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Accessibility to Urban Parks by disablers: A Case Study on a Main Park in Erbil

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ABSTRACT

Quite a large number of Iraqi – Iran war victims as well as casualties of Kurdish revolution since 1961 now making a noticeable ratio of the disablers population in Kurdistan of Iraq. In fact, recent uprising also did contribute in raising the number of the injured and handicaps within Kurdish community. Actually, all these people almost got no easy way for participating in entertainment within this park, or any similar parks in Erbil (Hawler). All these are because of lack of suitable road and even special gates within such parks. In fact, even babies and nurseries are in need to such gate and ways that is absent so far. A review of the actual design and pointing out the stages of establishing points in this respect will be the goal of the present study for such and other parks in the region in order to reduce the existing gaps in designing, planning and in constitution of any parks. Present study is concentrating on the effect on disablers, the psychological and physical effects on crippled individuals, and the effects on disability institutions. Sami Abdulrahman Park is one of Erbil's largest parks, present study's primary goal is to build a system that addresses issues with disabled people's access to these parks. According to studies, the existence of inaccessibility is routed, and cities are referred to eliminate it; design measures with interior locations are then used to suggest presenting options. Using sketches, photos, and interviews, researchers record the park's landscape design sites—entrances, streets, pedestrian crossings, parking lots, ramps, urban furniture, etc.

1. Introduction

One of outcome of civilization is to give the right for all people including disables in taking benefits from any public urban arrangement disable peoples generally make up a noticeable number in any nation in contrast it constitute a reasonable ratio of our nation and Erbil in particular as it has faced lots of disastrous since last century that resulted in raising their ratio within our people. (B.K. Maulood personal communication). In parallel with development of civilization human have exploited their capacity in order to suit nature and adapt with life, for all these it had developed various psychological processes. The social and psychological needs of the peoples should be sufficiently available for easily accessible green areas including gardens, public parks and even forest. Size and number of green space in any city or towns should be evenly placed throughout the territory, and be arranged and located in accordance to the needs of the citizons (Bilgili ve Gökyer 2012).

The strategic location of any project within a city as far as landscape is concerned has gained 35 significant attention recently. (Begg, 1999; Hall, 1995). In general, cities compete to 36 draw more tourists, investors, firms, and visitors all over the world. (Giffinger et al., 2010).

Lots of investigation and project have been performed worldwide, most if not all, are constituting on normal healthy person in respect to greeneries or parks (Kimic and Polko, 2022). Whereas quite few are regarding to disable ones and handicaps. Disability is a complex phenomenon, an extensive explanation of the term is in fact, may mean that one who could not access to a space in an open-green area easily therefor looking for an accessible space which is suitable for them to easy approaching the needs which is required. (Özdingiş, 2007).

According to the World Health Organization (WHO), the total ratio of disabled people within a 44 population is estimated to be around 10% in industrialized countries and raised to 12% in 45 developing countries. The challenges have a significant impact not just on individuals with 46 disabilities but extend to their families as well (Enginöz and Şavlı, 2016). WHO referred to reasons 47 behind a person's disability in both physical and environmental causes. (Barbotte et al., 2011). 48 Disabled individual seems to constitute a significant part of the population in Kurdistan of Iraq. According to the latest data, there are about half a million disabled individuals. In other words, 5 out of every 50 (20%) of the population has a disability phenomenon (Anon, 2024).

Regarding handicaps, there are numerous perspectives and various definitions had been forwarded. In fact, the World Health Organization (WHO) had published a notification 1980 establishing the fundamental nations of handicaps. In general, definition may be divided into three categories (impairments, disability and handicaps) out of all priority were given to the last one (handicap) (Gezen, 2014).

Urban parks may be regarded as the main leisure and entertainment sites in the daily life of residents, in any town or city. It is in fact should have easy accessibility since it (parks) or closely related in general to people’s physical and mental health (Zhou et al., 2023).

Urban parks in general, in fact play an important role in recreation and support urban ecological integrity (Park and Jo, 2021). It also known to be a key element of urban greening and low-carbon emission reduction however, one may admit that large park is always used as a feature of great cities as well as it is capacity to offer citizens relaxation, scenic views, beside a distinctive open space which had become a necessity nowadays to maximize the usage of open spaces (Park and Jo, 2021; Al- Rawi, 1988).

In contemporary civilizations on the other hand, urban parks do serve as spaces where any individuals can fulfill their physical and psychological requirements throughout mitigating social isolation. Finally, the fact is that the right design of urban green spaces will emerge as the foremost answer to address the challenges encountered in facilitating the socialization of impaired individuals (Sanmargaraja and Wee 2015).

The city of Erbil is currently being increasingly facing reactively little public green spaces, in comparison to the demand of its population and adhering to the prescribed standards for open

space provision. In fact, the green spaces in question exhibit a lack of cohesion and integration, so impeding their ability to operate as a cohesive entity. This fragmentation ultimately may lead to the degradation of the urban environment then a subsequent rise in air pollution in the region will appear.

The current study on one of the largest park within Erbil Sami Abdulrahman Park, is actually to point out that this park is great and in order to improve its design for features similar parks that one expect to see in near features its require to find out the gaps in its design one of the main problem is that facing disablers in using such parks. In case of Sami Abdulrahman Park actually the gap for disables is quite clear in all different constitution of the park from entrance gate up to leaving gate that should be refilled sooner or later for disables.

The investigation ends up showing actually the lack of availability, of walking paths, plantings, and urban equipment for their appropriateness. The evaluation of the results was forwarded after comparing design measurements with on-site data to propose and forwarded a suitable applicable solution. This investigation may be used as a first base line knowledge of the suitability of urban parks in the Kurdistan region of Iraq, using in Erbil province, for the utilization by individuals with disabilities as an example.

2. Material and Method

2.1 Material

Within west side of city center at a Longitude $36^{o}\ 11^{/}\ 31.45^{//}$ N, Latitude $43^{o}\ 59^{/}\ 16.07^{//}$ E Sami Abdulrahman Park started to be established in 2000, to replace the location of Iraqi army camps, after Kurdish uprising in 1991. For this local authority had ordered structuring a peaceful place and fresh atmosphere, such park do offer a piece full place to those intercity travelers in particular and beside that it provides an alternative green field for sports, entertainment, picnic and recreation means for citizens urban dwellers. However, nowadays this park; have been established in 210 hectares area, that insert more than, 168 hectares green area, it involves a playground for kids (Figure 1). Location of the park showing Erbil International Fairground which occupy a quite reasonable area of land as well as, it involves Zaytun Public Library, theaters, and a number of statues and monuments, a summer movie theater, two artificial impoundments. However, still no evidence to any sign for easing ways for disables, handicaps so far appears in this park.

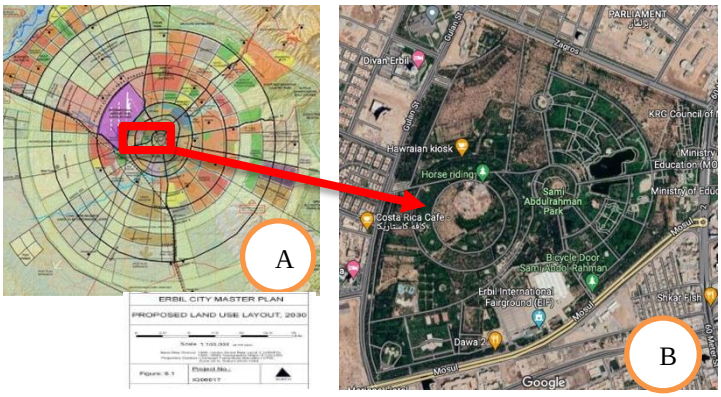

Figure 1: A) Erbil (Hawler) City Master Plan within Sami Abdulrahman Park (Anon, 2008), B) Location map and Satellite view of the research area.

2.2 Method

A part from literature review on such project data collecting throughout detection, on the parks in Kurdistan in general and Sami Abdulrahman Park in particular, past and present status of the greenery in relation to disablers in particular were reported. Then after the last step was enriched the results with illustration, hand drawing, map and photos were performed whenever was available and necessary forwarding analyzing, discussion of the results were forwarded. The expected improvement and easy ways for disables to attend similar parks. However, the study is concentrating in particular to forwarded designs to be convenience to the disabled individuals in the region. All these information and results were the outcome of many tours and visits to all parts of the park within various seasons by us personally.

3. Results

3.1 General Description of the Park

Sami Abdul Rahman Park is the largest park in Erbil province, situated at the West side of Erbil city, facing Kurdistan's Parliament buildings. That was before 1991 a military camp embracing a number of military units for more than seven decades. A total of 800 thousand sq. m. of this

camp have been used for establishing a public garden during mid-nineties of last century in order to increase the greenery as a policy of local government. The construction was in such a way that to be establish accessed for free. All attendance should abide by the regulations and keep the place clean. This Park now is involving a number of children games and restaurants, in addition to the Erbil International Fair Ground, a Public Library, theater, playground, Rose garden, climbing wall, running track, as well as the city's Martyrs memorial a number of statues and monuments, a summer movie theater, fountains and two artificial lakes. Therefore, one may refer to it as one of the best parks in the capital. Whereas, no location reference in the design for disablers had been found (Figure 1).

It's clear that out of the total area is 2,100,000 m2 (Figure 1). The park involve 50 picnic tables, 14 cafeterias, 1 small mosque, around 175280 trees and decoration plants (except for bushes), 40 large bins, 250 small bins, 2 lakes of 22000 m2 area in the study, 5 fountains, 3 playgrounds, 1 restaurant, 1 Martyrs monument, 1 library, 1 open theater, 1 group of (12 units) fitness set, 10 WC, and only one disabled WC cabin exclusive for the disabled visitors which is not according to the standard again it is become quite clear that 10 % of population in Erbil. However, disablers and handicaps could not benefit from the park so far, a climbing net, a trampoline and similar play tools, 1 buffet, 1 administrative building, 1 nursery, No solar-powered and normal lightning components.

3.2 Detail of the constituent of the park

3.2.1 Park Entrances (Gates)

The design involved a well-established fence with only 7 entrance gates in different directions. The entrance of the area is wide enough in terms of user capacity. In park entrance gates of the area, there is a car-park and pedestrian roads as well as ramps for the use of disabled visitors (Table 1) (Figure 2).

Table 1: The Gates of Sami Abdulrahman Park

No. of Gates	Position	Use	Main Use	Direction
1	Opposite Parliament building	Normally official use for ceremony and events.	Can be used for public also.	East
2	On the main Road to Mosul City	Public gate	Applicable, Bicycle Door	South
3	On the main Road to Mosul City	Used for Public	Generally used for Erbil international Fairgrounds	South
4	On the main Road to Mosul City	With a huge car park, used for Public, expediter and restaurant	Generally used for car park	South
5	On the main Road to Mosul City	Privet used by employees	employees	South
6	Opposite English Village, Gates huge with sufficient car park	Public generally used for picnics and have playground for kids	Public to all specially picnic and community gardens	West
7	Opposite Divan Hotel, Gates huge with sufficient car park	Public generally used for picnics and have playground	Specially Sport area (Running area)	West
8	Closed	Closed	Closed	North

Figure 2: A) Master Plan of Sami Abdulrahman Park, B) A view from the park entrance, C) Fence surrounding the park. (Source: Author).

3.2.2 Internal Roads and Ramps

Pedestrian areas are designed with precise and unambiguous geometrical shapes to facilitate accessibility for individuals with visual impairments.

The UN (2004) states that the distance required for two wheelchairs to come across concurrently is 150 cm. Based on the known standers, it is safe to argue that specific walking trails inside Sami Abdulrahman Park can meet the expectations still it can be improved in order to fit international standers. In contrast, particular trails are not applicable to meet the needs of disabled users (Figure 3 and 4).

There are enough fixed pontoons in the center of pedestrian routes near playgrounds and utilized for car access are another drawback. Although it can accommodate four wheelchairs in the park. (Figure 5).

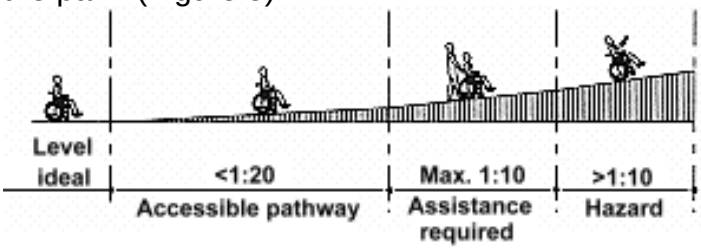

Figure 3: The maximum recommended slope of ramps is 1:20 (UN, 2004)

Figure 4: Without ramp entrance to the park (Source: Author).

Figure 5: Pontoon mounted on the entrance of walking trail (Source: Author).

3.2.3 Stairs

A stairway solution presents a challenge for individuals with disabilities. A possible solution to prevent land use from becoming an issue for disabled individuals is the installation of a ramp. That is needed to be improved, increased and enriched with ramps.

3.2.4 Car Park

In spite of presence of car parks all around the park still arrangement and the design as it is not suit with standard design that had resulted in to a crowed area on public and main streets that lead to the park. However, photos of the location and size at car parks are illustrated in (Figure 6 A, B)

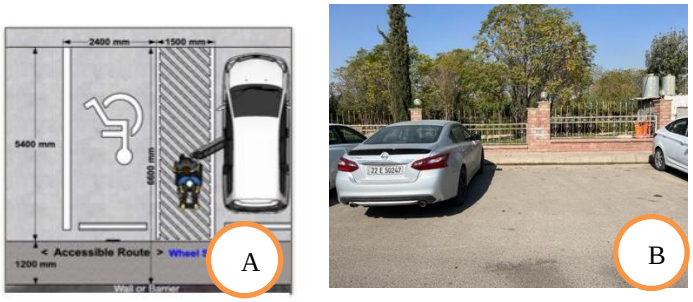

Figure 6: Explain: A) Disability car parking design (Source: Enable Me Access, 2024). B) There is no disability parking sign at the park entrance (Source: Author).

3.2.5 Sinks-WC

In outer space, only one disabled restrooms common for both (men-women) is available in common areas (Figure 7 A). A disability sign must be posted on the toilet door to indicate its presence.

Toilet doors and keys must be accessible from outside. To allow wheelchair users to rotate, the toilet's inner width must be optimized.

Wheelchair-friendly toilets are needed. The design standards for disabled bathrooms are defined by national rules, however general-use spaces must meet common requirements. That is not exist so far in the park (Figure 7 B).

Figure 7: Toilet: A) Only exiting ones (Source: Author). B) Proposal for future (Source: Grab Rails, 2023).

4. Discussion

City parks have an important place in terms of participation of individuals with disability to the social life and their physical functions. The most basic duty municipalities have to ensure that

people with disabilities are physically fit for urban parks so that they can participate fully in society and make use of all social opportunities on an equal basis with other people. (Güngör and Polat, 2016). Fortunately, country or local governments are making efforts in this regard, and research investigating city parks is becoming more prevalent in the literature. While previous investigations have been single-centered (Bromley and Thomas, 2007; Nary and White, 2000; Sanmargaraja and Wee, 2015). The findings of this study regarding the utilization of urban parks have prompted us to assert the need to assess city parks based on geographical, and climatic conditions and consider the needs of those with disabilities as well.

The importance of Physical Activity lies in establishing inclusive environments that uphold the rights of individuals of all ages and abilities, ensuring fair and safe access to spaces within their urban areas and communities. These spaces should facilitate regular engagement in physical activity (Lawson, 2018). Despite the commendable objectives, it is our contention that none of the parks examined in this study satisfied the criteria outlined in the standards for inclusive park and playground design (Perry et al. 2018). The lack of or inadequacy in urban parks' accessibility and use, structural suitability, and fulfillment of the fundamental needs and activities that served as the foundation for this conclusion.

The pedestrian pathway should be equipped with tactile strips, at least 20 cm wide, that can be easily detected by visually impaired individuals using a walking stick. These strips should be placed in both directions across the entire pathway width. The minimum width of the pedestrian pathway should be 150 cm. The width limitation may result in a reduction of this measurement to 125 cm. The minimum width required for bi-directional wheelchair traffic crossing is 1.50 meters, while the preferred width is 1.80 meters (Yacin, 2011).

Although these pontoons were placed to protect kids' playground safety, they reduced the amount of wheel chair-accessible routes, thus hindering physically challenged individuals. There should be a smooth road surface without obstacles, enabling disabled folks to navigate freely and without impediments, allowing them to move consciously and stroll along the pathways without obstructions or interruptions. It is essential to avoid any types of disarrangements that have the potential to be hazardous (Gokce, 2012).

Close to the entrance, exit points of public buildings there is a regional car- parks, general car-parks beside the lifts, minimum 1 car park space among consecutive 20 cars must be reserved for the use of disabled drivers and be signaled via an appropriate sign. Moreover, there must be a minimum of one accessible parking space per building. For every extra 25 spaces, there should be an additional one space up to 100 (Enable Me Access, 2024). The dimensions of the car park range from 2.5 meters to 4.5 meters. However, to facilitate unrestricted mobility for wheelchair users, the dimensions of car parks must range from 3.6m to 6m. A minimum space of 1.2 meters is required for mobility on either the right or left side and the rear side of the parking park (UN, 2004).

The handicapped parking sign should be placed on the ground in the open parking lot and on the ground, wall, and ceiling in the closed parking facilities. Both the visually appealing and easily readable handicapped plate and the guiding handicapped plate should be placed until the parking lot where the handicapped people could park within the parking facility (Ozida, 2010). According to UN (2004), in the parking lot created by considering the handicapped folks, a minimum of 360 cm should be left for a handicapped car.

When designing ramps, overcoming the height difference while providing ergonomically necessary conditions for wheelchair users, infant strollers, and visually impaired individuals should be the primary objective. Up to a 10-meter ramp length should have a maximum incline of 8%. The utmost slope that ramps longer than 10 meters should have is 6%. Benches ought to be incorporated into resting locations (Kursun, 2014). The variable dimensions of the staircases in the park are 13 x 25 centimeters.

An easy-to-open door (925 mm minimum), Lots of cabin space for wheelchair users, Space for wheel chair users to enter the toilet in front of

or near it, Toilet-accessible handwashing and drying, Wheelchair users need space to reach the closet or their chair. Toilet cabin size depends on closet centrality or corner position (Grab Rails, 2023). Central closet toilets must be 2800 mm wide and 2200 mm long and accessible from the front, back, or left.

Despite being physically separated from standard WC, the study site's WC-sink is not wheelchair-friendly. Design area fittings show that a locationally-separated WC for disabled individuals is not completely different from conventional WC.

Having no disabled-friendly closets, grab bars, or emergency call buttons limits the space's usability. Wheelchair users also struggle with the sink. The park needs at least 3-4 disabled toilets Sami Abdullrahman Park, however there is only one without design rules. In the conclusion access to wheelchair-friendly WCs is not easy in the park.

Conclusion

Anyone with mobility issues should be able to enjoy fresh air, boost self-esteem, and fight despair and alienation. The research should focus on improving public area accessibility for mobility-impaired people. Building self-confidence, dignity, and social equality seems to be the most complex issue. The most important modifications to ensure that the disabled person participates fully in society and has access to all opportunities on an equal basis with other people.

Appropriate design of parks catering to individuals with disabilities is essential. The analysis of park structures should be conducted with a focus on those with disabilities. In addition, it is imperative that municipal parks adequately cater to the diverse range of fundamental and social requirements and activities of individuals. Accessibility of green public open spaces for relaxing, walking, and playing sports for people with disabilities who will be able to spend time on a par with everyone is a step on the path to global change in society. Local governments must demonstrate sensitivity towards including individuals with disabilities in societal activities. Ensuring their full and equitable access to this right constitutes a paramount responsibility.

In the 21st century, disabled persons still have trouble entering public settings specially greenery. Social factors, as well as park infrastructure, determine its quality. Encourage mobility-impaired people to visit parks and organize more social gatherings.

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