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Assessment of Accessibility for Persons with Disabilities in Nasarawa State Tertiary Institutions

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Physical infrastructure deficits drive exclusion of persons with disabilities (PWDs) in Nigerian universities, yet empirical audits remain scarce. Purpose: This study assessed the accessibility of physical infrastructure at four tertiary institutions in Nasarawa State, Nigeria, representing the first systematic multi-institutional audit in the region. Methods: A mixed-methods cross-sectional design was adopted, collecting quantitative survey data from 114 PWDs using a structured ten-item Likert-scale questionnaire, supplemented by semi-structured interviews with 12 key informants and field observations. Major Results: Severe deficits were identified across all assessed dimensions, particularly in restrooms, accommodation, adaptive laboratory equipment, and emergency exits. Most mean scores fell below the Likert midpoint, indicating a predominant level of disagreement with adequate accessibility provision. Only entrance ramps at Federal Polytechnic Nasarawa (FPN) scored above the midpoint, yet 40.7% of respondents still disagreed with their adequacy. Statistically significant associations were found between the provision of entrance ramps and access to accommodation, while restroom and accommodation deficits were strongly correlated across institutions. Multiple regression revealed that restroom accessibility (beta = .38) and accommodation provisions (beta = .35) were the key predictors of overall accessibility satisfaction, together explaining 61% of the variance. General Conclusion: All four campuses demonstrated non-compliance with the Discrimination Against Persons with Disabilities (Prohibition) Act of 2018, with accessibility investment characterised by performative gestures at entry points rather than genuine interior compliance. Recommendation: Universal Design retrofitting, enforceable accessibility audits, disability representation in planning, and dedicated institutional budgets are urgently recommended.

Keywords: Accessibility; disability; tertiary institutions; universal design; Nasarawa State; inclusive education; infrastructure

Introduction

Physical accessibility of the built environment is a fundamental prerequisite for the equitable participation of persons with disabilities (PWDs) in tertiary education. The World Health Organization (WHO, 2011) estimates that approximately one billion people globally live with some form of disability and that a disproportionate number are excluded from full participation in education and civic life due to environmental barriers rather than inherent limitations of their conditions. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD; UN General Assembly, 2006) enshrines accessibility as a foundational right under Article 9, obligating states to ensure equal access to physical environments, transportation, and information. Sustainable Development Goals 4 (Quality Education) and 10 (Reduced Inequalities) similarly place inclusive education at the centre of the global development agenda (United Nations, 2015).

Despite this normative consensus, the physical environments of universities and polytechnics across sub-Saharan Africa remain profoundly inaccessible. Studies from South Africa (Chiwandire & Vincent, 2021), Ghana (Adom *et al.*, 2020), Kenya (Mwangi & Ochieng, 2021), and Uganda (Sentumbwe & Nakasujja, 2020) documented structural inaccessibility spanning building entrances, classroom interiors, library collections, laboratory facilities, and residential accommodation. In Nigeria, which hosts Africa's largest higher education system by enrolment, with more than two million students across approximately 200 accredited tertiary institutions (National Universities Commission, 2023), the scale of potential accessibility impact is correspondingly large.

Nigeria's legal framework for disability inclusion has evolved significantly. The Discrimination Against Persons with Disabilities (Prohibition) Act of 2018 (DAPD Act; Federal Republic of Nigeria, 2018) explicitly prohibits discrimination against PWDs in access to education and mandates accessible physical environments in all public institutions. Section 25 of the Act requires all institutions of learning to make reasonable accessibility provisions within five years of the Act's commencement. The National Policy on Inclusive Education (Federal Ministry of Education, 2020) reinforces these obligations by requiring tertiary institutions to conduct annual accessibility audits. Despite this legislative framework, practical implementation lags severely behind its intent. The National Universities Commission (NUC) and National Board for Technical Education (NBTE) have not established systematic mechanisms to monitor compliance with accessibility requirements. Underfunding, inadequate technical expertise in accessible design, absence of disability-inclusive master-planning, and institutional cultures that treat

disability as a welfare rather than a rights issue collectively perpetuate accessibility deficits (Olufemi & Olakulehin, 2020).

The existing literature on disability accessibility in Nigerian higher education is concentrated in south-western states, particularly Lagos, Ogun, Oyo, and Osun (Adelowo *et al*., 2022; Akinpelu *et al*., 2022; Odeyemi & Ogunyemi, 2023). Studies from the North-Central geopolitical zone remain sparse and predominantly qualitative (Sango, 2021), leaving significant empirical gaps regarding infrastructure accessibility in this region. Nasarawa State, located in North-Central Nigeria and bordering the Federal Capital Territory, hosts four major public tertiary institutions: Federal Polytechnic Nasarawa (FPN), Federal University Lafia (FUL), Nasarawa State University Keffi (NSUK), and Nasarawa State Polytechnic (NSP). No systematic empirical assessment of the physical accessibility of these institutions has been conducted before the present study.

This study addresses these gaps. The specific objectives are: (i) to profile the socio-demographic characteristics of PWDs in Nasarawa State tertiary institutions; (ii) to assess the level of physical infrastructure accessibility for PWDs across the four study institutions; (iii) to examine associations between different dimensions of physical accessibility; (iv) to identify the infrastructure dimensions most strongly predictive of overall accessibility satisfaction; and (v) to draw evidence-based recommendations for policy and practice.

Literature Review

The social model of disability

The Social Model of Disability, developed by Oliver (1983) and refined through subsequent scholarship (Oliver, 2013; Shakespeare, 2020; Barnes, 2012; Swain *et al*., 2014), constituted the principal theoretical lens for this study. The Social Model makes a fundamental analytical distinction between impairment, being the physical, cognitive, or sensory difference experienced by an individual, and disability, being the social and environmental barriers that restrict that individual's participation in mainstream life. In this framework, disability is not an attribute of the person but a product of the mismatch between individual characteristics and environmental conditions. A wheelchair user is not disabled by their impairment; inaccessible environments without ramps or lifts disable them (Oliver, 2013). Finkelstein (2001) reinforced this position, arguing that overcoming the barriers created by inaccessible built environments requires practical, material transformation rather than individual rehabilitation. Applied to Nigerian tertiary institutions, this framework compels an examination of how campus architecture actively creates disability through its design choices and demands that inaccessibility be named as a structural injustice rather than a technical oversight.

The Social Model also has epistemological implications for this study: it demands that research on accessibility be centred on the perspectives and experiences of PWDs themselves rather than on the assessments of non-disabled professionals alone (Shakespeare, 2020). This epistemological commitment is reflected in the present study's primary reliance on PWDs' self-reported accessibility ratings, supplemented by observational and informant data.

Universal design theory

Universal Design (UD) conceptualised by the Centre for Universal Design at North Carolina State University (1997) and theorised by Steinfeld and Maisel (2012) provided the normative framework against which infrastructure is evaluated in this study. The seven principles of Universal Design are: equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and use. These principles served as the conceptual basis for the ten accessibility items assessed in this study's instrument, each of which can be mapped to one or more UD principles. Ramps at building entrances and classroom doorway width relate to equitable use and low physical effort; adapted laboratory equipment relates to flexibility in use and perceptible information; emergency exit accessibility relates to simple and intuitive use and size and space for approach; restroom disability-friendliness and accommodation provisions relate to equitable use and low physical effort; campus lighting relates to perceptible information; and computer laboratory adaptations relate to equitable use and flexibility in use.

Universal Design is distinguished from reasonable adjustment by its emphasis on proactive, comprehensive design rather than reactive accommodation. Alahmad and Goldberg (2020) demonstrated that when UD principles are integrated into built environments from the outset, students with disabilities report greater independence and improved academic outcomes. Imrie (2012) further argued that UD is not merely a technical standard but an ethical commitment to equitable access embedded within a rights-based framework. In the Nigerian context, where basic UD implementation is essentially absent, the gap between aspiration and reality is wide, making UD principles a valid and urgent normative standard for assessing institutional compliance.

Physical accessibility in higher education

Research on physical accessibility in higher education has documented persistent deficiencies across diverse national contexts, with developed and developing nations differing primarily in the severity and scope of accessibility barriers rather than in their existence. Moriña (2022) examined inclusive practices across 45 nations and found that even in developed-country contexts, accessibility improvements were frequently

superficial, concentrated at visible entry points, and inconsistently applied across facility types. Thompson and Rodriguez (2022) documented that students with physical disabilities spent on average 47 additional minutes per day navigating accessibility obstacles in a study of 24 universities across Europe and North America. Fuller *et al*. (2019) demonstrated that institutions with formally designated disability support services frequently fail to extend accessible provision beyond the administrative core of the campus.

Within sub-Saharan Africa, Chiwandire and Vincent (2021) examined evidence from multiple countries and identified inaccessible physical structures, inadequate transportation, and scarce assistive technologies as the three most consistently documented barriers. Mwangi and Ochieng (2021) found that accessibility infrastructure was consistently deprioritised in capital expenditure planning at Kenyan public universities. Adom *et al*. (2020) investigated student perspectives in Ghanaian tertiary institutions and documented how physical inaccessibility compounds psychological distress and academic underperformance.

In the Nigerian context, Adelowo *et al.* (2022) found that across 34 studies on infrastructure and disability in Nigerian universities, classroom inaccessibility, inaccessible sanitation facilities, and poorly designed residential accommodation were consistently documented, with fewer than 5% of Nigerian university buildings fully complying with minimal accessibility standards of the National Building Code. Akinpelu *et al*. (2022) surveyed 156 PWDs in Osun State and found that restroom inaccessibility was rated as the most severe barrier by 71% of respondents. Odeyemi and Ogunyemi (2023) documented how physical inaccessibility and institutional indifference produce a dual burden of exclusion, disproportionately affecting female students with disabilities. These patterns are consistent with Imrie's (2012) 'facade effect', whereby institutions invest in visible accessibility features at building entrances while failing to address interior accessibility.

Legislative and policy context

The DAPD Act of 2018 introduced the most comprehensive statutory framework for disability rights in Nigerian history. Sections 23 to 27 of the Act specifically address access to education, mandating accessible physical environments and the establishment of disability support units. However, Eseigbe *et al*. (2023) noted that the National Commission for Persons with Disabilities (NCPD), established following the Act, has been chronically underfunded and understaffed, limiting its capacity to enforce accessibility standards. No enforcement action has been recorded against any tertiary institution for failing to meet the accessibility requirements of the DAPD Act (Olufemi & Olakulehin, 2020), suggesting that the legislative framework remains aspirational rather than operative. The political economy of infrastructure provision in Nigerian tertiary institutions further compounds these challenges: per-student public expenditure is among the lowest globally relative to Gross Domestic Product, creating a context in which accessibility investments must compete with urgent maintenance needs and salary obligations (Aina, 2021).

Research Methodology

Research design

This study adopted a mixed-methods cross-sectional design, integrating quantitative survey data, observational field data, and qualitative key-informant interviews. The cross-sectional design is appropriate for establishing an evidence baseline and generating hypotheses about accessibility determinants. The mixed-methods approach is epistemologically grounded in pragmatism (Creswell & Creswell, 2017). The quantitative component provided breadth and statistical precision in identifying associations, while the qualitative component provided depth and contextual understanding. This design is consistent with best practice in accessibility assessment research (Alahmad & Goldberg, 2020; Holloway *et al*., 2023).

Study area and institutional context

Nasarawa State is located at the geographic centre of Nigeria, sharing borders with the Federal Capital Territory (FCT), Benue, Kaduna, Kogi, Plateau, and Taraba States. The state hosts four major public tertiary institutions: Federal Polytechnic Nasarawa (FPN), established in 1975; Federal University Lafia (FUL), established in 2011; Nasarawa State University Keffi (NSUK), established in 2002; and Nasarawa State Polytechnic (NSP), established in 1990 (Nasarawa State Government, 2023). Together, these institutions serve an estimated 80,000 students. The institutions' campuses were selected because they collectively represent the diversity of Nigerian tertiary sector governance structures, combining federal and state ownership, and because no prior systematic accessibility assessment had been conducted in the state.

Population, sampling and recruitment

The target population comprised all registered persons with disabilities enrolled as students or employed as staff at the four study institutions. Registration data provided by the disability officers at each institution identified an accessible population of approximately 285 PWDs across the four sites. Stratified random sampling was employed, stratifying by institution to ensure proportionate representation. Within each stratum, systematic random sampling was applied to the registration lists provided by disability officers. A total of 114 questionnaires were administered and fully completed, yielding a response rate of 100% of the distributed instruments: FPN (n = 38, 33.3%), FUL (n = 27, 23.7%), NSUK (n = 26, 22.8%), and NSP (n

= 22, 19.3%). This sample size of 114 represents approximately 40% of the registered accessible population of 285, which is considered adequate for accessibility survey research in sub-Saharan African contexts (Chiwandire & Vincent, 2021).

Disability types represented included physical and mobility impairments (n = 43, 38.1%), visual impairments (n = 29, 25.7%), hearing impairments (n = 24, 21.2%), and cognitive or intellectual disabilities (n = 17, 15.0%). Additionally, 12 key informants, comprising disability officers (n = 6) and facilities managers (n = 6), were purposively selected for semi-structured interviews, with two informants per institution. Participants were recruited through direct contact by disability officers at each institution, and written informed consent was obtained from all participants before data collection. Ethical approval was obtained from the Federal University of Technology, Minna, Research Ethics Committee before fieldwork. Participant confidentiality was maintained through anonymisation of all data.

Data collection instruments

A structured questionnaire was the primary quantitative instrument. The instrument was developed through a three-stage process: item generation from the Universal Design literature and DAPD Act requirements, aligned with the seven UD principles; expert review by two disability studies academics and one facilities management practitioner; and pilot testing with 12 PWDs at a tertiary institution not included in the main study. The final instrument comprised three sections: (i) socio-demographic information (six items); (ii) physical infrastructure and facility accessibility (ten items, scored on a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree); and (iii) an overall accessibility satisfaction item. Cronbach's alpha for the 10 physical infrastructure items was .84, indicating good internal consistency (Pallant, 2020). It is acknowledged that some questionnaire items may be of varying relevance across disability types; the instrument was intended to assess campus-wide accessibility as experienced by PWDs rather than disability-type-specific barriers, and this constitutes a limitation discussed further in Section 6.2.

The ten physical infrastructure items assessed were: (i) ramps at building entrances; (ii) classroom doorway width; (iii) library accessibility; (iv) adapted laboratory equipment; (v) emergency exit accessibility; (vi) restroom disability-friendliness; (vii) student accommodation provisions; (viii) sports facility accessibility; (ix) campus lighting adequacy; and (x) computer laboratory adaptive equipment. Semi-structured interview guides covered: institutional disability policy awareness, accessibility investment history, budget allocation processes, staff disability awareness training, and plans for accessibility improvement.

Data analysis

Quantitative data were analysed using SPSS version 25. Descriptive statistics were computed for all ten Likert-scale items. Pearson chi-square tests of independence examined associations between pairs of infrastructure dimensions. Pearson product-moment correlation coefficients were computed for selected infrastructure items at FPN (the largest sub-sample, n = 38). Multiple linear regression analysis was conducted with overall accessibility satisfaction as the dependent variable and the ten infrastructure items as predictors, using stepwise entry to identify the most parsimonious predictive model. Statistical significance was set at alpha = .05 throughout. Qualitative interview data were transcribed verbatim and analysed thematically using Braun and Clarke's (2006) six-phase framework.

Results

Socio-demographic profile of participants

Table 1 presents the socio-demographic characteristics of the 113 survey participants for whom complete data were available (one FPN participant was excluded due to incomplete responses). The sample is predominantly male (57.5%), consistent with national statistics on disability disclosure in Nigerian tertiary institutions. The majority of participants (47.8%) were aged 18 to 24 years. Physical and mobility impairments were the most represented disability type (38.1%), followed by visual impairments (25.7%) and hearing impairments (21.2%). Most participants were students (80.5%).

Table 1: Socio-Demographic Characteristics of Participants by Institution

Characteristic	FPN (n=38) n (%)	FUL (n=27) n (%)	NSUK (n=26) n (%)	NSP (n=22) n (%)	Total (N=113) n (%)
Sex: Male	22 (57.9)	15 (55.6)	15 (57.7)	13 (59.1)	65 (57.5)
Sex: Female	16 (42.1)	12 (44.4)	11 (42.3)	9 (40.9)	48 (42.5)
Age: 18-24 years	18 (47.4)	12 (44.4)	13 (50.0)	11 (50.0)	54 (47.8)
Age: 25-34 years	14 (36.8)	10 (37.0)	9 (34.6)	8 (36.4)	41 (36.3)
Age: 35 years and above	6 (15.8)	5 (18.5)	4 (15.4)	3 (13.6)	18 (15.9)

Disability: Physical/mobility	15 (39.5)	10 (37.0)	10 (38.5)	8 (36.4)	43 (38.1)
Disability: Visual	9 (23.7)	7 (25.9)	7 (26.9)	6 (27.3)	29 (25.7)
Disability: Hearing	8 (21.1)	6 (22.2)	5 (19.2)	5 (22.7)	24 (21.2)
Disability: Cognitive/intellectual	6 (15.8)	4 (14.8)	4 (15.4)	3 (13.6)	17 (15.0)
Status: Student	30 (78.9)	22 (81.5)	21 (80.8)	18 (81.8)	91 (80.5)
Status: Staff	8 (21.1)	5 (18.5)	5 (19.2)	4 (18.2)	22 (19.5)
Duration: <1 year	6 (15.8)	4 (14.8)	4 (15.4)	3 (13.6)	17 (15.0)
Duration: 1-3 years	20 (52.6)	14 (51.9)	13 (50.0)	11 (50.0)	58 (51.3)
Duration: >3 years	12 (31.6)	9 (33.3)	9 (34.6)	8 (36.4)	38 (33.6)

Note. FPN = Federal Polytechnic Nasarawa; FUL = Federal University Lafia; NSUK = Nasarawa State University Keffi; NSP = Nasarawa State Polytechnic. One FPN participant was excluded due to incomplete data.

Physical infrastructure accessibility ratings by institution

Table 2 presents the mean scores and standard deviations for all ten physical infrastructure items at each institution and for the pooled sample. Mean scores are interpreted as: M < 2.00 = Critical Deficit; M 2.00 to 2.99 = Inadequate; M 3.00 to 3.49 = Partial; M >= 3.50 = Adequate, consistent with the five-point Likert scale anchors (1 = Strongly Disagree; 5 = Strongly Agree).

The grand mean scores confirm that overall accessibility across all four institutions falls within the Inadequate range: FPN (M = 2.34), FUL (M = 2.25), NSUK (M = 2.12), and NSP (M = 2.11). Restroom disability-friendliness and student accommodation provisions recorded the most severe deficits, with NSUK and NSP each showing 100% combined disagreement (Strongly Disagree and Disagree) on these items, indicating that no respondent at either institution agreed with their adequacy. Emergency exit accessibility and computer laboratory adaptations similarly recorded near-total combined disagreement rates across all institutions. Entrance ramps at FPN (M = 3.50) were the sole item to reach the Adequate threshold, and even this item recorded 40.7% combined disagreement. Field observations corroborated these ratings: visible ramps were observed at selected main buildings at FPN, while restrooms, accommodation blocks, and laboratory facilities showed no observable accessible features at any of the four institutions.

Table 2: Mean Scores and Standard Deviations for Physical Infrastructure Accessibility Items by Institution

Infrastructure Item	FPN M (SD)	FUL M (SD)	NSUK M (SD)	NSP M (SD)	Overall M (SD)
Ramps at building entrances	3.50 (1.12)	2.89 (0.98)	3.11 (1.05)	2.64 (0.91)	3.04 (1.02)
Classroom doorway width	2.37 (1.04)	2.41 (0.99)	2.50 (1.08)	2.27 (0.87)	2.39 (1.00)
Library accessibility	2.63 (1.17)	2.56 (0.94)	2.62 (0.99)	2.41 (0.89)	2.56 (1.00)
Adapted laboratory equipment	2.10 (0.88)	2.10 (0.88)	2.08 (0.80)	2.05 (0.79)	2.09 (0.84)
Emergency exit accessibility	2.00 (0.85)	2.00 (0.78)	1.96 (0.74)	1.95 (0.72)	1.98 (0.77)
Restroom disability-friendliness	1.80 (0.72)	1.80 (0.69)	1.35 (0.49)	1.50 (0.58)	1.64 (0.62)
Student accommodation provisions	1.80 (0.73)	1.80 (0.73)	1.38 (0.50)	1.60 (0.61)	1.65 (0.64)
Sports facility accessibility	2.42 (1.02)	2.30 (0.88)	2.27 (0.85)	2.23 (0.86)	2.31 (0.90)
Campus lighting adequacy	2.74 (1.10)	2.63 (0.95)	2.58 (0.97)	2.50 (0.92)	2.61 (0.99)
Computer laboratory adaptations	2.00 (0.82)	1.96 (0.74)	1.85 (0.69)	1.91 (0.71)	1.93 (0.74)
Grand Mean (all items)	2.34 (0.95)	2.25 (0.86)	2.12 (0.82)	2.11 (0.81)	2.22 (0.86)

Note. M = mean; SD = standard deviation. Scale: 1 = Strongly Disagree, 5 = Strongly Agree. Interpretation: M < 2.00 = Critical Deficit; M 2.00-2.99 = Inadequate; M 3.00-3.49 = Partial; M >= 3.50 = Adequate (based on Likert scale midpoint and distribution anchors).

Associations between physical accessibility dimensions

Table 3 presents Pearson chi-square results examining selected associations between accessibility dimensions. At FPN, a statistically significant association was found between entrance ramp provision and student accommodation accessibility (chi-square (8, N = 27) = 16.82, p = .032), with a negative direction indicating that better ramp provision was associated with worse accommodation ratings, consistent with fragmented investment that prioritises visible entry features over interior spaces. A statistically significant pooled association between accommodation and restroom accessibility across all four institutions (chi-square (8, N = 113) = 18.42, p = .018) indicated that these two critical deficits cluster together systemically.

Table 3: Pearson Chi-Square Test Results for Selected Accessibility Dimension Associations

Variables	Institution	Chi-Square	df	N	p
Entrance ramps x Student accommodation	FPN	16.82	8	27	.032*
Entrance ramps x Student accommodation	NSUK	21.84	16	26	.145
Entrance ramps x Student accommodation	NSP	6.42	9	22	.694
Accommodation x Restroom access (pooled)	All institutions	18.42	8	113	.018*

Note. df = degrees of freedom; p = two-tailed significance. *p < .05 indicates a statistically significant association. The negative direction of the significant FPN association indicates fragmented provision. FUL not included for entrance ramps x accommodation due to insufficient cell frequencies.

Correlations among accessibility dimensions at FPN

Table 4 presents the Pearson product-moment correlation matrix for six key infrastructure items at FPN (n = 38). The most striking finding is the significant negative correlation between entrance ramps and student accommodation (r = -.51, p < .01), confirming the inverse investment relationship detected by the chi-square analysis. All other significant correlations are positive, with the strongest associations among restroom accessibility and student accommodation (r = .67, p < .001), emergency exits and laboratory adaptations (r = .63, p < .001), and classroom doorways and emergency exits (r = .48, p < .01). This pattern suggests that most interior accessibility dimensions co-degrade together, reflecting general neglect of non-entrance infrastructure.

Table 4: Pearson Correlation Matrix for Selected Accessibility Items at FPN (n = 38)

Item	Ramps	Classrooms	Restrooms	Accommodation	Emergency Exits	Lab Adaptations
Ramps at entrances	1.00	.38*	.12	-.51**	.27	.31
Classroom doorway	.38*	1.00	.44**	.39*	.48**	.52**
Restroom access	.12	.44**	1.00	.67***	.59***	.48**
Student accommodation	-.51**	.39*	.67***	1.00	.61***	.55***
Emergency exits	.27	.48**	.59***	.61***	1.00	.63***
Lab adaptations	.31	.52**	.48**	.55***	.63***	1.00

Note. n = 38. *p < .05; **p < .01; ***p < .001. FPN analysis reported as the largest sub-sample.

Predictors of overall accessibility satisfaction

Multiple linear regression with stepwise entry identified six significant predictors of overall accessibility satisfaction, as presented in Table 5. The model was statistically significant (F(6, 31) = 8.14, p < .001) and explained 61% of the variance in overall accessibility satisfaction (R-squared = .61; adjusted R-squared = .54). Restroom disability-friendliness emerged as the strongest predictor (beta = .38, p = .004), followed by student accommodation provisions (beta = .35, p = .004). Classroom doorway width (beta = .27, p = .026) and entrance ramps (beta = .24, p = .031) were also significant positive predictors. Emergency exit access (beta = .22, p = .066) and laboratory adaptations (beta = .20, p = .084) approached but did not reach statistical significance.

These findings indicate that improvements to restrooms and accommodations would yield the greatest gains in PWDs' overall accessibility experience.

Table 5: Multiple Regression Analysis: Predictors of Overall Accessibility Satisfaction (n = 38, FPN)

Predictor Variable	B	SE B	Beta	t	p	95% CI
(Constant)	0.42	0.31	-	1.35	.186	[-0.21, 1.05]
Entrance ramps	0.18	0.08	.24	2.25	.031*	[0.02, 0.34]
Classroom doorway width	0.21	0.09	.27	2.33	.026*	[0.03, 0.39]
Restroom accessibility	0.31	0.10	.38	3.10	.004**	[0.11, 0.51]
Student accommodation	0.28	0.09	.35	3.11	.004**	[0.10, 0.46]
Emergency exit access	0.19	0.10	.22	1.90	.066	[-0.01, 0.39]
Lab adaptations	0.16	0.09	.20	1.78	.084	[-0.02, 0.34]

Note. R-squared = .61; Adjusted R-squared = .54; F(6, 31) = 8.14, p < .001. VIF values ranged from 1.24 to 2.18, confirming the absence of multicollinearity. *p < .05; **p < .01.

Discussion

The findings of this study establish that physical infrastructure accessibility at all four Nasarawa State tertiary institutions is severely and pervasively deficient, with critical inadequacies concentrated in the most essential daily-use facilities: restrooms, accommodation, emergency egress, and adaptive laboratory equipment. The overall mean scores at each institution (M = 2.11 to 2.34) confirm a campus accessibility landscape that falls below adequate provision across all assessed dimensions. This is consistent with findings from Adelowo *et al*. (2022), Akinpelu *et al*. (2022), and Odeyemi and Ogunyemi (2023) in south-western Nigerian universities, and extends the empirical evidence base to the North-Central geopolitical zone.

The convergence of severity and regression weights on restrooms and accommodation is theoretically significant. These two facility types share the characteristic of being private, intimate, and non-negotiable: they cannot be substituted by alternative routes or workarounds. The Social Model of Disability (Oliver, 2013) identified inaccessible sanitation and accommodation as among the most disabling built-environment features, transforming private need into public exposure. When accessible restrooms are unavailable, PWDs must either manage their bodily needs in public or forgo participation in campus activities altogether. This study's regression analysis, showing restrooms (beta = .38) and accommodation (beta = .35) as the two strongest predictors of overall accessibility satisfaction, corroborates this theoretical claim with empirical evidence.

The negative correlation between entrance ramp provision and accommodation accessibility (r = -.51, p < .01), corroborated by the significant chi-square association at FPN, constitutes the most theoretically important finding of this study. This inverse relationship indicates that institutions that invest in entrance ramps tend to do so at the expense of interior accessibility rather than in addition to it. Qualitative interviews provided explanatory context. One disability officer at FPN noted that institutional investment in entrance ramps was triggered by a regulatory inspection visit, after which no further accessibility works were undertaken. A facilities manager at FUL described investment decisions as driven by external visibility: features visible at the campus gate receive priority, while inaccessible restrooms and accommodation blocks, which are not visible to external reviewers, receive no investment. This pattern aligns with Imrie's (2012) concept of the 'facade effect', as also applied by Bunbury (2020) in the United Kingdom context and constitutes what Power (1999) terms performative compliance in the organisational sociology literature: symbolic gestures that project conformity to external standards without delivering substantive interior accessibility.

The study also reveals governance and institutional failures that underpin the documented physical deficits. At all four institutions, key informants reported the absence of ring-fenced disability accessibility budgets, leaving accessibility investment to compete in general capital budget processes where disability populations are numerically small relative to other institutional priorities. None of the four institutions had documented Personal Emergency Evacuation Plans for PWDs, and facilities managers reported uncertainty about accessible evacuation requirements, revealing both knowledge and resource deficits. These governance failures are consistent with Mutanga's (2022) findings in South African institutions and Mwangi and Ochieng's (2021) findings in Kenya, suggesting that the institutional and governance barriers to accessibility are regional in character.

Conclusion

This study provided multi-institutional empirical assessment of physical infrastructure accessibility for PWDs in Nasarawa State's tertiary institutions. The

findings indicated restroom facilities and student accommodation recorded the most severe deficits, with 100% combined disagreement at NSUK and NSP; emergency exit accessibility recorded combined disagreement rates of 92% to 96% at all institutions; and computer laboratory adaptive equipment is effectively absent at all four sites. Only entrance ramps at FPN achieved a mean score above the Likert midpoint, and even this item recorded 40.7% combined disagreement. The overall mean scores across all institutions confirmed that physical infrastructure accessibility falls within the lower Inadequate range, with the most essential facilities approaching the Critical Deficit.

The inferential analyses identified performative compliance as the dominant institutional response to accessibility obligations: investment in visible entrance features that project external compliance without delivering interior accessibility. The regression findings identified restroom accessibility and accommodation as the strongest predictors of overall satisfaction, providing an empirically grounded investment prioritisation framework for policy and facilities management decisions. The qualitative data contextualised these patterns within a governance environment characterised by absent ring-fenced budgets, lack of disability expertise in facilities management, and non-existent emergency evacuation planning for PWDs.

Theoretically, the study provided empirical confirmation of the 'facade effect' and performative compliance as operational phenomena in sub-Saharan African higher education. In practice, it generated prioritized evidence to inform targeted infrastructure investment and policy reform under the DAPD Act. The sample was drawn from registered PWDs only, potentially excluding unregistered disabled individuals; disability under-registration was documented in Nigerian institutions due to stigma. The questionnaire items assessed campus-wide accessibility and, while appropriate for this purpose, did not differentiate item relevance by disability type, an omission that would strengthen future research. The regression analysis was conducted at FPN only, limiting generalisation. Future studies should adopt universal accessibility standards such as the National Building Code as objective benchmarks alongside self-reported ratings. Based on the findings, the following recommendations are made. In the short term, all four institutions should be required to develop and implement accessible restroom and accommodation facilities as the highest-priority investment, given their significance and current 100% non-provision at state institutions. In the medium term, mandatory Personal Emergency Evacuation Plans and accessible emergency egress provisions should be established, given the documented life-safety risk. In the long term, the NCPD and NUC should establish a binding accessibility audit and certification regime, incorporate accessibility compliance as an accreditation condition, and find a way of mandating ring-fenced disability budgets at all tertiary institutions.

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