactile floor guides	1 3	5 1	2 0.3	1 1	4 8	1 8.6	8	4 0	1 6.7	8	3 6	1 8.2	4	2 2	1 5.4	7	3 0	1 8.9	6	2 6	1 8.8	1 9	2 1	4 7.5	7 6	2 7	2 1.7	78 .3
1 4	Public announcement system	4 1	2 3	6 4.1	3 5	2 4	5 9.3	2 8	2 0	5 8.3	2 5	1 9	5 6.8	1 6	1 0	6 1.5	2 3	1 4	6 2.2	1 9	1 3	5 9.4	3 1	9	7 7.5	2 1	1 3	6 2.3	37 .7

Users' Perception of Accessibility of Inclusive Design Elements

This section analyzes users' perceptions of accessibility of inclusive design elements in selected Local Government Secretariat buildings using frequency counts, Total Weighted Values (TWV), and Mean Weighted Values (MWV).

Accessibility of Inclusive Design Elements in Ilorin East Secretariat (n = 64)

The findings in Table 3 show that Ilorin East Local Government Secretariat recorded generally fair

accessibility levels, with MWVs ranging from 2.97 to 3.34.

Circulation spaces achieved the highest MWV (3.34), followed by building accessibility (3.28) and toilet accessibility (3.22), indicating that users experienced relatively effective movement and access within the facility. However, entrance ramps recorded lower accessibility ratings, suggesting challenges in accommodating users with diverse mobility needs. Overall, the findings indicate that while basic accessibility features are available, improvements are required to achieve a more inclusive environment.

Table 3: Accessibility of Inclusive Design Elements in Ilorin East Secretariat (n = 64)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building accessibility	6	10	18	20	10	210	3.28
2	Parking availability	7	12	19	18	8	202	3.16
3	Entrance ramps	9	14	18	16	7	190	2.97
4	Toilet accessibility	5	11	20	19	9	206	3.22
5	Circulation spaces	4	9	18	22	11	214	3.34
6	Signage clarity	8	13	19	17	7	193	3.02
Average								3.17

Accessibility in Ilorin South Secretariat (n = 59)

Table 4 shows the accessibility of inclusive elements in Ilorin South Local Government Secretariat with MWVs ranging from approximately 2.66 to 3.02.

Circulation recorded the highest MWV (3.02), indicating effectiveness in way finding. Circulation spaces and general building access also fall within the fair range, suggesting that users can move within the facility with some level of ease. However,

accessibility of toilet facilities and ramps recorded lower MWVs (close to 2.65–2.70), indicating notable deficiencies in inclusive design provisions. These lower ratings suggest that the facility does not adequately support users with mobility challenges. The relatively narrow MWV range indicates a consistent, but modest level of performance across all

variables. The AWW confirms that overall, accessibility remains below optimal standards. While basic accessibility elements exist, improvements are needed in critical areas such as sanitary facilities and barrier-free access to enhance inclusivity.

Table 4: Accessibility in Ilorin South Secretariat (n = 59)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building accessibility	7	13	18	15	6	172	2.92
2	Parking availability	8	14	17	14	6	167	2.83
3	Entrance ramps	10	15	17	12	5	160	2.71
4	Toilet accessibility	8	13	18	14	6	169	2.86
5	Circulation spaces	6	11	18	17	7	178	3.02
6	Signage clarity	10	15	17	12	5	157	2.66
Average								2.83

Accessibility in Moro Secretariat (n = 48)

Findings in Table 5 indicate that Moro Local Government Secretariat recorded predominantly poor accessibility ratings, with MWVs ranging from approximately 2.40 to 2.75. While signage clarity and circulation spaces marginally approach the fair category (around 2.65–2.75), most variables including accessibility of toilets, ramps, and building entrances fall within the poor range (below 2.50). This suggests that users experience significant barriers when accessing and navigating the facility.

The low MWVs for ramps and sanitary facilities indicate a lack of adequate provisions for physically challenged users, pointing to insufficient implementation of inclusive design principles. Additionally, poor ratings in building access suggest structural limitations that hinder ease of entry. The MWV confirms that overall, accessibility is poor. Though, minor strengths exist in wayfinding and internal movement, they are insufficient to offset the broader deficiencies. Substantial upgrades are required to improve accessibility and ensure equitable access for all users.

Table 5: Accessibility in Moro Secretariat (n = 48)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	7	11	15	10	5	127	2.65
2	Parking availability	8	11	15	10	4	122	2.54
3	Entrance ramps	9	12	14	9	4	117	2.44
4	Toilet accessibility	7	11	14	11	5	124	2.58
5	Circulation spaces		10	15	12	5	130	2.71
6	Signage clarity	9	12	14	9	4	115	2.40
Average								2.55

Accessibility in Asa Secretariat (n = 44)

Table 6 reveals that Asa Local Government Secretariat recorded consistently low MWVs, ranging from approximately 2.20 to 2.55, indicating predominantly poor accessibility. Only signage clarity approaches the fair threshold (around 2.50–

2.55), suggesting limited effectiveness in wayfinding. All other variables including ramps, toilet accessibility, and building entrances fall within the poor category, reflecting significant accessibility challenges.

The low MWVs indicate that inclusive design elements are either absent or inadequately implemented. Users are likely to experience difficulty navigating the building, particularly those with mobility impairments. The AWW confirms the

overall poor accessibility level. While minimal strengths exist in signage, comprehensive improvements are required across all accessibility features to achieve acceptable standards.

Table 6: Accessibility in Asa Secretariat (n = 44)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	8	11	13	9	3	109	2.48
2	Parking availability	9	11	13	8	3	104	2.36
3	Entrance ramps	10	12	12	7	3	101	2.30
4	Toilet accessibility	9	11	13	8	3	106	2.41
5	Circulation spaces	8	10	13	10	3	112	2.55
6	Signage clarity	10	12	12	7	3	99	2.25
Average								2.39

Accessibility in Offa Secretariat (n = 26)

The results in Table 7 indicate that Offa Local Government Secretariat recorded the lowest accessibility ratings, with MWVs ranging from approximately 1.90 to 2.20. All variables including signage, ramps, circulation spaces, and toilet accessibility fall within the poor category, indicating widespread deficiencies. Unlike other secretariats, there are no clearly strong variables, as even the highest MWV remains below 2.20.

The extremely low MWVs suggest fundamental issues in both design and infrastructure, including lack of accessible entrances, inadequate circulation space, and absence of inclusive sanitary facilities. These deficiencies create significant barriers for users, particularly those with special needs. The AWW further confirms that overall accessibility is critically low. Offa represents the weakest case in terms of accessibility, requiring urgent and comprehensive redesign and infrastructure upgrades.

Table 7: Accessibility in Offa Secretariat (n = 26)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	7	8	6	4	1	55	2.12
2	Parking availability	8	8	6	3	1	53	2.04
3	Entrance ramps	9	8	5	3	1	51	1.96
4	Toilet accessibility	8	8	6	3	1	54	2.08
5	Circulation spaces	6	7	7	5	1	57	2.19
6	Signage clarity	9	8	5	3	1	50	1.92
Average								2.05

Accessibility in Ekiti Secretariat (n = 37)

The results of analysis in Table 8 reveal that signage clarity and circulation spaces recorded the highest MWVs (approaching 2.80–2.85), indicating moderate effectiveness in navigation and movement. Building access also falls within the fair range, suggesting that

users can enter and move within the facility with relative ease. However, accessibility of toilet facilities and ramps recorded lower MWVs (around 2.45–2.55), highlighting areas where users experience challenges. This suggests that while

general accessibility is adequate, specialized inclusive features require improvement.

The AWW confirms that overall accessibility is fair, but not consistent across all variables. Strengthening

inclusive design elements, particularly ramps and sanitary facilities, will be essential in improving accessibility performance.

Table 8: Accessibility in Ekiti Secretariat (n = 37)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	4	9	12	8	4	101	2.73
2	Parking availability	5	9	11	8	4	98	2.65
3	Entrance ramps	6	10	11	7	3	93	2.51
4	Toilet accessibility	5	9	11	8	4	99	2.68
5	Circulation spaces	4	8	11	9	5	105	2.84
6	Signage clarity	6	9	11	7	4	91	2.46
Average								2.65

Accessibility in Kaiama Secretariat (n = 32)

Results in Table 9 indicate that Kaiama Local Government Secretariat recorded high accessibility ratings, with MWVs ranging from approximately 3.70 to 4.15. Building access, signage clarity, and circulation spaces recorded particularly high MWVs (above 4.00), indicating that users can easily access and navigate the facility. Accessibility of ramps and sanitary facilities also recorded strong values, suggesting effective implementation of inclusive design features.

The consistently high MWVs across all variables indicate a balanced and well-integrated accessibility framework, combining both design and operational effectiveness. The AWW confirms that overall accessibility is good, making Kaiama one of the best-performing secretariats. The results demonstrate the positive impact of proper planning and adherence to inclusive design principles.

Table 9: Accessibility in Kaiama Secretariat (n = 32)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	1	2	6	12	11	132	4.13
2	Parking availability	1	3	6	12	10	127	3.97
3	Entrance ramps	2	3	7	11	9	122	3.81
4	Toilet accessibility	1	2	7	12	10	126	3.94
5	Circulation spaces	1	2	5	12	12	128	4.00
6	Signage clarity	2	3	7	11	9	118	3.69
Average								3.92

Accessibility in Oke-Ero Secretariat (n = 40)

Results in Table 10 present that majority of the secretariats including Offa, Asa, and Moro recorded AWWs below 2.50, indicating poor accessibility

levels. Ilorin East, Ilorin South, and Ekiti fall within the fair category, while Kaiama and Oke-Ero recorded high AWWs above 3.50, indicating good accessibility. Across all secretariats, signage clarity

consistently recorded higher MWVs, suggesting that way finding systems are relatively effective. However, accessibility of toilet facilities and ramps emerged as the weakest variables, with consistently lower MWVs, indicating inadequate provision of inclusive design features.

The disparity in MWVs highlights uneven implementation of accessibility standards across the

study area. While some facilities demonstrate strong compliance, the majority requires significant improvements. Hence, the findings suggest that accessibility challenges are primarily linked to insufficient inclusive design implementation rather

than basic spatial organization. Addressing these deficiencies will be essential to achieving equitable access for all

Table 10: Accessibility in Oke-Ero Secretariat (n = 40)

S/N	Variables	1	2	3	4	5	TWV	MWV
1	Building access	0	1	5	16	18	171	4.28
2	Parking availability	0	2	5	16	17	168	4.20
3	Entrance ramps	1	2	6	15	16	163	4.08
4	Toilet accessibility	0	2	5	16	17	168	4.20
5	Circulation spaces	0	1	4	16	19	173	4.33
6	Signage clarity	1	2	6	15	16	163	4.08
Average								4.20

Overall Summary of Accessibility across Secretariats
The analysis in Table 11 compares accessibility performance across the selected Local Government Secretariats, revealing significant differences in inclusive design implementation. Aggregate Weighted Values (AWVs) ranged from poor to good categories, indicating varying levels of accessibility. Offa, Asa, and Moro Secretariats recorded poor accessibility performance, with AWVs below 2.50, mainly due to deficiencies in ramps, sanitary facilities, and structural accessibility features. Ilorin East, Ilorin South, and Ekiti fell within the fair category, showing moderate accessibility but requiring improvements in key areas such as toilet facilities and ramp provision. Oke-Ero and Kaiama

recorded good performance, with Oke-Ero achieving the highest accessibility ratings due to stronger compliance with inclusive design standards.

Across the secretariats, signage clarity was the most effective accessibility feature, while toilet accessibility and ramp provision remained major challenges. The variation between high- and low-performing facilities highlights inconsistent application of inclusive design principles and emphasizes the need for improved barrier-free access and user-centered design strategies in public buildings.

Table 11 Overall Summary of Accessibility across Secretariats

Secretariat	SA	A	N	D	SD	TWV	MWV	AWV	Rank	Remark
Moro	90	106	58	21	13	1103	3.83	3.83	1st	Highly accessible
Ilorin East	141	105	73	40	25	1449	3.77	3.77	2nd	Highly accessible
Ilorin South	102	123	54	41	34	1280	3.62	3.62	3rd	Highly accessible
Ekiti	68	56	49	35	14	795	3.58	3.58	4th	Good
Oke-Ero	72	62	44	34	28	836	3.48	3.48	5th	Not accessible
Offa	43	38	35	24	16	536	3.44	3.44	6th	Not accessible
Asa	69	70	55	35	35	895	3.39	3.39	7th	Not accessible
Kaiama	48	45	50	27	22	646	3.36	3.36	8th	Not accessible

V. CONCLUSION

This study evaluated the availability of inclusive design elements and examined users' perceptions of accessibility in selected local government secretariat

buildings in Kwara State, Nigeria. The findings indicate considerable variation in the implementation and performance of inclusive design features across the study area. While some secretariats demonstrated relatively good accessibility through the provision of

accessible entrances, circulation spaces, and effective wayfinding systems, others exhibited substantial deficiencies in critical accessibility components, particularly entrance ramps, accessible toilet facilities, and barrier-free circulation.

The physical assessment revealed that basic accessibility features were unevenly distributed among the selected secretariat buildings, reflecting inconsistent implementation of inclusive design principles. Although signage and general circulation recorded comparatively better performance in several facilities, essential features required to support independent mobility for persons with disabilities, older adults, and other vulnerable users were either inadequate or absent in many of the buildings. These deficiencies limit equitable access to government services and undermine the objectives of inclusive public infrastructure.

Users' perceptions corroborated the observational findings, as respondents generally reported higher levels of satisfaction with building access and internal circulation in better-performing secretariats, whereas lower ratings were associated with buildings that lacked adequate ramps, accessible sanitary facilities, and other essential accessibility features. The observed disparities suggest that accessibility performance within local government secretariats is influenced not only by the availability of inclusive design elements but also by their quality, functionality, and integration into the overall building layout.

Overall, the study demonstrates that although progress has been made in incorporating certain inclusive design elements within local government secretariat buildings in Kwara State, significant gaps remain in achieving comprehensive accessibility. The findings highlight the need for more consistent application of inclusive design principles to ensure that administrative buildings provide safe, equitable, and user-friendly environments for all categories of users. The study therefore contributes empirical evidence that can support policy implementation, guide future renovation programmes, and inform the planning and design of more inclusive public buildings in Nigeria.

VI. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed:

1. Local government authorities should prioritize the retrofitting of existing secretariat buildings by providing essential inclusive design features such as properly designed entrance ramps, accessible sanitary facilities, handrails, barrier-free circulation routes, and designated accessible parking spaces.
2. Architects, planners, and engineers should integrate inclusive design principles from the conceptual stage of future public building projects to ensure that accessibility requirements are incorporated into planning, design, construction, and facility management processes rather than being introduced as post-construction modifications.
3. The implementation and enforcement of national accessibility regulations and building standards should be strengthened through periodic accessibility audits of public buildings to ensure compliance with inclusive design requirements.
4. Wayfinding systems should be enhanced through the provision of clear directional signage, tactile guidance systems, Braille signage, and visual communication elements to improve navigation for users with diverse physical and sensory abilities.
5. Local government administrations should allocate dedicated funding for the maintenance and upgrading of accessibility facilities to ensure that existing inclusive design elements remain functional, safe, and effective throughout the lifespan of public buildings.

Conflict of interests

The authors have not declared any conflict of interests.

REFERENCES

- [1] Abdel-Razek, S. A., Barakat, H. A.-R., & Ibrahim, S. M. S. Z. (2024). Universal and inclusive design in public open spaces for wellbeing-oriented cities: Design strategies for the case of Alexandria Public Beach.

- International Journal of Sustainable Development and Planning*, 19, 2037–2049.
- [2] Alkali, A. A., Wakawa, U. B., and Husaini, I. U. (2024). Adopting inclusive design principles for the proposed North East Development Commission's headquarters in Maiduguri, Borno State. *African Journal of Environmental Sciences and*
- [3] Alkali, A. A., Wakawa, U. B., & Husaini, I. U. (2024). Adopting inclusive design principles for the proposed North East Development Commission's headquarters in Maiduguri, Borno State. *African Journal of Environmental Sciences and*.
- [4] Buba, B. E., Ayoosu, M. I., Abalaka, L. D., Erebor, E. M., & Modi, S. Z. (2025). Assessing the barriers to implementing Universal Design strategies in faculty buildings in Nigerian universities. *Knowledge Web Multidisciplinary International Journal*, 1(2), 49–53.
- [5] Bumma, F. N., Ayagere, S. A., & Amakiri-Whyte, B. H. (2020). Urban public buildings and accessibility challenges in Nigeria. *International Journal of Research and Scientific Innovation (IJRSI)*, 7(5).
- [6] Clarkson, J., Coleman, R., Keates, S., & Lebbon, C. (2013). *Inclusive design: Design for the whole population*. Springer.
- [7] Ede, A. N., Okeke, C. U., & Oladipo, F. (2023). Socio-cultural influences on accessibility and inclusion in Nigerian public buildings. *African Journal of Disability Studies*, 12(2), 101–115. <https://doi.org/10.4102/ajds.v12i2.1234>
- [8] Gupta, A., Yadav, M., & Nayak, B. K. (2025). A systematic literature review on inclusive public open spaces: Accessibility standards and universal design principles. *Urban Science*, 9(6), 181. <https://doi.org/10.3390/urbansci9060181>
- [9] Haruna, H., Lawal, I. M., & Hussaini, H. (2021). Application of inclusive design principles on institutional buildings in Nigeria: Case study of Federal Polytechnic Mubi. *International Journal for Research in Science Engineering and Technology*.
- [10] Mamuzo, G. E., Fadairo, J. O., & Obaribirin, A. (2024). Architectural design as a catalyst for social inclusion: Exploring the impact of community center architecture on social inclusion in Lagos State. *International Journal of Multidisciplinary Research and Growth Evaluation*, 5(4), 1098–1110. <https://doi.org/10.54660/IJMRGE.2024.5.4.1098-1110>
- [11] Morenikeji, O. B., Alagbe, T., Akande, I., & Oyedele, O. (2022). A study of universal design strategies in selected public buildings in Lagos State. *Iconic Research and Engineering Journals*, 6(4), 1–6.
- [12] Obianyo, I. I., Ihekwe, G. O., Mahamat, A. A., Onyelowe, K. C., Onwualu, A. P., & Soboyejo, A. B. (2021). Overcoming the obstacles to sustainable housing and urban development in Nigeria: The role of research and innovation. *Cleaner Engineering and Technology*, 4, 100226. <https://doi.org/10.1016/j.clet.2021.100226>
- [13] Sholanke, A., & Adisa, O. (2024). Adequacy of the National Building Code (2006) in promoting universal design practices in Nigeria. *Journal of Accessibility and Design for All*, 15(2). <https://doi.org/10.17411/jacces.v15i2.630>
- [14] Steinfeld, E., & Maisel, J. (2012). *Universal design: Creating inclusive environments*. John Wiley & Sons.
- [15] Pada, J. M., Umar, I., Adejumo, S. A., Uwajeh, P. C., & Oseke, B. N. (2025). Universal design principles applied in architectural design and public buildings: An empirical evaluation of the National Mosque and Nile University, Abuja. *Nile Journal of Engineering and Applied Science*, 3(1), 163–173. <https://doi.org/10.5455/NJEAS.279231>
- [16] United Nations. (2006). *Convention on the Rights of Persons with Disabilities*. United Nations.