



UNIVERSAL DESIGN AND ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN MASJID NEGARA, MALAYSIA

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Nangkula Utaberta

Department of Architecture,
Faculty of Design and Architecture,
University Putra Malaysia

Corresponding Author:

nangkula@upm.edu.my

Mahsa Dabbagh Niya

Department of Architecture,
Faculty of Design and Architecture,
University Putra Malaysia

Azmal Bin Sabil

Department of Architecture,
Faculty of Design and Architecture,
University Putra Malaysia
azmalsabil@icloud.com

ABSTRACT

Malaysia to become seeks to become a fully developed country by 2020. Among nine central challenges demonstrated in the body of the "Vision 2020" is "the challenge of establishing a fully caring society" (WAWASAN 2020). Along with developed societies overcoming such dysfunctional built environments has become under consideration in Malaysia as well to remove barriers and provide equal access of people with disabilities (PWDS) to all public services. Notwithstanding practical steps taken, there are still dissatisfactions from the members of public toward public buildings which cause restriction in PWDS daily life. Previous studies has also raised claims against inaccessibility of mosque buildings as well. In order to realization of a barrier-free built environment for a huge portion of Malaysia population, this research aimed to investigate accessibility and usability of Malaysian mosques for PWDS. Masjid Negara was selected for the purpose of this study. The most recent revision of available Malaysian Standard of MS 1184:2014, "Universal Design and Accessibility in the Built Environment - Code of Practice", became the reference in this study. A comprehensive evaluation checklist was constructed for the purpose of a systematic observation including 162 checkpoints under 22 items of accessibility. .

KEYWORDS:

People with Disabilities, Accessibility, Masjid Negara, MS 1184:2014

INTRODUCTION

The parliament of Malaysia approved the "Persons with Disabilities Act" in 2008 that includes the first right-based legislation [1]. Since PWDS are increasing during these years, the Malaysian government legislated the PWDS Act in 2008 and supported its application all over the country by providing suitable access to public transportation, public buildings, other public facilities and basic things [2]. Based on this act, in Malaysia, public facilities, services, basic things, buildings, facilities related to public transportation, information and communication technology, education, cultural life, employment, relaxing activities and sport should be available for PWDS. Therefore, since 2008, different groups including authorities, government agencies, nongovernmental organizations (NGOs), architects and environmental designers have paid special attention to the worries and important affairs regarding access of PWDS to different facilities.

Nowadays, it is known that people with impairments have been restricted to access to social, cultural, economic and civic affairs because of architectural and design barriers [3]. Barriers in

architecture cause problems for PWDS in going into and out of buildings and also using available facilities in these buildings. When they are having problems in access to buildings, it is one of the main barriers which avoid PWDS to take part in the society. In order to increase their presence in public places and improve the quality of their lives, the built environments should be easily accessible for these people. According to some investigators, the unreachable environments can negatively influence the welfare and health of disabled people [4]. The environment which is inaccessible for the disabled people can lead to unprotected stress, poor self-esteem and their embarrassment while they are in the public places [5].

The Malaysian government in local scale has tried to enact laws in order to defend the disabled people's rights. The strategic objectives of the National Welfare Policy guide country's policies and programmers to this end. In response to its point of view, present accessible standards in this country comprise some codes and standards. Among them is the most updated standard that was enacted in 2014 includes MS 1184, Universal Design and Accessibility in the Built Environment - Code of Practice (Second Revision). These standards are the only valid and

updated rules in Malaysia that were enacted to increase accessibility of the built environment, particularly public buildings.

There are numbers of terminology in defining accessibilities of People with Disabilities (PWDS), including Universal Design, Inclusive Design, Barrier-free Environment, Assistive Technology, Adaptive Environments, Design-for-ALL, Assistive Technology, Lifespan Design and Trans generational Design. Universal Design, Accessible Design and Barrier-free Design are among the most frequently used terminologies in architecture discipline [6].

In some senses, there are various theoretical distinctions between universal design and barrier-free design or accessibility. First distinction is as follows: while barrier-free design and accessibility are mainly related to the subjects of access concentrating on disability, universal design as a logical result doesn't concentrate only on PWDS. To a degree, universal design extensively explains about targeted users and the diversity nature. It doesn't only concentrate on disabled people but also participation of all kinds of people in different aspects of a society [7]. It has also protested against the virtual separation of disabled people from other social groups by special design interferences [8]. The second distinction is that political and legal manipulation have brought about barrier-free design and accessibility [10] while, universal design embraces the power of market that causes cheaper, common and interesting products and environments [11]. The third distinction is that standardization as the main method of barrier-free design and accessibility [12], while increasing flexibility and adaptability to the greatest amount could be the achievement of universal design.

In spite of accessibility codes that explain outlook, standardized shapes of physical environments for average disabled people with minimum level of disabilities [7], universal design doesn't consider any particular shape but shows seven principles which are performance based that oblige designers to apply their own innovativeness to increase its applicability in low variety of positions and requirements [8]. Finally, while barrier-free and accessible designs in a conceptual manner consider accessibility as an addition to design and inherently stimulate Band-Aid methods to delete the present obstacles, universal design proactive integration of accessibility as an essential construct of design [9]. Therefore, accessible design will always emerge from universal design but every accessible design cannot be considered as universal design.

It is crucial in considering PWDS need in designing a public spaces or building. In this paper, one of the important type of public building will be deeply studied, which is mosque as discussed at the earlier part of the paper. In discussing the mosque, it is a symbol of religious faithfulness and proof of unity and consensus of Muslims. Religious places are regarded as the physical environments which are connected to religious or holy happenings that can improve essential human values and human spirit [13]. These places are

often founded with regard to architectural constructions and art [14]. In Islamic culture mosque is regarded as a place for worshipping, therefore it is identified as the main construct in the Islamic world.

One of the most significant public buildings is mosque buildings. Particularly in Muslim communities, this type of built environment has special importance. Spiritual sanctuary of these congregational community centers in Malaysia multiplies as the majority of its population are Muslims. In addition to encouraging Muslims to attend their five-time praying in mosques, several important prayers all over a year are held in mosques. Moreover, complimentary religious events in addition to different ceremonies all together imply the importance of these places for the members of Muslim communities [15]. Moreover, the government's insistence on providing a public pray hall in Malaysian buildings increases their popularity and attention to public needs in these places. Similar to any other public built environments, the importance of accessibility in Malaysian mosques is strictly emphasized. In a recent study by Abdul Rahim, universal design of mosque buildings is stressed "to give the PWDS an equal opportunity for performing their congregational prayers together with other devoted Muslims" [16].

In the general point of view, mosque considered as a place that which activities related to the society and religion should be planned and performed. One of the places that plays very important and essential role in shaping character of Islamic communities and helps its followers to act according to rules of Islam is mosque. These places have been acting as centers of activity for their political, social, religious, and institutional activities. The following main socio-religious role of mosques as a religious place in community: a religious foundation, a political center, a legal institution, and foundation of peace and secure location, an administrative institution, a unit to obtain information, a social organization, and an educational institute [17].

According to JAKIM, all mosques in Malaysia are classified into five general groups, including principal, state, district, qariah, and private mosques. The most significant mosques among all are principal mosques and 14 state mosques in each of 13 states and one federal territory of Malaysia. Masjid Negara (1965) is considered as one of the three principal mosques in Malaysia [18]. In this study, the main objective is to evaluate the current condition of Masjid Negara in term of universal design for PWDS group. The data from this evaluation will justify the level of awareness and conscious of Malaysian people and government to the need of PWDS group. Based on the evaluated data, hopefully there will be an eye opening to all parties and the action to be taken in improving this issue.

METHODS

Firstly, an initial observation of all study cases was done. Through this observation, spatial organization of Masjid Negara in addition to their number of levels and publicly accessible spaces and

facilities were identified in detail. A roughly plan of each floor was sketched while depicting the boundary of building, entrances, vertical accessibilities, praying areas, and ablution areas. The results from this primitive observation in line with the spatial requirements of Masjid Negara from literature led to the identification of the principal dimensions of an accessible mosque.

In the next step, Malaysian Standard of MS 1184:2014 “Universal Design and Accessibility in the Built Environment - Code of Practice (Second Revision)” placed as a source of reliance and a comprehensive evaluation checklists were constructed in its basis. The structure of these checklists was based on the principal dimensions identified in the first step in one hand and the relevant regulations legislated in MS 1184 on the other hand. These checklists included of 23 items of accessibility with 162 evaluative checkpoints in total. Among them, 3 items with 26 checkpoints were related to the windows, conference rooms, and guest houses. Window related checkpoints were put aside since in public buildings like mosque, either they are not available or are not adjustable by ordinary people. Moreover, due to the presence of conference rooms and guest houses in some of the study cases, they were evaluated but are not reported here. This exclusion is due to the fact that, not all mosque buildings all around the country included of these adjunct facilities and therefore the results would not be representative in this sense. All 20 remained items with 136 checkpoints were adjusted into these four divisions of accessibility dimensions (Table 1). Through this stage, data were collected by using evaluation checklists and using related observation equipment by applying suitable techniques and tools which are related to the research.

Table 1. Accessibility Evaluation Dimensions, Items and Checkpoints

No	Accessibility Dimension	No	Items Included	Number of Checkpoints	Total Checkpoints
1	Access to building	1	Arrival by Motor Vehicle	1	31
		2	Parking	9	
		3	Path to Building	11	
		4	Entrance and Final Fire Exit	10	
2	Horizontal Circulation	1	Reception	1	25
		2	Horizontal Circulation	8	
		3	Guarding Along Paths and Ramps	1	
		4	Terrace, Verandas, and Balconies	1	
		5	Doors	12	
		6	Floor and Wall Surface	1	
		7	Signage and Graphic Symbols	1	
3	Vertical Circulation	1	Ramp	10	55
		2	Stair	11	
		3	Lift	18	
		4	Vertical and Inclined Lifting Platform	4	
		5	Escalator and Moving Walks	12	
4	Toilet and Wet Areas	1	Toilet	3	25
		2	Toilet for Ambulant Disabled People	1	
		3	Wheelchair Accessible Toilet	20	
		4	Individual Shower Room	1	
TOTAL					136

DISCUSSION

The findings was recorded and tabulated based on the Table 1 as described in methodology part. The collected data divided into three categories based on the actual condition in Masjid Negara, are the current condition met the stated item in the checkpoint as stated in Table 1 or no. The categories included met, not meet and not available.

Table 2. Accessibility evaluation dimensions, items and checkpoints in Masjid Negara

National Mosque				
Dimension	Items Included	Situation		
		Meet	Not Meet	Not Available
Access to building	Arrival by Motor Vehicle	50%	50%	0%
	Parking	29%	4%	67%
	Path to Building	38%	16%	46%
	Entrance and Final Fire Exit	71%	18%	11%
	Total Average	47%	22%	31%
Horizontal Circulation	Reception	60%	20%	20%
	Horizontal Circulation	50%	38%	12%
	Guarding Along Paths and Ramps	67%	0%	33%
	Terrace, Verandas, and Balconies	50%	50%	0%
	Doors	37%	42%	21%
	Floor and Wall Surface	0%	100%	0%
	Signage and Graphic Symbols	0%	0%	100%
Total Average	38%	36%	27%	
Vertical Circulation	Ramp	48%	24%	28%
	Stair	44%	27%	29%
	Lift	0%	0%	100%
	Vertical and Inclined Lifting Platform	0%	0%	100%
	Escalator and Moving Walks	0%	0%	100%
	Total Average	18%	10%	71%
Toilet and Wet Areas	Toilet	0%	33%	67%
	Toilet for Ambulant Disabled People	0%	0%	100%
	Wheelchair Accessible Toilet	0%	0%	100%
	Individual Shower Room	0%	100%	0%
	Total Average	0%	33%	67%
Total Average of Accessibility		26%	25%	49%

In general, only 26% of the checked points were completely met the criteria legislated by the accessibility standards. Although 49% of the evaluated items were not provided at all, but the rest 25% of the existing facilities did not meet the standards. According to the results categorized in Table 2, this mosque is more accessible in terms of access to building dimension. 47% requirements of access to building was met while 22% was not. Moreover, 31% of the requirements were not provided at all. Contrary to the access to building dimension, this mosque is inaccessible in terms of toilet and wet areas so that 0% of the requirements were met. The 33% of the existing situation of this dimension do not meet the standards and 67% of them were not available in this mosque.

In another part, horizontal circulation with 37% totally met, 36% not meet and 27% not available requirements was measured as the second accessible dimension of Masjid Negara. Finally was the vertical circulation dimension of accessibility with 18% fully met accessibility scores, 10% not meet, and 71% not provided requirements of accessibility.

In line with the universal attempts to free surroundings from barriers to reach social justice, this study tried to go for same mission in Malaysia context.

Accessibility of mosque buildings, the most significant public building in the Islamic communities, was studied according to the latest Malaysian Standards. This study conducted to address accessibility issues and barriers in Malaysian mosque buildings. Direct observation helped this research to construct more accurate interpretation of the accessible mosque building and existing common barriers.

Masjid Negara contain numbers of history and acknowledgement as one of the iconic building that reflect the national architecture identity back then when it was been built. But, as what have been shown in the result, it's merely not meet up to even 30% of Malaysia Universal Design and Accessibility in the Built Environment - Code of Practice. There may come with numbers of factors, which the most logical sense is the time when this mosque has been built. Back then in 1960's, there are lack of awareness design consideration for people with disabilities. Furthermore, there is no such as universal design code practices exist during that time. Most of the scholars will agree to inspire the architectural beauty of this mosque. In contrary, this mosque shown non good example from universal design and accessibility point of view.

CONCLUSION

The results from this study confirmed two propositions of this study which emphasized both on inaccessibility of Malaysian mosque buildings and incomprehensiveness of available guidelines and standards. Moreover, the result was in consistence with previous studies which declared low level of accessibility in Malaysian public buildings. This result does not support the national target of the country that wishes to become a developed nation by 2020. It is because social justice as a prerequisite for development requires equal access of all people to all facilities and services provided in the society. In other words, people apart from their level of abilities, physically or mentally, should have equal rights in social rights enjoyment.

The current study provided a sight into the accessibility level of Malaysian national mosques. Although the findings of this research limited to five selected buildings, but they can be placed as a base for all types of mosque designs in any size and level of importance. The findings could also be considered in refurbishment of existing mosque buildings much more since very seldom is new mosque construction. Further studies required as well to expand the findings of this research and to provide equal opportunities for our fellowmen.

The main goal of this study was to evaluate accessibility level of Malaysian mosque buildings for PWDS. A qualitative case study was conducted by means of a systematic observation based on the latest Malaysian Standard of MS 1184:2014. Similar to any other academic research there were some limitations for this study as well. Although it was tried to choose the best way in conducting the research, but it might

not be preciously comprehensive and perfect. These all shortcomings were due to the knowledge, time, and financial limitations however, they provided opportunities for further studies though.

It is recommended for the future studies to conduct a comparative case study between a successful pattern of mosque in the Islamic world and a representative mosque in Malaysia or even all results from this study. Moreover, it is recommended to patent an accessible ablution area for people with different level of disabilities. It can become possible by studying anthropometrics of people with different types of impairments and activities required in ablution areas. Some available prefabricated examples of ablutions units for PWDS has given in the appendix D. They can be a suitable alternatives to be retrofitted in the existing mosques. Moreover, their anthropometrics can be considered as a references for future designs.

It is also suggested that, the existing code of practice of MS 1184 be studied in reference to the notion of universal design and its septet principals. As the referenced Malaysian Standard entitled "universal design and accessibility in built environment", it would be fruitful if this claim become reassessed academically.

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