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# Physical and Safety Features Of Ablution Spaces in the Mosques of Selangor and Kuala Lumpur

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**Abstract.** This study aims to explore the condition of physical and safety features of existing abluition platform and spaces of selected Malaysian mosques which are located in Kuala Lumpur and Selangor. Therefore, the objective of this study was to analyze the physical condition of abluition platforms and spaces focusing on the ergonomic aspects, user-friendly and safety features. Direct observation was conducted at the 15 selected mosques to examine the design aspects of the abluition platforms and spaces. The focus of analysis on the physical elements of the abluitions including design forms; ergonomic aspects, and safety features. The study found that most of the mosques have provided abluition seat with an ergonomic aspect; the appropriate size of seats and allocation of the water faucet. However, most of the mosques have their abluition areas with inappropriate distance among the seats and platform height. In addition, there is a lack of design consideration towards the needs of PwDs (Person with Disability) in providing the abluition platforms. These include the abluition area are not easily accessible and there is no special seats or area provided for PwDs to perform their abluition. This study recommends improving the abluition platform and spaces to be more user-friendly with ergonomic design and safety features to ensure the smoothness of abluition activity.

**KEYWORDS:** Ablution platform, physical elements, mosques

## 1. INTRODUCTION

The Mosque is a focal point and most frequented place for a Muslim, after home and workplace. The Mosque primarily is a place of worship of Allah in 'jammah' and also serve more than as congregational prayer places five times daily. Apart from these, the mosque plays various important roles which include the community centre, learning centre, the seat of government, the welfare centre, prison, hospital and legitimate recreational activities which are stated in the holy Quran and hadiths. All Muslim generations go to mosques, regardless of their races and physical condition; normal and handicapped. The Muslim community has the benefit of using the facilities at the mosque as one 'ummah'. (Jasmani Ismail et. Al,2017). There are many facilities provided in a mosque to cater the various needs and demands of Muslim users. One of the facilities that are required in a mosque is the abluition area. Muslim users use the abluition area, which consists of abluition platform including water faucet and other spaces for the comfortability of user to take their abluition ritual before prayer.



In Malaysia, there are almost 6, 233 mosques were built throughout 14 states and there are many ablution areas were developed. There are very few studies have been done to check whether the ablution platforms and its physical conditions meet the user's needs and demands during the ablution activity. Past study showed that many ablution platforms in mosques are not user-friendly and ergonomic. This condition should not be overlooked because Muslims use the ablution platforms frequently, 5 times a day or more. It is essential to develop the ablution platform and its area towards ergonomic, user-friendly and practical needs so that many users can take their ablution with the comfortable and safe condition. The aim of this study is to explore the condition of physical elements of existing ablution platform and spaces found in Malaysian mosques located in Kuala Lumpur and Selangor areas. Therefore, the objective of this study was to analyze the physical condition of ablution platforms and spaces focusing on the ergonomic aspects, user-friendly and safety features.

## 2. BACKGROUND STUDIES

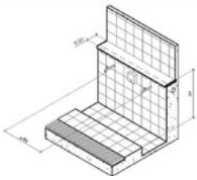
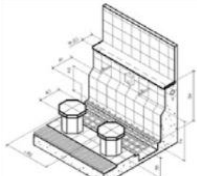
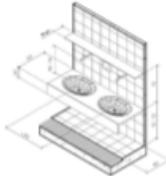
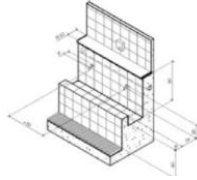
### 2.1. *Mosques in Malaysia*

In Malaysia, there are 2 kinds of place, namely mosques and surau where Muslims can perform their worship of Allah. A mosque usually has a bigger size with many spaces than 'surau'. In addition, 'surau' is used to refer to a prayer room in public buildings such as in shopping malls, offices, and others. A total of 6, 233 mosques and 18, 019 'surau' were built throughout 14 states in Malaysia. The mosques in Malaysia are categorized into 4 types; national, state, district and village. There are 3 nationally prominent mosques in Malaysia, namely Masjid Putra, Masjid Negara and Masjid Tuanku Mizan Zainal Abidin. These mosques are located in Wilayah Persekutuan Putrajaya and Wilayah Persekutuan Kuala Lumpur. All mosques under this category are the official places for distinguished people and guests to perform their prayer. Most of the states in Malaysia have at least 1 mosque under state category. There are many mosques under district and village categories throughout the country. Each category of the mosque has different features including design form and building size. For example, the district mosque can at least accommodate up to 1,000 worshippers at any one time. Masjid Sultan Salahudin Abdul Aziz Shah (blue mosque) in Shah Alam, Selangor is the country's largest state mosque can accommodate up to 24,000 worshippers at any one time. The architecture of state mosques has a blend of vernacular, Moorish, Islamic architecture and modern style (A. Ghafar, 1999).

### 2.2 *Conventional Ablution Platform Design*

According to Mokhtar (2005), there are several possible models for the design of an ablution unit (refer table 1). All models have been designed with an anti-slip tile to ensure user safety and comfortability while performing their ablution. The Model 1 is the simplest design that includes a shelf for users to put their belongings and as a support of balancing their bodies by gripping strictly on the shelf. Model 2 shows an ablution with a seat. Most of the mosques in Malaysia adopted this design for their ablution platform with a consideration on the level of seat, drainage system and shelf. This design is the most recommended design for ablution platform with seat type. Model 3 is an ablution unit with lavatory, and it is almost similar to the design of lavatory in the home bathroom. Users need to bend to reach the faucet and raising their feet for the final ablution steps to the lavatory. Model 4 shows an ablution platform with a lowered lavatory level and raised faucets level. This design is recommended and users need to stand while performing their ablution process. The faucet level is quite high than common design to minimize the bend over while the ablution process. The barrier is designed as low as knee level to give comforts to users and they can manage to raise their feet to wash it at the faucet area. A shelf is also available for users' convenience, similar to model no 1 and 2.

Table 1 Conventional Ablution Design by Mokhtar (2005)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Ablution Design				
Features	Seats, shelf	shelf	shelf	shelf

Nashirudin (2008) proposed design guideline for ablution area in 3 kinds of aspects; 1) relation of anthropometric with the location, 2) area segregation, and 3) ablution area. The 1st aspect is anthropometric with the location, which also has strong relation with the ergonomic study. Therefore, each of stages in ablution process needs to be considered when designing the ablution area to answer the needs and demands of the users. The 2nd aspect is the location, which emphasized on the needs to separate ablution area for male and female, toilet, and to consider the 'Qiblah'. Area segregation focused on 3 areas; wet, dry/wet and dry to ensure the cleanliness and safety.

The 3rd aspect is the selection of the location of ablution area, which focuses on designing the distance and allocation of facilities in the ablution area; a distance of seats and faucet, and water performance. This aspect also has strong relation with the ergonomic study. Nashirudin (2008) also suggests the ablution area should focusing on the water performance to avoid a problem such as water split that causes wet to the clothes of users. According to Che Haliza binti Che Roza (2005), users do not alert on the excess of water usage during ablution process because of their low awareness on this issue. Zaini Ujang (2000) proposed the automatic faucet use in ablution platform by innovating the drainage system. In Islam, Muslim should use only 1 'mud' / 500 ml water for ablution to avoid excess usage of water.

Although various studies have been done previously, there are many mosques and 'surau' in Malaysia still do not apply as per suggested by the studies. This is maybe due to the lack of information, awareness and also the budget to renovate the ablution area. Improvement in the design of ablution area and spaces is needed by referring to the established guidelines. Furthermore, users need user-friendly facilities so that they get benefit whilst performing their ablution activity. These should include the needs of elderly and PwDs.

### 3. METHODOLOGY

This study employed qualitative methods of data collections. To determine the existing condition of physical elements of various ablution platform, an observation on physical elements of ablution platforms; ergonomically and user-friendly has been done in 15 mosques in Kuala Lumpur (KL) and Selangor, Malaysia; 1) Masjid Sultan Abdul Samad, 2) Masjid Sultan Salahudin Abdul Aziz Shah, 3) Masjid Al-Ikhlash, 4) Masjid Assalam, 5) Masjid Ara Damansara, 6) Masjid Al- Mukarramah, 7) Masjid Amaniah, 8) Masjid Wilayah, 9) Masjid At-taqwa, 10) Masjid Mujahideen, 11) Masjid Muhtadin, 12) Masjid Saidina Umar, 13) Masjid Nurul Islam, 14) Masjid Darul Ehsan, 15) Masjid Bandar Utama. The mosques are under various categories hence the facilities and physical conditions of the ablution spaces reflect the size of the mosques. During the non-participant observation, photos of the ablution areas including its platform were documented for physical analysis.

### 4. RESULT, FINDINGS AND DISCUSSION

A total of 15 samples of ablution platforms from the 15 mosques have been analyzed as shown in Table 2. These include 4 mosques in Kuala Lumpur (KL) and 11 mosques in Selangor. Most of the mosques are under district mosque category. There is only one (1) institutional mosque which belongs

to Kuala Lumpur International Airport (KLIA) known as Masjid Sultan Abdul Samad. Therefore, this mosque has different facilities in terms of sizes and numbers. The mosque is not only for the district population but also is also used as an international mosque for tourist who arrived and departs from/to KLIA. The results indicate that there are 2 kinds of ablution platform design; with seats and without seats. 11 mosques provide ablution platform with seats. Masjid Amaniah, Masjid Muhtadin, Masjid Nurul Islam and Masjid Darul Ehsan have ablution platform without a seat. The principal aspects of ergonomics and user-friendly were analyzed in all ablution platforms and spaces. The ergonomic study was done in terms of seat size, seat allocation, faucet allocation and height of the platform. Also, accessibility and a special platform for PwDs, floor condition and seat condition were observed. 10 out of 15 mosques have ablutions platforms with ergonomic physical elements. 10 mosques have their ablution areas with comfortable seats and 12 mosques have proper faucet allocation. A total of 11 mosques have non- slippery floors and seats. However, the ablution platforms in several mosques are provided with the lack of consideration towards the needs of PwDs. It was observed that the ablution areas in the 3 mosques are not accessible for PwDs and a total of 5 mosques have provided special ablution areas for PwDs.

Table 2: Physical features the ablution platforms and spaces of the selected mosques

	Mosque	Ergonomic				User-friendly			
		Seats size	Seats allocation	Faucet allocation	Platform height	Platform	Platform	Floor	Seats
		Comfortable	appropriate	appropriate	appropriate	Accessible for PwD	Special for PwD	Not Slippery	Not Wet
1	Mosque 1	√	√	√	√	√	√	√	√
2	Mosque 2	√	√	√	√			√	√
3	Mosque 3	√		√	√				√
4	Mosque 4	√	√	√	√	√	√	√	
5	Mosque 5	√	√	√			√	√	
6	Mosque 6			√	√		√	√	√
7	Mosque 7	√	√					√	√
8	Mosque 8	N/A (without a seat)			√			√	√
9	Mosque 9								
10	Mosque 10			√	√			√	
11	Mosque 11	√	√	√	√			√	√
12	Mosque 12	N/A (without a seat)		√	√				√
13	Mosque 13	√		√		√	√	√	√
14	Mosque 14	N/A (without a seat)		√					√
15	Mosque 15	N/A (without a seat)		√				√	√
	<b>Score</b>	10/15	8/15	12/15	9/15	3/15	5/15	11/15	11/15

Masjid Saidina Umar, which is located in KL has a spacious ablution area in which many ablution platforms with seats are provided (Figure 1a). In this spacious area, a bigger number of seats are installed, which can accommodate many users to perform their ablution activity at any one time. In addition, the arrangement of ablution seats is more ergonomic due to the spaciousness of ablution areas. Apart from ablution platforms, storage for keeping personal belongings also are provided in the ablution areas for user convenience and safety reasons. As mentioned by Ahmed Mokhtar (2005), the most efficient space planning need to have bigger space with different facilities to ensure the comfortability and safety of users. Meanwhile, Masjid Al-Muqarramah, which is located in Puchong, KL is provided with the ablution platform with seats (Figure 1b). However, it has been identified that the ablution seats are not ergonomic. The ablution seats have inappropriate dimensions and distance from the water faucet, as shown in Figure 1b.





Figure 1: Ablution spaces at a) Masjid Saidina Umar, b) Masjid Al-Muqarramah, and c) Masjid Al-Ikhlas

These conditions have contributed to the difficulty in ablution activities because the user needs to bend down and adjust his/her body posture to be able to perform the ablution. In addition, the distance between water faucets and seats are too narrow as well. In short, the ablution platforms; seats and faucet arrangement are found inappropriate thus users feel difficult in performing their ablution activity. This design is a low cost and uncomfortable for users to perform ablution because requires users to sturdily bend their back or knees. This kind of design is not user-friendly and yet dangerous because it can cause fall, especially to the PwDs.

## 5. CONCLUSION AND RECOMMENDATION

Many mosques in Kuala Lumpur and Selangor provide ablution platforms with seats for users' comfort and safety. Many mosques have consideration towards ergonomic ablution area including its ablution platform; arrangement of seats and faucet. However, there are several mosques that have unergonomic ablution areas, for example, the inappropriate height of water faucet that causes a difficulty to users to perform their ablution. In addition, most of the mosques do not provide special ablution platform or at least an accessible area for PwDs to perform their ablution activity. Most of the mosques were equipped with platform made from cement and tiles that are not slippery to ensure user's safety. The findings suggest that there is a need to adopt the design guideline proposed by Nashiruddin (2008). The design guideline has 3 aspects; the relation of anthropometric with the location, area segregation and ablution area, which also relates to the ergonomic and user-friendly concept. There is urgency for future research to examine the physical conditions of ablution platforms and spaces in other Malaysian mosques because it is vital for the mosques to provide good and safe facilities for worshippers to perform smooth ablution activity.

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