

## Evaluation of Universal Design Compliance: With Emphasis on the Main Entrance of Selected Mosques in Kuwait Governorates

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### Abstract:

Accessibility characteristics that enable everyone to successfully use public facilities and settings are critical for establishing a sustainable and strong community. Unfortunately, studies show that in reality, numerous public facilities, services, and physical infrastructure in many places are still inaccessible in various ways to people with disabilities. As a result, many countries, including Kuwait, have enacted laws intended to integrate people with disabilities into the mainstream of social, political, and economic life (PADA, n.d.). This study evaluates the main entrances of six main mosques, one in each of the six governorates in Kuwait, to gauge the level of compliance with Universal Design principles. Research objectives: **The chief objective of this study is** to provide decision-makers in Kuwait with a set of recommendations for complying with Universal Design principles. The main entrances to all mosques in Kuwait should be accessible for all their users, without discriminating against those with physical disabilities, so that more people can participate in their community's daily social activities. This paper will also provide the Ministry of Awqaf and Islamic Affairs with a body of knowledge about the condition of mosque designs, and main entrances in particular, that could assist designers and decision makers to improve mosque accessibility. The study promotes increased access within public buildings in general and mosques in particular. Research problem: **This paper aims** to study and evaluate the main entrances of six purposively selected mosques in Kuwait to gauge their compliance with Universal Design principles. Methodology A representative sample was chosen by selecting one main mosque from each of the six official governorates of Kuwait, to reflect the level of accessibility for mosques across the entire geography of Kuwait. This research replicates previous research carried out by Sholanke et al. in 2016, entitled *Evaluation of Universal Design Compliance at the Main Entrance of Selected Public Buildings in Covenant University, Ota, Ogun State, Nigeria*. The researchers recognize that replication is a respected research method that contributes to the expansion of knowledge, especially in the field of design. The results are reported using descriptive statistics, which are illustrated through tables and percentages.

### Keywords:

Universal Design  
Main Entrance  
Mosques  
Kuwaiti Governorates

Paper received 9<sup>th</sup> August 2021, Accepted 19<sup>th</sup> September 2021, Published 1<sup>st</sup> of November 2021

### Introduction

Accessibility characteristics that allow everyone to use public facilities and settings successfully are critical in establishing a sustainable and strong community. However, the author noticed that many public facilities, services, and settings are inaccessible to people with disabilities in many places and in different ways. People with disabilities often suffer from inaccessible facilities, services, and physical infrastructures, according to studies.

Such instances of inaccessibility have brought about disability laws in many countries, including Kuwait, to integrate people with disabilities back into the mainstream of social, political, and economic life. Aside from disability regulations, accessibility design guidelines and principles have

been established over time to help provide equal opportunities for persons with and without impairments. Universal Design (UD) is one of these concepts that stands out.

This study examined the compliance of the main entrances of six mosques in Kuwait against this backdrop. This study is prepared to improve accessibility. The scope of this research is limited to the major entrances of the mosques listed below, which were purposefully chosen.

### Research objectives

It is essential to make all public buildings handicap accessible to maintain physical ease for users to access regardless of their age or mobilities, specifically the main entrance for public buildings. This study evaluates the compliance of the main entrance of selected six (6) main mosques in six (6)



Governorates in Kuwait for compliance with the universal design principles. The chief objective of this study is to provide decision-makers in Kuwait and the Ministry of Awqaf and Islamic Affairs with a set of recommendations to comply with universal design principles. The Ministry of Awqaf and Islamic Affairs is the official institute that owns and manages religious buildings in Kuwait. Further, this study aims to make all main entrances to mosques in Kuwait accessible for its users without discrimination against those with physical disabilities so more people can access their community's daily social activities.

### Research problem/questions:

This paper aims to study and evaluate the compliance of the main entrance of some purposively selected mosques in Kuwait. This paper will also provide the Ministry of Awqaf and Islamic affairs in Kuwait a body of knowledge about the condition of mosque designs and main entrances in particular that would assist designers and people in charge to improve the mosque's accessibility in Kuwait

This paper promotes increased access within public buildings in general and mosques in Kuwait. The scope of this study is limited to the main entrance of the following purposively selected Mosques: Al Rashid Mosque at the capital Governorates (Fig. 1), Al Balool Mosque at Hawally governorate (Fig.2), Al Ala Ibn Oqba Mosque at Farwaniya governorate (Fig. 3), Al Jahra Neighborhood Mosque at Jahra Governorate (Fig. 4), Douig Al Salman Al Sabah Mosque at Ahmadi Governorate (Fig. 5), and Omar Ibn Omair mosque at Mubarak Al-Kabir governorate (Fig. 6).

### Methodology:

To assess the level of conformity of mosques to the principles of universal design, the designer chose to study six mosques in the state of Kuwait. For the representative sample, the researcher chooses one mosque from each of the six official governorates of Kuwait: Capital, Hawally, Al Farwaniya, Mubarak Al-Kabir, Ahmadi, and Jahra. In doing so, the representative sample reflects the levels of accessibility for mosques in the entire geography of Kuwait.

The research reported the results using descriptive statistics, which are illustrated in tables and percentages. This research is based on previous research completed by Anthony B. Sholanke and others, which is titled *Evaluation of Universal Design Compliance at the Main Entrance of Selected Public Buildings in Covenant University, Ota, Ogun State, Nigeria*. It evaluated the universal-design compliance of the main entrance

of selected public buildings in Covenant University in Ota, Ogun State, and Nigeria, intending to improve access for people with mobility-impaired disabilities (Sholanke A, 2016).

This research replicates the Sholanke, 2016 study. The researcher recognizes that replication is a respected research method and contributes to the expansion of knowledge, especially in the field of design. "A replication is a (novel) qualitative study conducted by independent researchers replicating one or more aspects (such as study design, research questions, context, methods, and participants) of an earlier qualitative study and embedding within its findings an interpretive comparison to corroborate, elaborate, contrast, or clarify the elements corresponding to the replicated aspects with those of the earlier study" (Poorna TalkadSukumar, 2019).

In this study, results showed that the majority of the main entrances of the Mosques in Kuwait were not fully universal-design compliant, making accessibility for older adults and people with disabilities difficult.

### The Importance of Main Entrance Door

The *Building Accessibility Handbook 2020 Illustrated Commentary on Accessibility Requirements British Columbia Building Code 2018* has defined "entrances" as "[a]n accessible route [that] should exist from the sidewalk or roadway and parking area to an accessible building entrance. This route should be located so that people do not have to pass through dedicated smoking areas or behind parked cars. Accessible routes should coordinate with the routes to other buildings and to public transportation stops" (OHCS, 2020, p. 13)

A door is not only an essential structural part of a building, but it is also the means to define the interior and the exterior. Structurally, a door fills a space in the wall and also adds aesthetic value to it. Functionally, it divides and separates the different sections of a building, provides a partition, and most importantly, adds the universal feature of separating the inside of a building from the outside. This feature of separation enables a door to act as a movable barrier thereby designating entry and exit points. Additionally, this movable barrier performs the function of letting people in and out of a building.

Hence, one can conclude that a door has a dual character: it is not only a means of partition but also a source of connection. As it is a movable junction meaning that it can be closed/opened, the elements aiming to pass through it can be granted or refused access to the private interior. A mosque is a great

example of a building where a door enjoys the most important position. For example, the lack of automatic doors or handicap-accessible entrances can deter the flow of the elderly and disabled in the mosque—both psychologically and physically. (Giorgadze, 2008, p. 21)

### The Mosque as a public building

The Mosque (Masjid in Arabic) is a place of prayers for Muslims. The literary meaning of Masjid is “place of prostration”. The daily five prayers of the Muslims can be offered at any place but especially requires all men to offer Friday noon prayers at the mosque. Besides that, throughout the week, a mosque is used as a place of worship, social gatherings, religious discussion, and reflection (WEISBIN, 2015). To understand the spirit and role of a mosque in a Muslim society, it is crucial to acknowledge that a mosque is the core of Muslim society from where the Islamic culture and social life stem—regardless of gender, color, caste, or creed. Therefore, offering the five daily prayers in the mosque is not only an act of worship but also exhibits a sense of belonging and mutual spiritual and religious love.

Mosques have long been the backbone of the social fabric of a Muslim society. Through mosques, the propagation of Islamic teachings takes place, which educates Muslims about how they should treat each other as well as lead fulfilling lives. As Islam prescribes the rules for all areas of life including the societal norms, customs, and traditions, especially in Kuwaiti society, the building of mosques is seen as an important pillar of the society. Children regularly go to their local mosques to learn about their religion, and the Islamic ways of life.

In every Muslim town or city, one can see that Mosques take a central location that reflects their important role. Their role extends beyond being a mere place of worship, but also a place of government, education, gathering, and healing.

Throughout the Muslim world, the design and construction of mosques were given special significance. Despite the simple form of primitive buildings mosques, and their unique form, highly ornate minarets and domes used to stand out in stark contrast to other buildings.

Kuwait is a predominately Muslim country, where there are many mosques. In Islam, mosques are holy and are frequently visited to perform the daily five prayers or for the congregation's Friday prayer. Muslims are encouraged to perform prayers at mosques, and they are open most of the time to men, women, and people of all ages. While Muslims could perform their prayers anywhere; they are encouraged to do it at a mosque, as it is considered of higher status. “The mosque is the tangible physical structure for the Muslim

community and is considered a religious necessity for each individual Muslim, and the group as a whole” (Salem, 1999, p. 16)

In addition to religious significance, mosques play a major role in bringing residents together and creating a strong sense of community. Senior members of the neighborhood visit mosques frequently. It provides them with spiritual support and a social network. Members of the community with a physical disability find refuge in the local mosque and get emotional support through group prayers. As such, of all public buildings, mosques design should cater to all especially the weak and physically impaired.

According to Dr. Zakaryya Mohamed Abdel-Hady the mosque has four main roles.

It is a Spiritual and Religious Institution where “Within the mosque, worshipers are to feel satisfaction, attain tranquility, acquire mercy and devotion, and release daily worries.” Mosques have been Educational Institutions where mosques have always included “organized collective school for men, women, and children in Arab history”. Mosques are robust Social Institution where “All individuals, men and women, and young and old, are linked to the mosque. The masjid is seen as an information center for political, social, cultural, and ritual life”. Mosques were an administrative Institution where” all political, judicial, and social decisions were made. It was a center for collecting for the needy, for discussions of important matters with companions through consultation and exchanging of views and ideas.” Additionally, Mosque in history played a role as a Preventative Institution; where worshipers attempt to follow God’s commands, and to feel close contact with God and seek forgiveness, must feel relieved from the burden of sins. These actions, in turn, will protect society from all kinds of evil practices”. (Abdel-Hady, 2010, p. 5)

### Disability in Kuwait

The government of Kuwait passed Act No. 8 of 2010 on the rights of people with disabilities to ensure equal opportunities for people with disabilities in school, employment, and social welfare. In addition, the state formed the Public Authority of the Disabled to support those with special needs and oversee the implementation of laws and regulations.

The dominance of the individual model is evident in Kuwait, as evidenced by the use of international disability criteria (such as those used by the World Health Organization), which continue to describe people with disabilities by their impairments. All those suffering from permanent, whole, or partial impairments leading to limitations in their physical, mental, or sensory acuity are considered disabled in

Kuwait. This model assumes that with medical treatment or intervention, the individual can be helped to overcome their limitations. (Alenaizi, 2018, p. 1335).

However, challenges remained, particularly in guaranteeing the full social inclusion of people with disabilities in society and their equal enjoyment of their rights. Kuwait continued to use a medical approach to disability rather than a human rights-based approach, which advocated for the removal of barriers to social inclusion for people with disabilities based on their infirmities (Committee on the Rights of Persons, 2019). This study seeks to further the support provided by the government and society to those with special needs and aims to create a more equal and inclusive community.

**The significant of Universal Design Principals**

If the places we live, the services we use, and our neighborhoods and gathering places are planned to be accessible and inclusive, the built environment can contribute to a more equal, inclusive, and cohesive society.

Most of us will face mobility issues at some point in our lives due to disease, injury, caring for an elderly parent or a young child, or aging. Universal design concepts applied to pedestrian and transportation alternatives, and amenities may enable people with mobility issues to gain physical exercise, socializing, and access to community resources, all of which are good for their health.

In 1958, the term universal design was first used by Ronald Mace in the United States, although forms of it were prevalent in Europe before that time (D’Souza, 2004). Universal design is defined as “the design of product and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Mace, 1985, p. 147)

Access for persons with physical limitations and designating them as having special needs has shifted worldwide to design for everyone, with no one being singled out by specialized design. Universal design is a paradigm movement away from standardization and toward maximal adaptability and flexibility (Saito, 2006, p. 462).

Universal design views users as the best source of knowledge, emphasizing the significance of understanding people’s functional needs and how design may both exclude and include people (Miller & M Oliver, 2003, p. 14). Practitioners of universal design believe that the design process is just as important as the final product (Gossett, Mirza, & Barnds, 2009) (Iwarsson, 1999) (Salman, 2008)

Proponents of both universal design and inclusive design have published principles to guide the design process and to educate designers and consumers about the characteristics of more usable products and environments (Commission for Architecture and the built environment, 2006; Cornnell, et al., 1997). Refer to Table 1 below for the principles of universal design.

Table 1 Universal Design principals

	<i>Principal</i>	<i>Description</i>
1	Equitable use	The design is useful and marketable to people with diverse abilities.
2	Flexibility in Use	The design accommodates a wide range of individual preferences and abilities.
3	SIMPLE AND INTUITIVE USE	Use of the design is easy to understand regardless of the user’s experience, knowledge, language skills, or current concentration level.
4	PERCEPTIBLE INFORMATION	The design communicates necessary information effectively to the user regardless of ambient conditions or the user’s sensory abilities.
5	TOLERANCE FOR ERROR	The design minimizes hazards and the adverse consequences of accidental or unintended actions.
6	LOW PHYSICAL EFFORT	The design can be used efficiently and comfortably and with a minimum of fatigue.
7	SIZE AND SPACE FOR APPROACH AND USE	Appropriate size and space are provided for approach, reach, manipulation, and use regardless of the user’s body size, posture, or mobility.

Place design, planning, and management decisions can either increase or limit a sense of belonging. They can also boost or harm health by increasing or decreasing emotions of security, stretching or

restricting limits, promoting or restricting movement, and improving or restricting mobility. Further, these principals can help communities overcome real and perceived barriers, fostering



empathy and generosity of spirit.

The mobility of older people or those with disabilities is affected by the condition of the built environment, public buildings, and other pedestrian infrastructure. The application of universal design principles will invite users with diverse abilities.

Universal design is based on the social model of disability, which locates disability in the interaction between the person and the environment, with disability being socially constructed given the environmental barriers (Copeland, 2014, p. 1)

Persons who suffer from any form of disability, whether physical or mental, should be supported by deliberately designed and managed environments. The application of universal design principles ensures that spaces and built environments are fully

accessible. “Removing barriers benefits more than just those with disabilities. Everyone benefits from inclusive, accessible designs” (Smead, 2015, p. 5).

### Selection of the case studies

There is mostly a central mosque in each neighborhood in Kuwaiti and primarily located within the main public utility center that the government provides in each governorate. The author selected one main mosque from each of the six governorates of Kuwait, as these main mosques are the most used for daily prayers, plus the Friday congregational prayers. In doing so, the author sought to show a representative sample on the condition of mosque design in Kuwait.



Figure 1. Al Rashid Mosque at the capital Governorates(the Author).



Figure 2. Al Balool Mosque at Hawally Governorate (the Author).





Figure 3. Al Ala Ibn Oqba Mosque at Farwaniya Governorate (the Author).

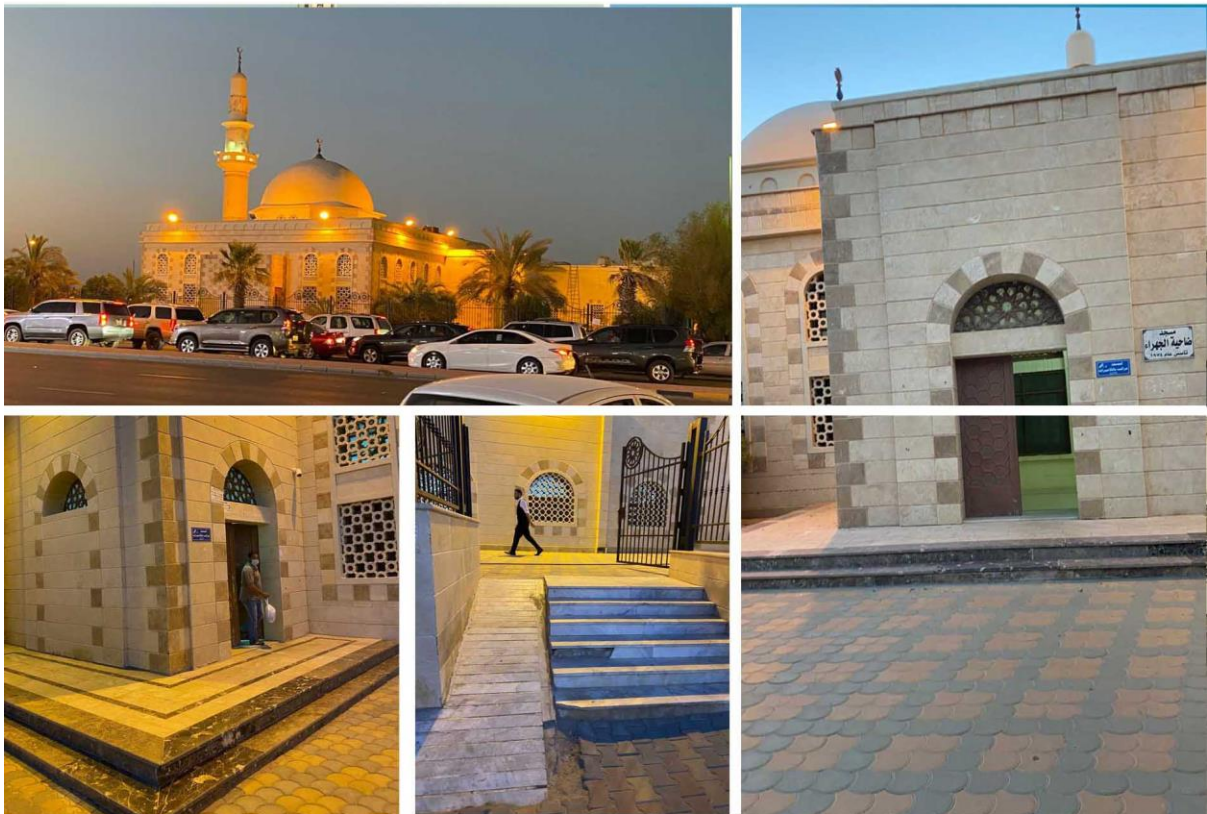


Figure 4. Al Jahra Neighborhood Mosque at Jahra Governorate (the Author).





Figure 5. Douig Al Salman Al Sabah Mosque at Ahmadi Governorate (the Author).



Figure 6. Omar Ibn Omair mosque at Mubarak Al-Kabir Governorate (the Author).

### Case Studies

According to the requirements of accessible buildings and environment guidelines, adequate provisions are essential for people with disabilities.

It will help them gain easy access to use buildings. For this purpose, different areas of buildings leading to the main entrance of the selected mosques were evaluated. There were some

accessibility features allowing mobility at the main entrance. These features included the entrance porch, entrance steps, entrance ramps, floor finishes, and entrance doors. Given Tables show a very low compliance with the seven accessibility features of the Seven Principles of Universal Design. In each of the given Tables,

there are specific statements. Each of the statements denotes a specific meaning. It should be made clear that “Yes” indicates compliance with the accessibility features of the Universal Design Principles, “No” signifies no compliance while “-” indicates that accessibility features are not provided.

Table 2 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE ONE – EQUITABLE USE: The design is useful and marketable to people with diverse abilities.

NO	Capital Governorate	Hawally Governorate	Farwaniya Governorate	Ahmadi Governorate	Mubarak Al-Kabir Governorate	Jahra Governorate
<b>Parking</b>	No	No	No	No	No	No
<b>Pedestrian Walkway</b>	No	No	No	No	No	No
<b>Entrance porch</b>	No	No	No	No	No	No
<b>Entrance steps</b>	No	No	No	No	No	No
<b>Entrance ramps</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Floor finish</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance door</b>	No	No	No	No	No	No
<b>% Compliance UD principal one</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>

Table 2 indicates that all the mosques’ main entrance accessibility features have a below-average compliance rate of 28% with UD Principle

One, as each building has five out of the seven features non-compliant with UD Principle One.

Table 3 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE TWO – FLEXIBILITY IN USE: The design accommodates a wide range of individual preferences and abilities.

NO	Capital Governorate	Hawally Governorate	Farwaniya Governorate	Ahmadi Governorate	Mubarak Al-Kabir Governorate	Jahra Governorate
<b>Parking</b>	Yes	Yes	No	No	No	No
<b>Pedestrian Walkway</b>	No	No	No	No	No	No
<b>Entrance porch</b>	No	No	No	No	No	No
<b>Entrance steps</b>	No	No	No	No	No	No
<b>Entrance ramps</b>	No	No	No	No	No	No
<b>Floor finish</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance door</b>	No	No	No	No	No	No
<b>%</b>						



<b>Compliance UD principal two</b>	<b>29%</b>	<b>29%</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>
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Table 3 indicates that the mosques' main entrance accessibility features compliance rate to UD Principle Two are below average. The mosques of Farwaniya, Jahar, Mumared ALkabeer, and Ahmadi have the least compliance rate of 15%,

with only one out of the seven features complying with UD Principle Two. The mosques of Capital and Hawally both have two out of the seven features complying with UD Principle Two, which represents 29%, which is a low average.

Table 4 FEATURES OF THE MAIN ENTRANCE ACCESSIBILITY COMPLIANCE LEVEL WITH UNIVERSAL DESIGN PRINCIPLE THREE– SIMPLE AND INTUITIVE USE: Use of the design is easy to understand regardless of the user's experience, knowledge, language skills, or current concentration level.

NO	Capital Governorate	Hawally Governorate	Farwaniya Governorate	Ahmadi Governorate	Mubarak Al-Kabir Governorate	Jahra Governorate
<b>Parking</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pedestrian Walkway</b>	Yes	Yes	No	Yes	No	Yes
<b>Entrance porch</b>	Yes	Yes	No	No	No	Yes
<b>Entrance steps</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance ramps</b>	No	No	No	No	No	No
<b>Floor finish</b>	No	No	No	No	No	No
<b>Entrance door</b>	No	No	No	No	No	No
<b>% Compliance UD principal three</b>	<b>57%</b>	<b>57%</b>	<b>28%</b>	<b>42%</b>	<b>29%</b>	<b>57%</b>

Table 4 indicates that the compliance rates of the main entrance accessibility features of all the buildings with UD Principle Three are relatively low. The Capital and Farwaniya mosques have the highest compliance rate of 57%, with only four out

of the seven features complying with UD Principle Three, while all the other mosques have two or three of the seven features complying with UD Principle Three, representing 42% and 28% compliance rates.

Table 5 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE FOUR – PERCEPTIBLE INFORMATION: The design communicates necessary information effectively to the user regardless of ambient conditions or the user's sensory abilities.

NO	Capital Governorate	Hawally Governorate	Farwaniya Governorate	Ahmadi Governorate	Mubarak Al-Kabir Governorate	Jahra Governorate
<b>Parking</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pedestrian Walkway</b>	Yes	Yes	Yes	Yes	No	No
<b>Entrance porch</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance steps</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance ramps</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Floor finish</b>	No	No	No	No	No	No

<b>Entrance door</b>	No	No	No	No	No	No
<b>% Compliance UD principal three</b>	<b>71%</b>	<b>71%</b>	<b>71%</b>	<b>71%</b>	<b>57%</b>	<b>57%</b>

Table 5 above indicates that the compliance rates of the main entrance accessibility features of all the mosques with UD Principle Four are relatively low. The Capital, Hawally, Al Farwaniya, and Alahmadi have the highest compliance rate of 71%, with five

of its seven features complying with UD Principle Four, while Mubarak Al-Kabeer and Al Jahra have four out of the seven features complying with UD Principle Four, representing 57% compliance rate.

Table 6 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE FIVE – TOLERANCE FOR ERROR: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

<b>NO</b>	<b>Capital Governorate</b>	<b>Hawally Governorate</b>	<b>Farwaniya Governorate</b>	<b>Ahmadi Governorate</b>	<b>Mubarak Al-Kabir Governorate</b>	<b>Jahra Governorate</b>
<b>Parking</b>	No	No	No	No	No	No
<b>Pedestrian Walkway</b>	No	No	No	No	No	No
<b>Entrance porch</b>	No	No	No	No	No	No
<b>Entrance steps</b>	No	No	No	No	No	No
<b>Entrance ramps</b>	No	No	No	No	No	No
<b>Floor finish</b>	No	No	No	No	No	No
<b>Entrance door</b>	No	No	No	No	No	No
<b>% Compliance UD principal three</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Table 6 indicates that all the mosques' main entrance accessibility features compliance rate to

UD Principle Five is zero, representing a 0% compliance rate.

Table 7 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE SEVEN – LOW PHYSICAL EFFORT: The design can be used efficiently and comfortably and with a minimum of fatigue.

<b>NO</b>	<b>Capital Governorate</b>	<b>Hawally Governorate</b>	<b>Farwaniya Governorate</b>	<b>Ahmadi Governorate</b>	<b>Mubarak Al-Kabir Governorate</b>	<b>Jahra Governorate</b>
<b>Parking</b>	No	No	No	No	No	No
<b>Pedestrian Walkway</b>	No	No	No	No	No	No
<b>Entrance porch</b>	No	Yes	No	No	No	No
<b>Entrance steps</b>	No	No	No	No	No	No
<b>Entrance ramps</b>	No	Yes	No	No	No	No



<b>Floor finish</b>	No	No	No	No	No	No
<b>Entrance door</b>	No	No	No	No	No	No
<b>% Compliance UD principal three</b>	<b>0%</b>	<b>28%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Table 7 indicates that the compliance rates of the main entrance accessibility features of all the mosques to UD Principle Six are also very low. The Capital, Farwaniya, Ahmadi, Mubarak Alkabeer, and Aljahara have the lowest compliance rate of

0%, with all seven features complying with UD Principle Six. The Hawally has a 28% compliance rate, with two out of the seven features complying with UD Principle Six.

Table 8 MAIN ENTRANCE ACCESSIBILITY FEATURES DEGREE OF COMPLIANCE WITH UNIVERSAL DESIGN PRINCIPLE SEVEN – SIZE AND SPACE FOR APPROACH AND USE:

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture or mobility.

NO	Capital Governorate	Hawally Governorate	Farwaniya Governorate	Ahmadi Governorate	Mubarak Al-Kabir Governorate	Jahra Governorate
<b>Parking</b>	Yes	Yes	No	Yes	Yes	Yes
<b>Pedestrian Walkway</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Entrance porch</b>	Yes	No	Yes	Yes	Yes	Yes
<b>Entrance steps</b>	No	No	No	No	No	No
<b>Entrance ramps</b>	No	No	No	No	No	No
<b>Floor finish</b>	No	No	No	No	No	No
<b>Entrance Door</b>	No	No	Yes	Yes	Yes	Yes
<b>% Compliance UD principal one</b>	<b>42%</b>	<b>28%</b>	<b>42%</b>	<b>57%</b>	<b>57%</b>	<b>57%</b>

Table 8 indicates that the compliance rates of the main entrance accessibility features of all the buildings to UD Principle Seven are low in Hawally and Farwaniya mosques. Ahmadi, Mubarak Al-Kabeer, and Al Jahara have the highest compliance rate of 57%, with all its seven features complying with UD Principle Seven.

### Conclusion and Recommendations

Following the universal design principles, the study looked at six main mosques in Kuwait in light of parking, pedestrian walkways, entrance porch, steps, ramps, floor finishes, and entrance doors. The investigation discovered that the main entrances of none of the case study buildings are well designed

and built. The study's findings are in line with earlier studies that have discovered that the built environment is often inaccessible to people with physical challenges. The findings contradict universal design principles, which are intended to create structures and environments that are accessible and functional to people of all abilities. The study recommends that the Kuwait Ministry of Awqaf and Islamic Affairs begin to make efforts to ensure that there is no discrimination based on disability when it comes to providing access to mosques comfortably and efficiently. To make Kuwaiti mosques more inclusive, take steps to renovate accessibility features. When applicable,

dropped curbs, ramps, handrails, non-slippery floor finishes, and beveled door thresholds are a starting point toward completely incorporating the concept of universal design in mosques' built environment, according to the findings of this study.

Holding universal design training seminars for project supervision/monitoring teams and workers, drafting standards for incorporating universal design concepts and criteria in all future mosque projects, and guaranteeing strict adherence to the rules are some further proposals. Universal design should be included in the curricula of relevant design and building departments in mosques. Recognizing the importance of universal design principles helps to ensure that future designers and builders of the built environment are well-versed in the concept. To develop a long-term learning environment, all stakeholders must work together to ensure that facilities, buildings, and the environment are designed and built with universal design elements that make them easily accessible to everyone on equal terms.

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