

UNIVERSITI PUTRA MALAYSIA

USABILITY AND ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN MALAYSIAN MOSQUES

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USABILITY AND ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN MALAYSIAN MOSQUES



By

MAHSA DABBAGH NIYA

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

April 2015

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Dedicated to:

Those who have special place in my heart;

My beloved husband, Meysam, for his constant support;

My cheering parents Tayebeh & Majid.

To my grandmothers and grandfathers.

And to my lovely sisters, dear Maryam and Susan

C

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

USABILITY AND ACCESSIBILITY FOR PEOPLE WITH DISABILITIES IN MALAYSIAN MOSQUES

By

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April 2015

Chairman: Nangkula Utaberta, PhD Faculty: Design and Architecture

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). It is to cater welfare of all people without any discrimination, not only economically, but also socially and emotionally. There are groups of people in the society which are marginalized from full participation and enjoyment of services provided due to the limitations existed in the built environments. According to the social definition of disability, people become disabled due to the barriers exist in their surrounding not because of their impairments or limited abilities.

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. Five most prominent mosques of the country were selected for the purpose of this study and a qualitative multiple case study was carried out to this end. 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. Altogether, 5394 points in all five study cases were measured in order to evaluate their accessibility level.

The principal dimensions of an accessible mosque introduced by this study. They are *access to building, horizontal circulation, vertical circulation, and toilet and wet areas.* Moreover, the average accessibility of all mosques measured at 40%. Tuanku Mizan mosque was the most accessible mosque among all by 63% accessibility level



while, National mosque by only 26% was the least. Putra mosque with 46%, Sultan Salahuddin mosque 35% and Wilayah mosque 32% were respectively between them. The most common accessibility barriers of mosque diagnosed in this study were individual shower room and toilet for ambulant people in *toilet and wet area* dimension, inappropriate lift, ramp, and stair in *vertical circulation*, Signage and graphic symbols, floor and wall surfaces, and doors in *horizontal circulation* and finally parking and path to building in the *access to building* group of principal dimension. It is also concluded that, Malaysian Standard of MS 1184:2014 dose not comprehensively address the requirements of PWDS in mosque buildings. The implementation of these findings will contribute to the process of development practically, socially as well as academically.



Abstrak tesis yang dikemukan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

KEBOLEHGUNAAN DAN KEBOLEHCAPAIAN ORANG KURANG UPAYA TERHADAP MASJID DI MALAYSIA

Oleh

MAHSA DABBAGH NIYA

April 2015

Pengerusi: Nangkula Utaberta, PhD Fakulti: Rekabentuk dan Senibina

Malaysia berwawasan untuk menjadi negara membangun menjelang 2020. Untuk memenuhi tujuan ini, terdapat pelbagai cabaran yang perlu disahut. Di antara sembilan cabaran utama yang diutarakan dalam "Wawasan 2020" adalah "cabaran untuk membentuk masyarakat yang prihatin" (WAWASAN 2020, 1991). Tujuannya ialah untuk menyumbang kebajikan kepada semua lapisan rakyat tanpa sebarang diskriminasi, bukan sahaja dari aspek ekonomi tetapi juga dari aspek sosial dan emosi. Terdapat kumpulan-kumpulan masyarakat yang tersisih dari penyertaan penuh di mana mereka tidak dapat menikmati perkhidmatan-perkhidmatan yang diberikan disebabkan oleh kekangan-kekangan yang wujud dalam alam bina. Mengikut definisi sosial ketidakupayaan, manusia menjadi kurang upaya disebabkan oleh halangan-halangan yang ada dalam persekitaran mereka dan bukan kerana kecacatan atau kebolehan yang terbatas.

Cubaan-cubaan serius telah dilaksanakan dalam masyarakat membangun untuk mengatasi alam bina yang kekurangan fungsi itu dan untuk memberi lebih akses kepada semua lapisan rakyat dengan aras kebolehan yang berbeza-beza. Sudah menjadi sesuatu yang dipertimbangkan di Malaysia untuk membuang semua kekangan dan memberi akses samarata kepada rakyat yang kurang upaya (PWDS) kepada semua perkhidmatan awam. Walaupun langkah-langkah praktikal telah diambil, orang ramai masih lagi tidak berpuas hati. Bangunan-bangunan awam tidak lagi boleh diakses sepenuhnya untuk orang kurang upaya ini dan ini menyekat urusan harian mereka. Dalam masyarakat Islam seperti di Malaysia, di mana masjid-masjid memainkan peranan yang penting dalam kehidupan harian orang Islam, akses penuh rakyat kepada bangunan awam ini tidak kira aras kebolehan mereka adalah sangat penting.

Untuk merealisasi alam bina yang bebas dari sebarang halangan, untuk sebahagian besar rakyat Malaysia, kajian ini bertujuan mengkaji keboleh-aksesan bangunanbangunan masjid di Malaysia untuk kumpulan PWDS. Lima masjid paling unggul di Malaysia telah dipilih sebagai memenuhi tujuan kajian ini dan kajian kes pelbagai berbentuk kualitatif telah dijalankan. Pindaan terkini Piawaian Malaysia MS1184:2014 yang sedia ada, (rekabentuk sejagat dan keboleh-aksesan dalam alam bina- Kod Amalan) menjadi asas rujukan dalam kajian ini. Satu senarai semakan penilaian komprehensif telah dibina untuk tujuan pemerhatian sistematik termasuk 162 titik perhentian di bawah 22 item keboleh-aksesan. Keseluruhannya, 5394 mata dalam kelima-lima kajian kes telah disukat untuk menilai aras keboleh-aksesannya.

Dimensi utama masjid yang boleh diakses adalah akses ke bangunan, kitaran melintang, kitaran menegak, dan tandas serta kawasan basah. Tambahan pula, purata keboleh-aksesan semua masjid diukur pada 40%. Masjid Tuanku Mizan adalah masjid yang paling mudah diakses di kalangan kesemua masjid di mana aras keboleh-aksesannya ialah 63% sementara Masjid Negara hanya 26% atau yang paling sukar diakses. Masjid Putra dengan 46%, Masjid Sultan Salahuddin 35% dan Masjid Wilayah 32% aras keboleh-aksesan masing-masing. Halangan kebolehaksesan paling lazim untuk masjid yang telah dikenalpasti dalam kajian ini adalah bilik mandi individu dan tandas untuk orang kurang upaya dalam dimensi tandas dan kawasan basah, lif, landas-angkat (ramp), dan tangga yang tidak sesuai (dalam bentuk kitaran menegak), Papan tanda dan simbol grafik, permukaan lantai dan dinding, dan pintu dalam kitaran melintang dan akhir sekali tempat letak kereta dan laluan ke bangunan dalam akses ke bangunan sebagai dimensi utama. Kesimpulan kajian juga mencadangkan bahawa Piawaian Malaysia MS1184:2014 tidak memenuhi syarat dan keperluan PWDS secara komprehensif di bangunan-bangunan masjid. Pelaksanaan dapatan-dapatan ini akan menyumbang kepada proses pembangunan dari sudut praktikal, sosial dan juga ilmiah.

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Finally, I owe special debt of gratitude to those who gave ideas on this research whose names I cannot include on in this page in order to respect their confidentiality and anonymity.

I certify that a Thesis Examination Committee has met on 28 April 2015 to conduct the final examination of Mahsa Dabbagh Niya on her thesis entitled "Usability and Accessibility for People with Disabilities in Malaysian Mosques" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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Date:

Declaration by graduate Student

I hereby confirm that:

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LIST OF ABBRIVATIONS

DBKL	Dewan Bandaraya Kuala Lumpur (Kuala Lumpur City Hall)	
DSM	Department of Standard Malaysia	
ICF	International Classification of Functioning, Disability and Health	
IHCD	Institute of Human Centred Design	
JAKIM	Jabatan Kemajuan Islam Malaysia (Malaysian Islamic Development)	
Masjid	Mosque	
MS	Malaysian Standard	
PWD	Persons with Disabilities	
RQ	Research question	
Sub-RQ	Sub-research question	
UD	Universal Design	
UNRISD	United Nations Research Institute for Social Development	
UNESCAP	United Nations Economic and Social Commission for Asia and the	
	Pacific	
WHO	World Health Organization	

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Malaysia, a fast growing country has targeted to become a developed country by 2020. The main objective of the Vision 2020 aims:

"By the year 2020, Malaysia can be a united nation, with a confident Malaysian society, infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient" (WAWASN 2020, 1991).

To get this ambition, the Vision 2020 emphasize on the overcoming of the long lasting "Nine strategic challenges" of the country. Among them, is the social caring, the 7th:

"... the challenge of establishing a fully caring society and a caring culture, a social system in which society will come before self, in which the welfare of the people will revolve not around the state or the individual but around a strong and resilient family system" (WAWASN 2020, 1991).

Freedom of human body is essential for pleasure and happiness in life and access to it should be successive (Imrie, 2000). In fact, mobility that means the ability to participate in public life and social activities is an essential and necessary part of daily life (Fange et al, 2002). Furthermore, we cannot reject the needs of PWDS in the progress and development (Javasooria, Krishnan, and Ooi, 1997). The disabled people with appropriate accessibility are able to take part in important social and economic affairs without feeling that they have been treated differently in comparison to others. Thanks to the economic growth, nowadays, Malaysians get pleasure from services and facilities which are technologically advanced. Anyway, we can still observe groups in the society that are not able to conduct main activities, because physically they cannot access to public buildings (Marzdi, 2010). During the last decades and in developed countries, special attention has been given to people with disabilities (PWDS) and their needs. Disabled people, just like other members of the society, should take part in all affairs in the society and all public services should be available easily for them (Abdul Kadir and Jamaludin, 2012b). Nevertheless, everybody will have the experience of changing abilities during his or her life span (Imrie and Hall, 2001). So, supplying identical access to builtenvironment to all people with different abilities and needs is essential and is considered as a main feature of social equity (Figure 1.1).



Figure 1.1: Disability of humankind in different life span (Source: CEDA, Centre of design for all)

The parliament of Malaysia approved the "Persons with Disabilities Act" in 2008 that includes the first right-based legislation (Abd Shukor and Othman, 2010). It is an act:

"to provide for the registration, protection, rehabilitation, development and wellbeing of persons with disabilities, the establishment of the National Council for Persons with Disabilities, and for matters connected therewith" (Persons with Disabilities Act, 2008, p. 7).

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 (Persons with Disabilities Act, 2008). 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 (Marzdi, 2010).

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 (Thapar et al., 2004). Barriers in architecture cause problems for PWDS in going into and out of buildings and also using available facilities in these buildings. Henry (2009) suggests that having problems in access to buildings 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 (Putnam, Greenen, Powers, Saxton, Finney and Dautel, 2003; Darcy and Harris, 2003). Having problems in an accessible environment inside and outside of buildings will limit these people to have an enjoyable life (Tan, 2008). 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 (Nosek, Foley, Hughes, and Howland, 2001; O'Hara, 2004; Iwasaki and Mactavish, 2005).

Since the philosophy of disability changed in 1980, the social model of disability replaced its medical model. It blames inaccessible environment that makes people disabled (M Oliver, 1990). Consequently, the developed countries have intensify application of "Universal Design" in any aspects of the developments in their cities



in order to remove discriminations among different members of the society and avoid people from unfortunate injuries (OLDP, 1992; ANUHD, 2009).

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 programmes 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.

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 centres 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 (Rasdi 1998, Mohamad Rasdi and Utaberta, 2010, Awang, et al, 2011). 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, Abd Samad, Che Rahib, and Badhrulhisham (2014) universal design of mosque buildings is stressed "to give the PWDS an equal opportunity for performing their congregational prayers together with other devoted Muslims" (p. 3).

1.2 Problem Statement

In order for the requirements of Malaysian Standard to be met, public buildings and their facilities should be accessible to people with disabilities (PWDS) (Kamarudin, Hashim, Mahmood, Muhamad Ariff, and Wan Ismail, 2012). According to the enacted standards, all public buildings in Malaysia are obliged to be accessible and provide facilities for PWDS, but some users who feel the provided facilities and accessibility are not based on the needs of PWDS object to the execution of these codes of practice (Kamarudin, 2007; Soltani, Sham, Awang, and Yaman, 2012). In addition, the disabled people still complain about them as they believe enacting laws in one things and being sure about their execution is another thing. It requires the initiatives by governments, and also actions by specialists, including architects, landscape architects and planners. Therefore, only with enough knowledge and awareness, better actions and solutions are achievable (Abdulkadir and Jamaluddin, 2012; Marzdi, 2010).

According to the appeal by Kamal Malhotra, the United Nations Resident Coordinators, in a national conference efficient implementation of universal design, having more specialists and investigators in this area and reviewing the present standard codes are necessary. According to the earlier studies, development policies and rules of Malaysia have not provided user friendly built environment, including Barrier-free and disabled friendly environment, in spite the fact that they are mentioned in the building code and legislation (Tan, 2008). However, though increasing number of rules regarding accessibility have been enacted in Malaysia, but the available facilities for this group of people often cannot fulfil their needs (Soltani, Abbas, and Awang, 2012). Moreover, just a few public buildings have changes to be in accordance with these enacted standard codes (Chen et al, 2007).

Mosque buildings as one of the most significant public buildings are not an exception and have such similar defects. According to Abdul Rahim et al., (2014) Muslim people with disabilities expressed their aggravation and obstacles in visiting Malaysian Mosques all over the country and Kula Lumpur. As an example from the local media it is reported that:

".... Persons with Disabilities (PWDS) also has the intention and desire of wanting to go to Mosque to perform their congregational prayer together with other Muslims but when the Mosque or the destination facility does not provide good infrastructure or more or less an accessible environment for Persons with Disabilities (PWDS), has made their trip to the Mosque difficult and depressing (Utusan Malaysia, May 2013, a.c.f Abdul Rahim et al, 2014).

This study offers two main propositions for the current deficiency. Firstly, it is assumed that, the available legislations, guidelines and standards in support of PWDS do not meet their requirements comprehensively, in all buildings and for any types of impairments. Moreover, whereas most of the mosque buildings are already constructed, they could be accessible for PWDS only by amendments. Therefore, the second proposition concerns the accuracy and efficiency of post occupancy amendments in the existing mosque buildings.

1.3 Research goal, objectives and questions

The main goal of this study is to investigate the accessibility issues for people with disabilities in Malaysian mosque buildings. Generally the current study attempts to assess to what extend the mosque buildings in Malaysia provide barrier-free environment for people with disabilities. To achieve the above mentioned goal of this study, the main research question is as follow:

Main RQ: How do the current physical design and facilities of Malaysian mosques accommodate accessibility and usability needs of people with disabilities?

The subsequent is the objectives of this study followed by relevant sub-research questions in order to provide information to respond the main research question and consequently to gain the research goal.

Objective 1: To distinguish the principal dimensions of accessibility for PWDS in Malaysian mosque buildings.

Sub RQ 1: What are the principal dimensions of accessibility for PWDS in Malaysian mosque buildings?

Objective 2: To evaluate the level of accessibility in Malaysian mosque buildings for PWDS based on Malaysian Standards and guidelines.

Sub RQ 2: What are the accessibility level of Malaysian mosque buildings based on the Malaysian Standards and guidelines? Objective3: To identify accessibility barriers for PWDS in Malaysian mosque buildings in accordance to the existing local guidelines and standards.

Sub RQ 3: What are the significant barriers for PWDS in Malaysian mosque buildings?

Objective 4: To assess inclusiveness of Malaysian Standards and guidelines to meet requirements of mosque buildings.

Sub RQ 4: Do Malaysian Standards and guidelines support accessibility requirements in mosque buildings?

1.4 Scope and limitations of the study

This study tends to evaluate the accessibility level of Malaysian mosques based on the latest revision of Malaysian accessibility guidelines. A multiple case study applied to access this goal. Similar to any other studies, there were some limitations that go beyond this study.

The five most prominent mosques of the country were chosen as the base for this purpose. They included of Negara Mosque and Wilayah Mosque in Kuala Lumpur; Sultan Salahuddin Abdul Aziz Shah Mosque in Shah Alam, Selangor, Putra Mosque and Tuanku Mizan Zainal Abidin Mosque in Putrajaya. The rationale behind this selection was their importance for the country and the nation. Moreover, they have been selected as representatives for two main categories of Malaysian mosques: principal mosques and state mosques since they receive unlimited budget from the government. Therefore, mosques from other categorise was ignored. However, it is assumed that due to the comprehensiveness of the selected mosques, the outcomes could be expanded into the mosques with lower degree of importance and smaller size.

Another limitation for this study is the existing legislations that are referred to as the main sources. Although Malaysian Code of Practice for Access of Disabled Persons to Public Building (MS 1184:2014) is used for this study, but it seems it is still incomplete to cater all needs of PWDS.

1.5 Organization of the thesis

This thesis has been organized into four chapters. The chapter one introduces the background for the study and describes the research problem. The research goal, main research question, study objectives and relevant sub research questions are proposed as well. At the end, the scope of the research is described and its limitations are declared. Review of the relevant literature has been discussed through the second chapter. It has comprised of three main parts. Discussions on people with disabilities appear at the first part, while accessibility of built environment and literature on mosque buildings are debated next respectively. Chapter three dedicated to the methodology of the study. Detailed information about the conducted research and

techniques used for analyses elaborated in this chapter. Chapter four concentrated on the outcomes of the research analyses and outputs. However, the significant findings, implications, and recommendations for future studies are presented at the final chapter.



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