INFRASTRUCTURE ACCESSIBILITY IN NIGERIAN CAMPUSES: EVIDENCE FOR POLICY AND PRACTICE

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ABSTRACT: Mobility barriers in Nigerian campuses are unmistakable and continued to affect the accessibility experience of persons with disabilities (PWD). Yet, an examination of disabling barriers for inclusive mobility of (PWD) has been largely absent. Previous studies of disablement processes have been infused with diverse socio-spatial overtones and undertones, but focused on medical rehabilitation rather than environmental modifications. This study sought to identify and examine the adequacy and usability of accessibility infrastructure in tertiary institutions offering special education in North West Nigeria, with a view to making recommendations to reduce if not overcome the identified problems at the policy and implementation levels. Participatory physical accessibility auditing conducted revealed a number of disabling barriers to PWD inclusive mobility. Findings highlight areas of concentrated disadvantages to include lack of adequate, accessible and usable infrastructure as guaranteed by the laws. Suggestions were drawn from the best practices for improving access and accessibility. Thus, the recommendations made have the potential of mitigating problems associated with inequality and disability in developing countries and widening participation in the global drive to achieve "*education for all"*.
Keywords: accessibility, infrastructure, disability, inclusive mobility, widening participation

INTRODUCTION

In an effort to make education accessible to all, there is a rising concern that disability is ignored in the United Nations Millennium Development Goal (Albert et al., 2005; Croft, 2010). Many disabled persons are excluded from the mainstream educational opportunities, or segregated even in the 21st century (Garuba, 2003). This trend is required to be reversed (Shakespeare & Officer, 2011; UN CRPD, 2006; UN Enable, 2011). Persons with disabilities (PWD) are facing multiple disadvantages, particularly with regards to mobility as a result of architectural neglect (Goldsmith, 2000; Imrie, 1997, 2000; Waller, Bradley, Hosking, & Clarkson, 2015). In a word, public buildings are so often conceived without the provisions for disabled people in the building (Imrie, 2003). When public buildings are conceived without PWD accessibility requirements, mobility restriction results and modification cost arises, but not otherwise (Holmes-Siedle, 1996). Architectural disability in architectural scholastic term is the lack of access to the built environment as orchestrated by the designers (Goldsmith, 2000) and is tantamount to access restriction and exclusion in higher educational settings (Barnes, 2007).

Accessibility is an essential element in the inclusive mobility and participation of PWD in higher education (Sachs & Schreuer, 2011). According to Holmes-Siedle (1996), integration of PWD into the mainstream setting is allowed in as much as the body can adjust and become suited to live within what is considered a "normal society". Given equal opportunity, potentialities of non-disabled persons are no different from those of the so-called PWD. It is in this sense that PWD made impressive records of achievements and performance across ages and milieu (Wilkinson, 2009). The burgeoning literature on how a growing enrolment rate in education contributes to socioeconomic development and reduce poverty (Morley & Croft, 2011; Yusuf et al., 2009) attested to the importance of widening participation in education. Thus, there is a general clamour on the need to embark on widening participation and inclusion of PWD in developmental activities, particularly in developing countries.

Despite the importance of widening participation, it seems much needs to be done to ensure that the claims on the widening participation are not just a question of what Yusuf et al. (2009) called registration of students into the increasingly dysfunctional institutions. Just as access to education is important in order to increase participation, so is physical accessibility to guarantee equality in participation of the PWD on equal merit. Accessibility provision is an antithesis of poor pedagogical

practices of discrimination, whether physical (Curl et al., 2011) or otherwise. When public built environment is not furnished with the requisite infrastructure for PWD inclusive mobility, socio-spatial discrimination results. In a word, inclusive mobility is obtained with the provision of accessibility infrastructure. However, inaccessibility of education built environment will continue if inclusive policies do not receive the consideration they deserved (Sachs & Schreuer, 2011). An environment designed to meet the need of PWD is expected to have the accessibility infrastructure adequate to accommodate their accessibility needs.

While discourse exists in the implementation of disability policies (Wendelborg & Tøssebro, 2010), in several sub-Saharan African countries it does not attract significant research attention (Croft, 2010). Nigeria, however, recognised the need to integrate the teeming population of her citizens and visitors with disabilities. Accordingly, Nigeria is in the forefront of signing and ratifying a number of international treaties, including the United Nation (UN) Convention on the Rights of Persons with Disabilities (CRPD), in addition to international treaties, Nigeria promulgated a decree christened "Nigeria with disability decree 1993". By implication, Nigeria has agreed to abide by the agreement to the inclusion of PWD, example, in the educational sector, providing access and accessibility to public buildings, anti-discriminatory mechanisms and host of other inclusive measures. Nigeria has a decade's old and comprehensive disability policy. The policy, like every other decree is meant to safeguard the rights and dignity of PWD to pursue education on equal merit. Nonetheless, several authors including (Abang, 2007; Aluko, 2006; Eleweke, 1999) posit their sentiments, expressing concern that the law does not apply in practice in the Nigerian context.

However, none of such claims regarding lack of policy implementation advanced a verifiable fact or statistics to prove that the policy is not being implemented. What needs to be done to overcome the dearth in the implementation of the policy is not only important, but a starting point of a corrective measure. These views are in agreement with Yusuf et al. (2009) concern that disability as a structure of inequality has not received significant attention it merited in relation to higher education in the sub-Saharan Africa. Very few studies examine the built environment in the Nigerian context (Ahmed et al., 2014; Hamzat & Dada, 2005). However, the major limitations of the previous studies are that, these studies mainly focus on public spaces not specifically designated to serve the need of PWD. Also, medical practitioners often conducted these previous studies with a focus on medical rehabilitation rather than environmental modification. This is reinforcing a medical model of disability, which regards "… *the human being is flexible and "alterable" whilst the society as fixed and unalterable, leaving disabled people to a hostile environment"*(Holmes-Siedle, 1996). This research is not medically, but socio-spatially inclined.

Documents review of policy decree that has been in existence for upwards two decades (1993-date) is intended to provide a basis for the study, and serve as a basis for the physical accessibility audit checklist (PAAC). The access audit is tailored towards improving accessibility provision in line with the main research focus. PAAC examines existing accessibility infrastructures and services against predetermined criteria designed to assess the availability, enumerate the adequacy and measure usability of an existing infrastructures accessibility and services offered to PWD for an overall improvement (Holmes-Siedle, 1996; Kamarudin et al., 2012).

In this paper, we address key issues related to inclusive mobility of PWD in educational settings. Our study is motivated by the limitations associated with the previous studies as earlier discussed. The study is structured in two parts: Part 1 deals with policy accorded rights to inclusive mobility in selected campuses in Nigeria. Secondly, it concerns infrastructure, accessibility. The focus is to locate evidence of mobility disability amidst inclusive policy in order to propose a way forward in both physical and policy levels.

METHODOLOGY

Nigeria, the most populous country in Africa covered an area of 932, 768 km^2 with a population that surpasses the 15 other West African countries combine (Eleweke, 1999). Constitutionally, it is split

into six geopolitical zones. North West Nigeria is the most populous region in the country, according to the National Population Commission (2010) and holds the highest illiteracy rate in the English language as contained in the National Literacy Survey (National Literacy Survey, 2010). The only two higher institutions offering "*special education*" at departmental level and with a considerable number of PWD on records were selected for the case study from Kano State (the most populous state in the region in particular and the country in general). The institutions selected for the study involved Bayero University Kano (BUK) represented as case study-1 and Sa'adatu Rimi College of Education Kumbotso (SRCOE) represented as a case study-2.

The methods consist of two parts: qualitative content analysis of policy documents and physical observations that involved PAAC. The selected documents to review is the "Nigeria with disability decree 1993" being the so-called current version to date. The analysis follows a qualitative content analysis procedure to emphasise the relevant areas. The focus was placed on accessibility provisions for hearing, visual, and walking impaired staff and students. The facilities examined are entrance ramp, washrooms, automatic doors, curving, seating for PWD, designated parking space for PWD, amplification system, telecommunication devices for the deaf (TDD), and door Markings/Sign in braille. Areas identified with barrier-ridden features were photographed as sources of multiple evidences. Data collections follow a participatory approach carried out with participation of disabled staff and students with mobility impairments. People that are considered mobility impaired are the visually, hearing and walking impaired to a large extent (Baris & Uslu, 2009), because the environment seldom favours their mobility requirements. The main criteria for the selection of the case study area followed the availability and presence of PWD in a given institution. The selection of the cases within the institutions focused on mobility impairment.

RESULTS AND DISCUSSION

Table 1: The rights of PWD in the Nigerian context as contained in the "National Disability Decree 1993"

KEY EMPHASIS
Section 1: General Principles- Clear and comprehensive legal security…. Standards for enforcement…. applicable to disabled in Nigeria
Section 2: Declaration of policy- Disabled are …guaranteed equal treatment …for all purpose... All authorities to adopt policies and ensure full integration and the mainstreaming of PWD
Section 3: Interpretation- Meaning of disability and commission in national context
Section 5: Education- 5.1- free education at all levels 5.3.2- structural adaptation of all educational institutions at all levels 5.4.2.1- provision of special needs of the disabled 5.4.2.2- establish a national institute of special education to facilitate needs of the disabled 5.4.2.5 improve university education facilities to ensure maximum benefit for the disabled- "Government shall ensure that no less than 10% of all educational expenditures are committed to the educational needs of the disabled at all levels"
Section 6: Employment and vocation- Without discrimination
Section 7: Housing- Access and accessibility
Section 8: Accessibility- 8.1- "accessibility to public institutions and facilities are hereby guaranteed to the disabled" 8.2- governments shall provide (a) adequate mobility within its facilities (b) suitable exits for the disabled
Section 9: Transportation- 9.1 Free transportation by bus, rail or any other than air 9.2 Adjustment of the transport system to PWD's needs 9.3 Priority shall be accorded to PWD by reserving reasonable number of seats to PWD
Section 12: Telecommunication- Facilities are guaranteed under this act (a) …Sign language in programs with national significance (b) provide at reasonable price devices for hearing impaired (c) free postal services to PWD

Source: author's compilation and emphasis from "the Nigerian with disability decree 1993"
Presentation of findings for PAAC

Table 2: Matrix of accessibility infrastructure in BUK and SRCOE

Study area	*Facilities/ Buildings*	*Entrance Ramps*	*Automatic doors*	*Curving*	*Modified washroom*	*Seating for Disabled*	*Designated Parking*	*(TDD)*	*Amplification Systems*	*Sign/Door Markings*
Case study site-1	Admin/ Chancellery	1	0	1	0	0	0	1	0	0
	Library	0	0	0	0	0	0	0	0	0
	Central Bus stop	0	0	0	0	0	0	0	0	0
	DSE	1	0	1	0	0	0	0	0	0
	Restaurant/ Cafeteria	0	0	1	0	0	0	0	0	0
	Theatre	0	0	1	0	0	0	1	0	0
	Total in Case study site-1	*11%*	*0%*	*22%*		*0%*		*11%*		*0%*
Case study site-2	Admin/ Chancellery	1	0	0	0	0	0	0	0	0
	Library	1	0	0	0	0	0	0	0	0
	Central Bus stop	0	0	0	0	0	0	0	0	0
	DSE	2	0	2	0	0	0	0	0	0
	Restaurant/ Cafeteria	0	0	1	0	0	0	0	0	0
	Theatre	1	0	0	0	0	0	0	0	0
	Total in Case study site-2	*28%*	*0%*	*17%*			*0%*			

Assessment of accessibility of campus infrastructure using PAAC is presented in matrix form in Table 2. The values of 3, 2, 1, and 0 to represent 100% facilities, 50% or more facilities, less than 50% of facilities, and 0% facilities are provided. Enumerated facilities include 12 buildings, six from each campus comprising of chancellery/Senate or administrative block, the main campus library, Department of Special Education (DSE), cafeteria, main campus theatre, and central bus stop as depicted in Figure 1. The red and blue bars represent campus site 1 (SA) and site 2 (SB) respectively. Curving recorded the highest value in case study 1 as shown in Table 2, followed by the entrance ramp and TDD. Automatic doors, modified washroom, seating for disabled, amplification system and sign/ door markings have the least value in case study site 1. In case study site 2, entrance ramp recorded highest, followed by curving. Automatic doors, modified washroom, seating for the disabled. TDD, amplification system and sign/ door markings have the least value in the case study site 2 as shown in Table 2. The result implies that physical beauty of campus is prioritized over accessibility by paying more attention to the curve than any other accessibility infrastructure, in case study site 1. Ramp appeared more adequate than other infrastructures. In a separate interview conducted, the TDD is available to satisfy the Nigerian University Commission (NUC) requirements as argued by one of the respondents. For other infrastructure automatic doors, modified washroom seating for the disabled, amplification system and sign/ door markings for disabled, however, none is available in the so-called disability friendly campuses. The PAAC results of the case study site 2 again show replication logic to campus site 1. Here, entrance ramp is prioritized followed by curving. Other accessibility infrastructures, however, are either consciously or unconsciously omitted in case study site 2 as shown in Table 2.

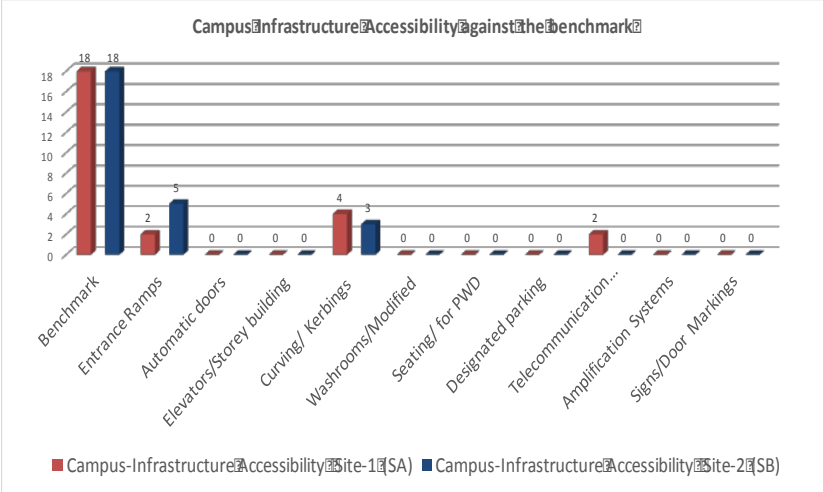

Figure 1: Accessibility infrastructures provided in two study areas, Source: Author's SurveY

From the PAAC results, overall, the department of special education (DSE) scored poorly but relatively better than other buildings. The PWD, like everyone needs access to the chancellery or the administrative block if they have the right to be employed as contain in the policy documents. Rights to inclusive mobility also covered the main campus library, DSE, cafeteria, lecture theatre, and central bus stop as in Figure 1.

Walking impaired

Entrance ramps: SRCOE recorded a better, but poor result of 28%. A Critical look at the celebrated record of 28% entrance ramp in SRCOE shows that 40% of the entrance ramps are located in a single building. The newly constructed department of special education, as if PWD are expected to limit their mobility around and within such building; they should have nothing to do with the cafeteria or any other building. The modification must be wholly for inclusive participation (Holmes-Siedle, 1996). For example, the absence of connection between entrance gates and central bus stop and the DSE puts PWD to an extra stress. Nearly 100% facility provisions are expected to be available in the only tertiary institutions catering for the educational needs of PWD in a state with the highest number of PWD, and located within the geopolitical region with the highest illiteracy rate in the country. However, entrance ramps are recorded only in the DSE and lecture theater. The implication of that is that PWD are expected to study special education in Nigerian psyche and nothing more. Contrarily, lives and legacies of disabled people defied socio-spatially constructed disability (Wilkinson, 2009). The PWD livelihood should not be confined to "learn and teach special education".

Medical approach leads to the segregation of PWD (Shakespeare & Officer, 2011). Similarly, for Cut kerbs: SRCOE record a relatively better, but still a poor record of 17%, which are similar to what is obtained in BUK with 22% and perhaps for the same reason; beautification. Architects were often blamed for an obsession with embodying harmonic order to the detriment of body and physiological diversity (Imrie, 2003). Upgrading the curving and cut kerbs to have an adequate turning radius may benefit all. Modified washrooms, seating for the disabled and designated parking collectively have 0%, which indicated that the importance of modified washrooms; seating for the disabled and designated parking has been underestimated in both campuses. No toilet facility was designated to cater for wheelchair user's needs.

Visually impaired

Automatic doors and lifts in multi-storey buildings 0% record for both BUK and SRCOE is expected, considering the unstable electricity that lingers in the country for several decades. Curving recorded a relatively better score in BUK than any other accessibility infrastructure in the beautifully landscaped campus. Sign door markings have been completely overlooked. Should PWD feel excluded, will it be

appropriate to dismiss them as asking for too much? There is a need to hear their own side of the story (Moswela & Mukhopadhyay, 2011). Visually impaired more than other study participants, experienced environmental alienation attributed to the absence of basic provisions such as signs in braille, tactile, door markings, lack of central islands and clear, unobstructed pathway from one building to another within either of the two "disability friendly campuses".

Hearing impaired

Most of the facilities enumerated have across impairment advantage, but there are facilities that are impairment specific. Telecommunication device for the deaf (TDD) is one of them. A Telecommunication TDD for text communication via a telephone line is essential for hearing impaired especially in an emergency situation. Case study-SA, has a record of 11% because they constitute setting up a department of special education in line with the NUC guidelines. Amplification system is important in an often-overcrowded lecture halls/theaters, but here again 0% was recorded from both campuses. The consequence of such architectural oversight may translate into the campus livelihood of PWD.

Policy implications

Factors influencing the design process and product of a given environment are many including climatic, topographical or location, User's and legal requirement, as well as design concept e.g. top-down or bottom-up approach, and of course costs. Steady indications abound that many architects feel that designing with the disabled user requirement is not necessary, as it constitutes a cost and aesthetic implication that is difficult to justify when compared with the number of disabled in the society (Holmes-Siedle, 1996). This notion is particularly proven untrue in a number of studies.

Design practice in Nigeria is implicated in this study as disability unfriendly. Why else is the environment like the department of "special education" not specifically designed to cater for the mobility needs of PWD amidst inclusive policies? The "on paper promise" include free education at all levels, structural adaptation of all educational institutions at all levels, provision of special needs of disabled, institute of special education to facilitate the needs of disabled people, improve university education facilities to ensure maximum benefit for the disabled. The conclusion of the policy decree clearly stated: *"Government shall ensure that no less than 10% of all educational expenditure are committed to the educational needs of the disabled at all levels"*. Now that the policy has been more than two decades old, such policy needs to be implemented or reviewed or else PWD will have the right to demand "*when is the policy going to see the light of the day*?"

To make public facilities on the campuses of higher education accessible to PWD, the "on paper promises" need to be practically concretized. It has been stated that "*accessibility to public buildings and facilities are hereby guaranteed to the disabled*" as contained in Table 1, in practice, public built environment, including those meant to accommodate a number of disabled staff and students has neither been conceived with nor modified for disable user requirement. Similarly, the promise of making telecommunication facilities accessible to PWD as contained in Table 1, ought to be fulfilled. Disability policy implementation guarantees access and accessibility for disabled users and everyone else. Ultimately, it has the potential to mitigate problems associated with employment and social security suffered especially by PWD if *"Government shall ensure that no less than 10% of all educational expenditure are committed to the educational needs of the disabled at all levels"* in the oil rich country, Nigeria.

CONCLUSION

Overall, the evidences of mobility disability in educational settings designed to accommodate PWD are examined against national inclusive policy in the study. A widening gap is established between "the on paper policy" and its translation into reality for disabled people integration in the Nigerian educational settings. Qualitative content analysis of policy documents and physical accessibility audit

checklist of infrastructure is used. In order to exercise a positive influence on the architect to create an accessible built environment for all, three things are recommended: first, Architects should consider accessibility for the disabled as a positive selling point of the design concept, secondly, Accessibility for PWD be made a requirement in obtaining approval from regulatory bodies or most importantly, The architect and environmentalists understand that users may include persons with temporary or permanent disabilities. Disability friendly built environment does not necessarily represent a place designated for PWD's use. It is a place accessible and usable by disabled persons, whether officially designated or not. Thus, it includes not only the buildings that are designated to serve the educational needs of PWD but other interior or exterior spaces of common patronage to all people irrespective of impairment or so-called disability. Therefore, PWD need is to have access not only to the department of special education, but also access to public washrooms, restaurants, university libraries, administrative building, and lecture theaters and halls, as well as central bus stop and parking space with requisite infrastructures. The study findings show that the disability friendly campuses with the largest number of PWD in the most populous state in Nigeria are in need of urgent attention for the inclusion of disabled people and everybody.

Though accessibility auditing is participatory conducted with disabled people, it is nonetheless an interpretation of the subjective understanding of the researchers rather than the disabled persons themselves. In the future, the study will include the perception of the PWD.

Acknowledgement

University of Malaya Research Grand (UMRG) under the Sustainable Science Research Cluster in part supports the research (RP009-2012B: Sustainable Urban Mobility in the livable City of Kuala Lumpur).

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