

Public Buildings and Facilities Challenges for Disabled Residents of Port City Nigeria

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Abstract: Against the background of the increasing problems of non-universality of public buildings resulting from the failure of various governmental agencies and inabilities of built environment professionals to consider the important and helpful facilities for the physically challenged in public buildings, the paper attempt to survey public buildings and effect of its deficient facilities on physically challenged facet of Port Harcourt population. Descriptive survey design was adopted for examination. The population comprised 500 public buildings through 23 neighbourhoods of Port Harcourt environs, Nigeria. A total of 100 public buildings were selected using the appropriate stratified random sampling technique. Public buildings and challenging relation of people with disabilities questionnaire (PBCRPDQ) was employed for data collection. The data collected were analysed using standard deviation and chi-square of goodness-of-fit for test at 0.05 significance level. The findings revealed that slop ramp (0.67), width of doors and manicule, wheelchair ramp and hand rail and guard rail etc are the necessary facilities lacking in the public buildings. In addition, the analysis publicized that deficiency of important facilities in public building had negative effect on people with disabilities at ($\chi^2 = 126.44$, df 1, $p = 0.05 > 0.00$). Based on the findings of this research, it was recommended among other things that the government should take prompt action to resolve issues responsible for non-inclusion of crucial facilities that enhanced the accessibility of public buildings by the physically challenge persons especially at the planning and construction stages of such public buildings irrespective of the location and sizes.

I. INTRODUCTION

The ability to design and implement public buildings in urban settings of the world encompasses a bulky monetary obligation that, in many circumstances, determine continuously the eminence of public buildings, its universality before the city populace, chances and such buildings developmental processes that form our urban spaces in significant ways. Swotting on these buildings can disclose abundant deal concerning the challenges, expectancy and design contents of public buildings in developing nations. In addition, the unfair and undying challenges that such building reveal on the side of the physically disabled makes a comprehending of those challenges imperative for physical planning and construction of universal public buildings and its environs (survey 2020). Public buildings accessibility challenges was recognised by Bumaa, Ayagere, Amakiri-

whyte, and Ubani (2020), who noted that school buildings, police stations, courthouses, institutional buildings, legal building, transportation building, medical building and banking/recreational buildings are the existing and classified public buildings without all-encompassing facilities for the physically challenged while wheelchair ramp, elevators, and modified toilet are not found in contemporary public buildings situated in oil produced Niger Delta of Nigeria and beyond. Similarly, Nandana and Karen (2011) detailed that wheelchair accessibility failed to record 100% in spite of the implementation of present bylaws and protocols, this in combination with parking which proved the lowest acquiescence rank amongst all amenities when it comes to accessibility, although arrivals had the highest and called that for appraisal of modern and ancient buildings about the wheelchair accessibility while Professional practicing in such direction should play a significant role that could enhance wheelchair accessibility and participation community affair.

Generally, persons with disability experience dissimilar challenges while accessing public buildings within and outside their environment. In planning, architecture, civil engineering and building technology, construction of public buildings are taking place without the inclusion of similar facilities and amenities that makes public buildings acceptable universally. This could occur as a result of constructing public buildings by the quacks, government policy or taste of the clients seeking professional services without the inclusion of disabled persons. Daniel, Maria, Mariana and Paulo (2016) noted that disabled persons are facing challenging problems connected to access, use, and the potential abandonment of technologies. They maintained that these technologies can enhanced their patients, unconventionality, autonomy, and social participation in daily life. In Albuquerque New Mexico United States and Oaxaca, Oaxaca, Mexico, Terry, Sarah and Tracey (2004) employed the Americans with disabilities act accessibility guidelines checklist for buildings and Facilities to assess dissimilarities in stages of accessibility. Their work considered story buildings restaurants, churches, government buildings and public museums for universalities of the selected buildings across the geographic strata. However, the result detailed that accessible buildings were highly noticed at Albuquerque with significant level of ($p < .0001$) than buildings found in Oaxaca on dimension basis across the

building categories. The work concluded that lack of wheelchairs decline the unrestricted membership of disabled persons due to architectural fences common in municipal buildings. Meanwhile it has been known that such is a worldwide challenge, as micro studies were conducted on public buildings standard on universal foundation.

Seyed , Mashita, Mohamad and Rostam (2012) explained the significances of accessibility on daily basis particularly when it concerns the exterior and interior surroundings. They narrated that some public transport stations continue to exist without decent plan and facilities required for universality. They maintained that disabled people has little chances and subordinate standard of life compared to non-disabled. That the physically challenged are confronted with higher defies and problems in terms of public transport.

Talhatu and Olumide (2005) investigated the accessibility of public buildings by the wheelchair users across Ibadan metropolis of Nigeria. The study considered variables such as routes, steps, ramps and other facilities while abridged from of the Americans with disabilities act guidelines (ADAAG) was applied for the determination. Therefore, exactly 7 out of 37 buildings, 45.1% of the building entrances and 19.4% of routes were wheelchairs accessible. The research also demonstrated that the most accessible places were hospital buildings while none of the social and recreational buildings were accessible. According to the researchers, the work unveiled that low level wheelchair accessibility of public buildings in Ibadan Nigeria decline chances for integration participation of the wheel users.

In consideration of the physical survey method on nominated public buildings through checklists abridged from the instruments, Danso, Ayarkwa, Dansoh, A. (2011) studied the formal accessibility for the disabled in selected monumental public buildings in Accra, Ghana. This research intends to discover the level of selected public buildings within the administrative headquarters of Accra and available to persons with disabilities (PWDs). However, the result revealed that the Accra International Conference Centre (AICC) and the National Theatre (NT), which are relatively new buildings, are partially obedient with the guidelines in the international building tools, though not completely incapacity- friendly. The continuation, the work accounted that portion of the facilities: car parks, main entrances, ramps, staircases and corridors, were not available accessible for the PWDs. They added that directional signs, underfoot warnings, Braille texts, seats for wheelchair users and accessible public telephones, were not found in some of the public buildings.

Tim, Lynne, Elizabeth, Mike, Maria, Shibu, And Katie (2003) look at the previous works on indoor design for disabled, anchored on study examining the accessibility of outdoor environments, designates a innovative method via simulated authenticity skill to enhance people with disability classify and exam outdoor plan and planning enhancements themselves. The authors added that the requirements of people

with disabilities are currently updating the plan of residential houses and day focuses, nevertheless the subject of convenience to public spaces and basic amenities has been totally deserted. Countless outside environments which could be shopping centres or parks could be unwelcoming for people with dementia since they are perplexing, problematic to understand and pilot, intimidating or upsetting.

Sean, Ronald and Blair (2009) identify the level which curb ramps in an urban centre come across a set of wheelchair accessibility strategies. The study centred on 79 connections points within the urban area while eight accessibility features were considered based on current strategies. However, their findings revealed that 79 intersections were evaluated, 98.7% exist with curb ramps. To the extent that curb ramps, gave 53.8% direct lines of tourism from the footways to the crosswalks, 93.6% were ≥ 915 mm in width, 43.6% had ramp slopes $\leq 4.8^\circ$ (1:12), 57.7% had gutter counter-slopes of $\leq 2.9^\circ$ (1:20), 26.9% had plane changes (≤ 13 mm) from the curb ramps to the gutters, 85.9% were permitted from indiscretions and 100% were free from drainage grills and about 2.6% of the connections possess all the eight standards. The gave a conclusion by saying that curb ramps were found at nodes, as smaller amount of them passed the necessary accessibility test carried out. The implications of the analysis is that the groups accountable for building and retaining of curb ramps should ensure that wheelchair users and their caregivers study the wheelchair services compulsory to incredulous some accessibility obstacles.

Rob and Marion (1998) gave the varied practices that dissimilar disabled people encounter with respect to accessibility on built atmosphere. The article explained different manner physically disabled access facilities pronounced in public strategies and does in the direction of development and parameter of the manmade setting. They added that disabled requests are ailing in the plans and improvement of the constructed environ as the governing bodies in charge of disabled person's accessibility remains pathetic. In addition, the authors explained that disabled persons values, attitudes and practices to admittance in the built environ are the objective of the investigation. The result revealed that countless incapacitated people who sensation alienated and worried by sides of the built surrounding and in totality sense powerless to convince the public and policy makers. Their work proposed many directions of interlocking the plans and implementation of government procedure just before the human environs including the activities of disabled on daily basis.

While examining the public buildings and facilities for persons with and without impairment across Greater Boston, Neela, Grace, Mari-Lynn, Steve, Holly, Jane, and Shanker, (2004) employed four-member applicant crew in lieu of three categories of impairment such as mobility impaired one with wheelchair, mobility compromised person without wheelchair but visually incapacitated person, and those without impairments. The work appraised of 30 public buildings

through a task focused on information gathering tool, practical accessibility were indomitable in relations of percentage of responsibilities carried out, time, distance, barriers and enablers. The findings revealed that task presentation was much for the group. Conversely, the study established that wheelchair user accounted for a lesser task performance ranking (81%) when associated to the resistor (100%) as people with movement and visual deficiencies accounted (97–98%). The result added that minor dissimilarities occurred in the mean values for time and distance to widespread errands. They demonstrated that higher accessibility obstacles were common among people with mobility damages, wheelchair handler and non-wheelchair operator, as peak implementers were common to person with pictorial damage and handlers of wheelchair. The work maintained that the control itself was the lowermost fences and expeditors while the category of barricades and implementers differed for the noted impairments and the regulator – basic for wheelchair and flexibility damages. The authors concluded that assignment carried out by it might lead to bad analyst of useful entrée. The work added that obstacles and enablers continue to be important for accepting matters connected to practical contact for the handicap persons. As awareness of the way all these varies for disabled people could be suitable for upgrading green right of entry and reintegration..

Daniel (2004) evaluated the accessibility of public buildings for wheelchair users in Al Ain city of United Arab Emirates. The research considered exactly 17 buildings selected via indigenous telephone book as source while survey form containing eight accessibility zones such as parking, ramps, entrances, accessible routes, toilets, elevators, public telephones and water fountains and 79 materials from Americans with Disabilities Act Guidelines (ADAAG). His finding detailed that 73% higher and lowest accessibility at 13% while route gave the highest acquiescent accessibility with mean value of 76%, and parking space 19% as not any of the buildings facilities gave 100% defiance with the variables shown in the examination document. the work also proved that considerable were achieved in the area of wheelchair accessibility of public buildings within UAE city of Al Ain apart from the lacking rule. It concluded that wheelchair handlers can meet many and problem of architectural blockages when they go to any of the public places in Al Ain. While the research might have demonstrated sample of what occurred in the modern urban environment were delimited setting, lacking lawgiving protecting and safeguarding the accessibility for the wheelchair components of the environment.

Valliappan, Albert and Aarthi, (2018) look at the accessibility compliance in three facets of public buildings with focus on parking environs, interior part of the building, and the exterior components. The specific objective of the research was to determine the current convenience linked to matters and operation of strategies and values for public buildings. Their shown that the ecological fences facing flexibility

incapacitated persons shown vividly in the design program and bodily energy needed to overawed the problems common in physical environment.

Nahid and Zainab (2013) investigate architect professional and tangibly disabled users on the accessibility position of 14 public and university library buildings in Iran nation. The study considered variables such as parking, ramps, inside layout, selected space and unrestricted space for challenged person which anchored American Disability Act and International Federation of Library Associations and Institutions specification for libraries for the physically challenged. Their results established that disabled persons and designers on all standards alike but for ranking ramp and inside the arrangement for the restricted in library buildings. In connection to architects decision, as 53.8% of the libraries failed to deliver ramps and 63.0% lack selected space for the physically challenged.

Dorothy, Katherine and Glen (2000) examined the accessibility of fitness facilities in Topeka, Kansas via Americans with Disabilities Act Accessibility Guidelines (ADAAG). The act discovered a particular architectural accessibility necessary by the Title 3rd of the Americans with Disabilities Act of 1990 (ADA). They also explained that majority of these facilities contained one obstacle of a particular area measured. The author added that one facility was opportune to accessed values in the direction of toilets and access to workout tackle. The work concluded that lack of acquiescence with ADAAG might focus important blocks for wheelchair handlers and boundary appointment in terms of physical motion.

James, Barth, Edward, Amy, and Janine (2004) determined numerous barriers and facilitators linked with contribution in aptness and regeneration facilities between people with physically impairment. The study was held in 10 districts all over United States from 2001 - 2002 together with four kind of contributors such as resident with impairment, professional architects, fitness and refreshment professionals urban planners and park region managers as emphasis categorical implementers took considered determined obstacles and organisers to accessibility. The result demonstrated analysis 178 barricades and 130 facilitators and variables the research determined include obstacles and facilitators linked to build and normal situation, financial issues, demonstrative and mental blockades, apparatus barriers, blocks connected interpretation and adopted guidelines, puzzles, conventions, and laws, material on barriers; specialized information, tutoring, and exercise issues, insights and arrogances of people who are not physically challenged, together with professionals, strategies and processes on facility and community side by side; and accessibility of properties. The study concluded that level of contribution in physical motion between persons with incapacities and pretentious by multifactorial set of blockades and facilitators inimitable to these inhabitants.

In major urban centres in sub-Sahara Africa and specifically Port Harcourt of Nigeria, there seem to be existing and proposed public buildings without accessibility apparatus of the physically challenged. At the moment, the understanding of the growing incidents or non-existence of disable facilities in purely developed public buildings is limited. Base on the recognition that these non-universal public buildings never incorporated persons with disability, they thus avert and decline the universality of public buildings and deter the association and interaction of persons with disability in public urban vicinities of Nigeria and without a doubt Port Harcourt. Also there have not been suitable investigations in Nigeria to suggestion strong clarifications for illustrations and strategic development.

II. RESEARCH METHOD AND PROCESS

The study was conducted in communities with public buildings all over Port Harcourt metropolis comprising Obio/Akpor and Port Harcourt city local government Area of Rivers state. The population of this study consisted of 5000 residents from all the 94 government recognized communities in the metropolis of Port Harcourt. Adopting purposive sampling procedure, 10% of the 5000 population of the residents of the communities’ characterised by public buildings in the region of Port Harcourt metropolis was proportionately selected making a total of 100 respondents. The respondents were selected because they were conversant with the variables under investigation and may perhaps supply valuable facts on the research instrument. The instrument for data collection was a structured questionnaire title: public buildings and challenging relation of people with disabilities questionnaire (PBCRPDQ). The instrument was a 15 – items questionnaire built on 5 point likert scale and response approach of Strongly Agreed (SA) -5, Agree (A) -4, Disagree (D) -3, Strongly Disagree (SD) – 2 and undecided (UD) - 1. In order to ensure the validity of the instrument, the questionnaires was subjected to face and content validity by two experts from federal and state ministry of Housing and Urban Development Port Harcourt and the validity yielded an alpha –reliability coefficient of 0.71. This designates that the instrument is reliable. The course of the study trained and employed research assistant in the distribution of the questionnaire and collection of data. This was complete to ensure that the whole questionnaire were dully completed and returned for analysis.

III. RESULT AND DISCUSSION

Table 2: Standard Deviation Rating and mean on Public Buildings Inaccessibility by The Physically Challenged Persons in Port Harcourt Metropolis

S/n	Description	N	X	SD	Facilities for Accessibility
1	Slope ramp	500	3.42	0.67	Absent
2	Wheelchair ramp	500	3.37	0.69	Absent
3	Width of doors and manicule	500	3.33	0.79	Absent

4	Floor level of entrance	500	2.79	1.07	Absent
5	Stair	500	2.65	1.13	Absent
6	Hand rail & Guard rail	500	2.87	1.02	Absent
7	Placement of signage	500	2.69	1.08	Absent
8	Accessible meeting room	500	2.85	1.06	Absent
9	Elevator	500	2.67	1.11	Absent
10	Modified toilet	500	2.55	1.17	Absent

Source: field survey 2020

The applicability of standard deviation for the analysis was detailed in figures whereas the chart 2 beneath gave proper identification of the 10 practical facilities that made public buildings non-universal in Port Harcourt metropolis. Though, nonexistence of slop ramp in public buildings restrained the accessibility of the physically challenged and accounted for accounted (0.67) of analytical standard deviation statistics. The insinuation is that the physically challenged persons are demanding for safety and universality of public buildings to decline their isolation and increase their participation in public meetings that uses public buildings and it surrounding. That continued to be the strongest reason physically challenged persons residing in urban settlements are desperate of becoming part of urban governance, so that they could be involved in present and future decisions, policies and techniques of implementing public buildings in urban environment and demonstrate globally why the most aesthetic public buildings and their environs in Nigeria are below internationally recommended standard. The analysis also shown item 2, 3,4,5,6,7,8,9 and 10 have the standard deviation value of 0.69,0.79,1.07,1.13,1.02, 1.08, 1.06,1.11 and 1.17 with corresponding mean score of 3.37,3.33,2.79,2.65,2.87,2.69, 2.85,2.67 and 2.55 respectively that are higher than 2.50 . This implies that the total absent of these facilities will continue to decline the accessibility of public buildings by the physically challenged person all over the garden city of Port Harcourt. Lacking of the enhancement facilities that rendered public buildings sub-standard worldwide agreed with research findings of Catherine (2012) who, noted that peri- urban agrarian provides ecosystem services, wildlife habitat, view sheds, local heritage, and agricultural productivity that the smallest benefits made available by land trusts was equated to an investigation obtainable from farmland amenity, agric tourism, farmland preservation, and ecosystems examination to show the variety of market values for different benefits of farmland. Samuel and Emanuel (2014), who reported that the buildings constructed on the university campuses are not totally disabled friendly. The research explained that facilities like main entrances to auditorium/lecture galleries, ramp and tread cases were not freely available to physically challenged people. while facilities like directional signs, underfoot wearing, bailer texts, seat and spaces for wheelchair handlers were lacking or virtually not available in most of the urban

buildings. The work gave a summary that university authorities and those involved for the design and construction of municipal buildings for universities and the law implementation interventions should ensure that all public buildings designed and constructed across the universities campuses are disabled friendly are accessible before disabled member. The implication is that all the proposed and exiting classified public buildings in developing nation do not provide enabling and supporting environment for the accessibility by the physically challenged persons. Most of the respondent agreed that even the anticipated public buildings in Nigeria as well as other developing nations never think of making the buildings universal in next 50 years despite professional advice and government policies available in the relevant ministries and agencies.

Table 3 : Effect of Deficient facilities on public Buildings and Implications for the Physically Challenged

Response s	Observe d Freq	Expected Freq	D f	Leve l of sig.	X ² -cal	X ² -tab	Decisio n
No effect	30 (6.5%)	250(50%)	1	0.05	126.44	3.84	H0
Effect	470 (93.5%)	250(50%)					Not Agreed

Marks in interpolations are measurements ($\chi^2 = 126.44$, df 1, $p = 0.05 > 0.00$)

The analysis of the research on table 3 revealed that 93% of the respondents strongly documented that the deficiency of many facilities in existing and proposed public buildings has negative significant effect on physically challenged persons residing in cities as against 6.5% of the respondents who disagreed. Chi- square calculated value of 126.44 were found to be greater that the chi- square table value of 3.84 checked at 1 degree of freedom. The implication is that absence of necessary facilities that enhanced universality of public buildings has significant negative effect on physically challenged persons. This is in agreement with that of

IV.CONCLUSION

Based on the analysis of this examination, it was established that nonexistence of many facilities in public buildings has negative significant impact on physically challenged persons. It was also observed that slope ramp, wheelchair ramp, width of doors and manicule, floor level of entrance, stair, hand rail and guard rail, placement of signage, accessible meeting room, and elevator and modified toilet were the important facilities lacking in public buildings and impacted negatively on disabled persons. The research have discovered that no-existence of important facilities in public buildings are the fundamental problems restraining the accessibility of public buildings by the physically impaired persons across the strata of the urban areas nowadays.

V. RECOMMENDATION

1. The government should take prompt action to resolve issues responsible for non-inclusion of crucial

building facilities that enhanced the accessibility of public buildings by physically challenge persons especially at the planning and construction stages of public buildings irrespective of the location and sizes.

2. Abled and disabled persons should always be allowed to participate and contribute at every level of public building analysis. They should not allow their disagreement to affect public buildings universality or standard. Persons without physical disability should therefore, pay more attention in consideration and building of public places that attract pleasure and accessibility before persons with natural or accidentally disabilities.

Government should endeavour to punish architects and town planners who get them involved in design and implementation of public buildings without considerations for the physically challenged. This will serve as deterrent to other professionals in other to decline cases of public buildings without necessary and adequate provisions for the physically challenged.

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