

An Analytical Study on Achieving Inclusive Parks in Light of Universal Design, Al-Salam & Al-Amal Parks in Aswan City as Case Studies.

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Abstract:

Inclusive public parks have an essential role in meeting the society members' needs fairly and enhancing inclusion and social participation. Applying Universal Design (UD) approach to the elements of the public parks promotes inclusiveness, and eliminates physical obstacles. This study measures the UD application in Aswan's Parks (Al-Salam, Al-Amal). The study adopted the descriptive-analytical approach, through the researchers' observations which were recorded by the study's checklist according to UD requirements. This research aims at highlighting the role of UD in achieving inclusion, social participation, and sustainability in parks. Also, it aims at identifying the physical obstacles that prevent persons with low physical abilities (elderly, disabled, expectant mothers, and children) easy access and use of these parks. The results revealed that the case study Parks do not fully comply with UD requirements. The study concluded some important recommendations through which the UD approach can be achieved in the park's facilities, thus achieving inclusiveness in parks. **Problem:** The research issue lies in the actuality that community exclusion of classes of people, such as older people and disabled people, leads to their hardship in dealing with the urban environment and parks as well. Thus, designing societies and parks with Universal Design standards enables all society members to integrate and engage significantly. **Importance:** The significance of this research exemplifies that a universally designed community can benefit all people of different ages and abilities. Also, by designing parks and communities in light of UD standards that encourage older persons to socialize, and achieve social sustainability. Universally designed parks improve quality of life by providing wholesome environments as well. **Objectives:** This research aims to highlight the role of Universal Design in achieving inclusion, social participation, and sustainability in parks. Also, it aims to identify the physical obstacles that prevent persons with low physical abilities (elderly, disabled, expectant mothers, and children) from accessing and using those parks.

Keywords:

Inclusive Parks, Universal Design, Al-Salam & Al-Amal Parks, Aswan City

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1. Introduction

Almost everyone has some form of temporary or permanent disability at some point in their life [1]; as the disability increases with age, natural causes, or a result of external causes [2]. The World Health Organization (WHO) defines a disabled person as anyone who has a permanent or temporary physical or mental deficiency, whether this deficiency is innate or acquired [3]. The number of elderly people is increasing dramatically all over the world. And in 2050, 80 % of the elderly will live in low and middle-income countries [4]. In Egypt, the number of elderly people reached 6.40 million in 2018, or 6.7%. The Egyptian government issued article (83) of the Egyptian Constitution of 2014,

which states that "the state is obligated to take care of the health, economic, social, cultural, and recreational rights of the elderly" [5]. On the other hand, (WHO) indicates that an estimated billion people (15%) of the world population are disabled, and 80% of them live in developing countries [6]. In Egypt, statistics from the Central Agency for Public Mobilization and Statistics (CAPMAS) for 2018 indicate that the disabled percentage (5 years old and over) is 10.67% of the total Egyptian population [7]. The Egyptian government issued "The Egyptian Code for the Design of External Spaces and Buildings for the Handicapped use" [8] and Law No.10 of 2018 for the rights of the disabled, which aims to ensure their enjoyment of

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all human rights and eliminate physical obstacles they face at their environments [9]. But the Code applies the minimum limits, and it promotes them feel exclusion at the same time" [8]. Despite the disability concept change [10] and the trend toward inclusion of the disability in facilities and urban spaces [11], the disability still faces obstacles, represented in the physical environment shape or related to legislation, policies, and the prevailing social attitudes in society [10]. The importance of UD lies in providing features that help everyone to use different environments at all stages of life. Since open spaces are significant in ensuring the well-being and life quality of the population, architects must design considering the UD approach in these spaces to accommodate all users, regardless of their capabilities [12]. This study aims at emphasizing the significant role of UD in the creation of public parks that meet the needs of persons with low physical abilities, motivate them to participate in the community, and achieve social sustainability. Also, it aims at identifying the physical obstacles that prevent persons with low physical abilities from easy access and use of these parks.

Statement of the problem

The research issue lies in the actuality that community exclusion of classes of people, such as older people and disabled people, leads to their hardship in dealing with the urban environment and parks as well. Thus, designing societies and parks with Universal Design standards enables all society members to integrate and engage significantly.

Importance of the research

The significance of this research exemplifies that a universally designed community can benefit all people of different ages and abilities. Also, by designing parks and communities in light of UD standards that encourage older persons to socialize, and achieve social sustainability. Universally designed parks improve quality of life by providing wholesome environments as well.

Objectives of the research

This research aims to highlight the role of Universal Design in achieving inclusion, social participation, and sustainability in parks. Also, it aims to identify the physical obstacles that prevent persons with low physical abilities (elderly, disabled, expectant mothers, and children) from accessing and using those parks.

2. Literature review

2.1 Universal Design "UD"

The definition of universal design (UD) is "design the environments and products be usable by people of all groups and abilities, to the fullest extent possible, without the need for specialized or

adaptation design" [13], or "it is a design process that improves human performance, wellness, health, and social participation for people with diverse abilities." [14]. The importance of UD lies in providing features that help to use different environments at all stages of life, especially since all human beings face a decline in their physical abilities; as a result of progress in age or accidents and disease during their life stages. Moreover, the application of UD to the environment contributes to achieving social sustainability where its new standards are achieved [health and welfare, safety and security, access to facilities and comfort means, participation, and community interaction]. So that living spaces and public environments become suitable for everyone [15]. The trend toward UD began in the United States of America in the sixties. In the fifth decade of the last century, the "barrier-free movement" emerged to create accessible environments for the disabled.

Then, significant federal legislation started to be passed. The most famous one was "the Americans with Disabilities Act" (ADA) of 1990. But those accessibility laws remove a small percentage of obstacles facing the disabled [16]. That led Ronald Mace, Ruth Hall Lusher, and others to think of a different approach to design the built environment to be more accessible than those laws based on the discrimination they called "Universal Design" [14]. The concept of UD has many names in the world as design for all, inclusive design, participatory design, human-centered design, usability, life span design, and independent living [17]. Among the concepts related to the disabled is (The accessibility concept), which refers to the minimum mandatory laws implementation and standards to ensure the disabled access to facilities, products, and services. Whereas UD is non-constrained by law, it exceeds the minimum accessibility law requirements, for example [widening entrance width, installing ramps, and grab bars in restrooms, Etc [18]. (The Adaptable design concept) refers to the standard design modifications made to appropriate disabled users, for example, van modifications made for wheelchair users [19]. "Adaptable design" is not the ultimate solution for all people. These designs are not suitable for non-disabled users living in the same environment [16].

2.2 The UD principles are

Researchers have developed the following UD principles to educate designers and consumers about the characteristics of the most usable products and environments [13].

- First principle: "Equitable Use"
- Second principle: "flexibility in use".
- Third principle: "Simple and Intuitive Use"

- Fourth principle: "Perceptible Information"
- Fifth principle: "Tolerance for Error"
- Sixth principle: "Low Physical Effort"
- Seventh principle: "Size and Space for Approach and Use"

2.3 Universal Design in Public Parks

The urban environment should provide more services to the low physical abilities of the population so that they are not forgotten or marginalized. Tabassum and Sharmin (2013) pointed out, "the low importance of parks and open spaces in less developed countries as a result of rapid urbanization, as there is a significant encroachment to open urban spaces because of the increased demand for land to provide housing and other urbanization needs" [20]. Lynch et al. (2019) confirmed in their study that "parks and playgrounds have not received significant attention of the UD application and designing for diverse abilities and ages" [21]. Skulski (2007) pointed out that "the main objective of their study is to show how applying UD seven principles on playground equipment, to make the play process inclusive for all children regardless of their physical abilities". The study assured that "when the playground meets the minimum accessibility principles, the play area creative design is ignored" [22]. While Abdou (2011) "emphasizes the necessity of creating accessible urban spaces to create participation and interaction opportunities for all disabled and healthy children" [23]. The researcher Keci (2016) "confirmed that (the Hole of Hajdin Sejdia) its case study, is inaccessible for all people, and it does not apply UD requirements that permit community interaction for all." [24]. On the contrary, Moore et al. (2005) showed that "all families visited Kids Together Park (KTP) its case study, recognized that it is an inclusive park that achieves social

participation, as it enables adults, children, the disabled, and the healthy to enjoy" [25].

The studies concluded that public parks have great importance to all society members. Hence it is recommended to apply UD when establishing and developing them; to create high-quality open green spaces that include all community groups.

The Previous literature review confirms that there is an urgent necessity to apply the UD requirements to the park's elements to improve its quality to appropriate all users' abilities and achieve inclusion and social participation.

3. Research Methodology

The study adopted the **descriptive-analytical approach** to measuring the UD application of "Al-Salam and Al-Amal Parks in Aswan, Egypt." The study was carried out through **researchers' observations** using the **study checklist designed** according to UD requirements. The checklist addresses **eight elements** of the park's elements, selected according to their importance in achieving ease of access and usability. These elements include [**entrance, curb ramp, walkways, benches, playground, toilets, drinking fountains, and Parking lots**]. The total number of **checklist questions** for the eight elements is **74**, were answered by the **researchers** during their **visit to the case study parks** and doing the observation process. The answering process carried out according to the degree of UD compliance by choosing one of the three options [significantly, moderately, non-compliant]. The results percentages were obtained for the three options separately; to show the degree of UD compliance of those parks. **Tables 1, and 2** show the questions number, results, and percentages for each of the eight elements of the two parks. And the study **checklist is clarified in Table 4, as a supplementary file** [29], [30].

Table 1. Clarifies number of the questions and the percentage of compliance to UD for Al-salam Parks' elements

Elements Standards	entrance	Curb ramp	walkways	Benches	Playground	Drinking fountains	Toilets	Parking lots	Total result
	Significantly								
Number of items	2	5	3	4	6	3	0	0	23
percentage	29%	63%	30%	33%	24%	30%	0%	0%	31%
moderately									
Number of items	3	1	4	5	2	3	0	0	18
percentage	43%	13%	40%	42%	8%	30%	0%	0%	24%
Non-compliance									
Number of items	2	2	3	3	17	4	1	1	33
percentage	29%	25%	30%	25%	68%	40%	100%	100%	45%
Total number of items for each element	7	8	10	12	25	10	1	1	74

Table (2): Shows number of the questions and the percentage of compliance to UD for Al-Amal Parks' elements

Elements	Standards									
	entrance	Curb ramp	Park corridors	Benches	Playground	Drinking fountains	Toilets	Parking lots	Total results	
Significantly	Number of items	3	0	2	3	4	0	0	0	12
	percentage	43%	0%	20%	25%	16%	0%	0%	0%	16%
moderately	Number of items	1	0	4	5	0	0	0	0	10
	percentage	14%	0%	40%	42%	0%	0%	0%	0%	14%
Non-compliance	Number of items	3	8	4	4	21	10	1	1	52
	percentage	43%	100%	40%	33%	84%	100%	100%	100%	70%
Total number of items for each element		7	8	10	12	25	10	1	1	74

4. The Case Study

This study addressed Al-salam and Al-Amal parks in Aswan, Arab Republic of Egypt, as illustrated in Fig. 1 [26].

4.1 Al-salam Park

This study addressed Al-salam and Al-Amal parks in Aswan, Arab Republic of Egypt, as illustrated in Fig. 1 [26]. Al Salam Park covers an area of 2 acres and has three entrances, the main entrance, and two secondary entrances. Al-Salam Park was chosen due to its distinct strategic location, as illustrated in Fig. 2 [27]. Al-Salam Park location in a strategic site, the Nile Corniche boarded it from the west and Abtal Al-Tahrir Street from the south which leads to an important commercial area, banks, hotels, and important buildings such as the Aswan City Council building, it is boarded by Saad Zaghloul street from the north which leads to the General Bureau of the governorate and Railway train

station. Hence, it was necessary to conduct an analytical study; to measure UD application of its design elements.

4.2 Al-Amal Park

Al-Amal Park has an area of one acre, and it has two entrances; the main entrance and the secondary entrance, it is addressed in the study as it is the only park in the Nasser neighborhood that accommodates a large number of residents, and due to the severe deterioration of all its elements such as toilets, corridors, benches, and playground, in addition to the difficulty moving inside it; due to topography of the land, as it consists two different levels linked by stairs, making it impossible for groups with low physical abilities to roam around the park. So, it was necessary to develop it; to ensure inclusiveness inside the park, it illustrated in Fig. 3 [28].



Fig.1 The locations of Al-Salam and Al-Amal parks in Aswan [26].



Fig. 2s The general location of Al-Salam Park [27].

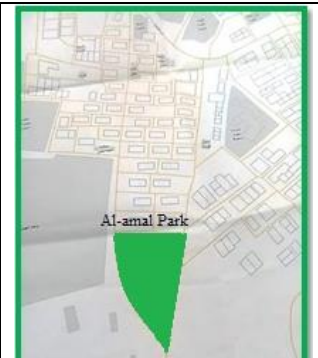


Fig. 3 The general location of Al-Amal [28].

5. Results

An analytical study was conducted for two parks (Al-salam and Al-Amal Parks); to evaluate their UD

compliance, thus determining the physical obstacles inside them. This is illustrated in Fig. 4 As follows:



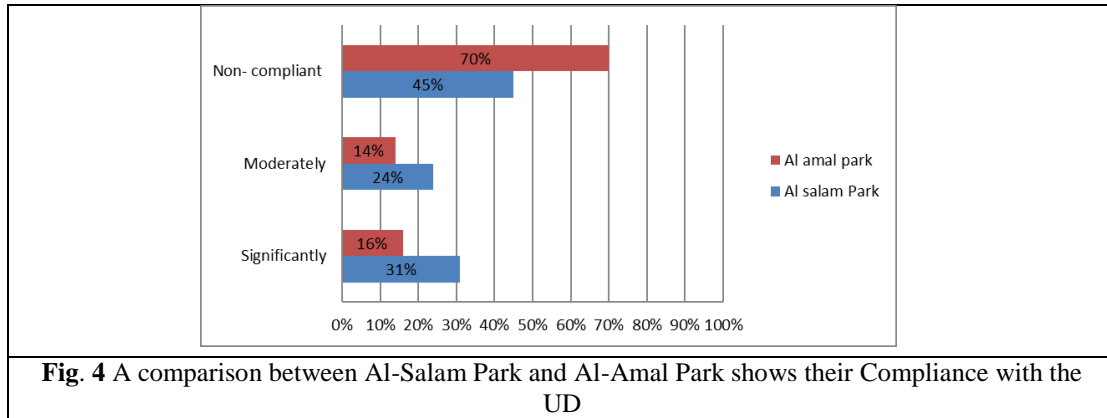


Fig. 4 A comparison between Al-Salam Park and Al-Amal Park shows their Compliance with the UD

Fig. 4 illustrates the results of Al-salam and Al-Amal parks, briefly indicates that Al-salam and Al-Amal parks do not apply the UD approach completely; as the percentage of Al-salam Park

compliance “significantly” by 31%, and Al-Amal Park compliance to UD “significantly” by 16%. Fig. 5, 6, and 7 show the results of the eight elements of Al-salam and Amal Parks

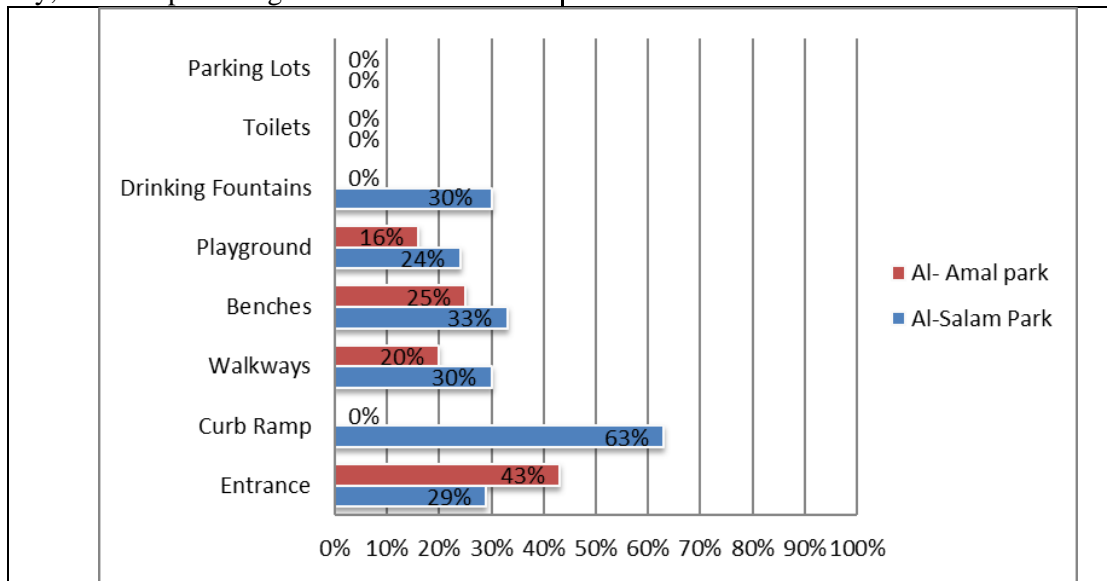


Fig. (5) A comparison among Al-Salam, and Al-Amal Park elements to show their Compliance with the UD “Significantly”

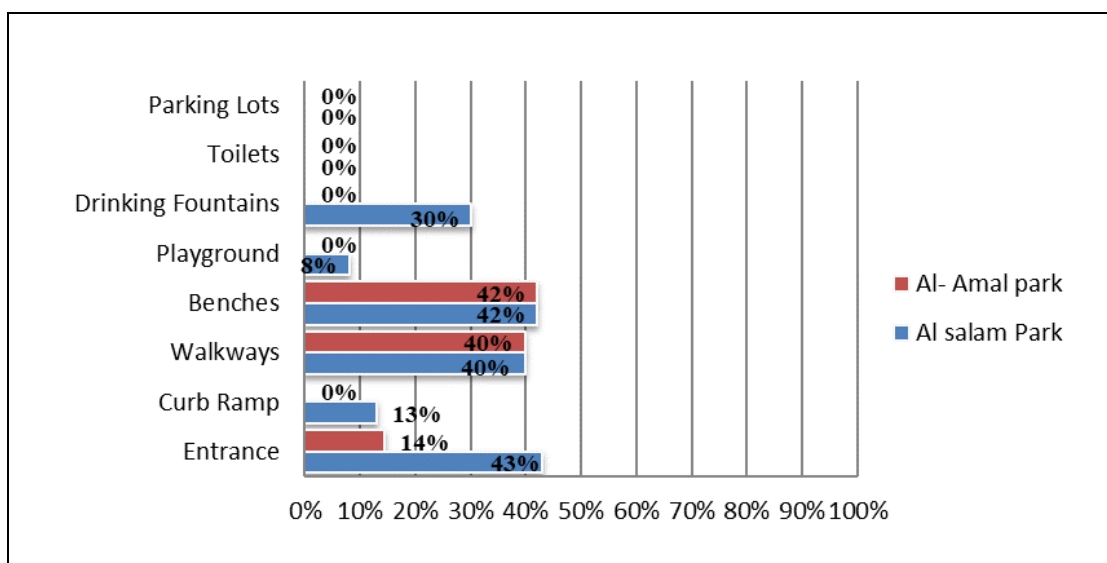
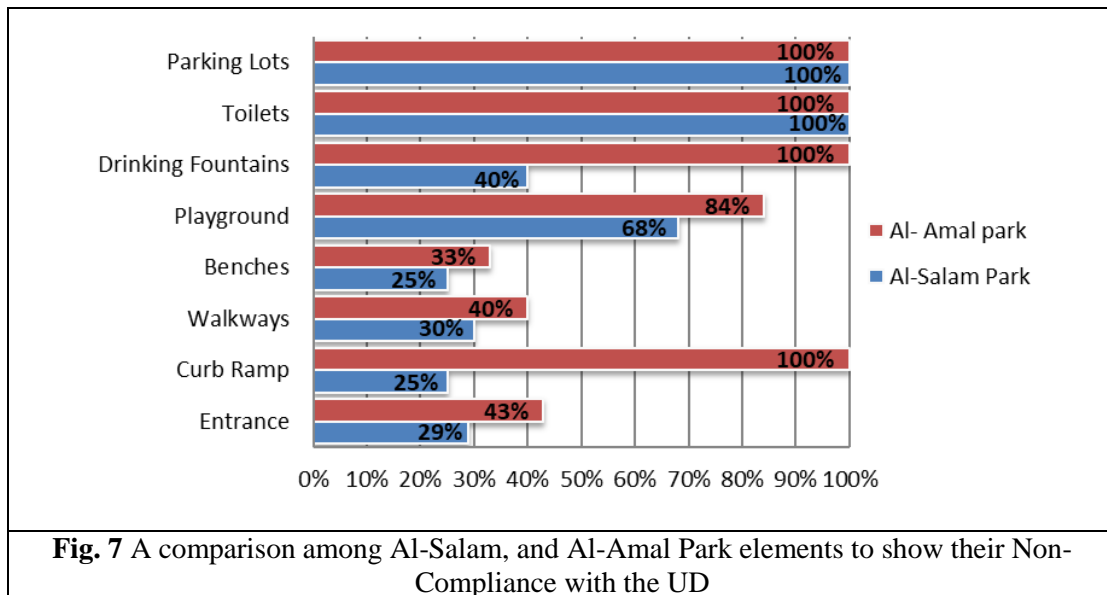


Fig. 6 A comparison among Al-Salam, and Al-Amal Park elements to show their Compliance with the UD “Moderately”



6. Discussion

The results indicated that the two parks do not apply the UD requirements satisfactorily. Al-salam Park achieves the UD “significantly” by a percentage up to 31%, and Al-Amal Park achieves the UD “significantly” by 16%. This result encourages isolation and discrimination for a large group (especially groups with low physical abilities) and prevents them from easy and safe access to public parks. The eight-element result for

the two parks was analyzed and discussed as follows:

6.1 Entrance

The results showed that the entrance of Al-Salam Park achieves UD “significantly” by 29%. And Al-Amal park entrance achieves UD by 43%. Al-salam Park entrance has a lower rate than Al-Amal park entrance. That is due to the presence of the columns and a threshold. These obstacles prevent wheelchair users and other low-mobility groups from the park easy access. Fig. 8 (a, b, c) shows the entrance obstacles of Al-Salam Park.

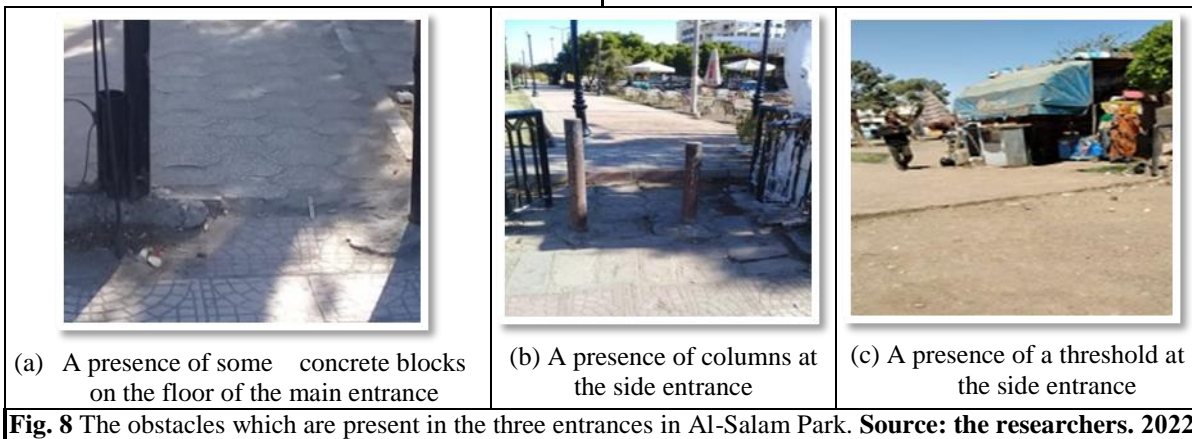
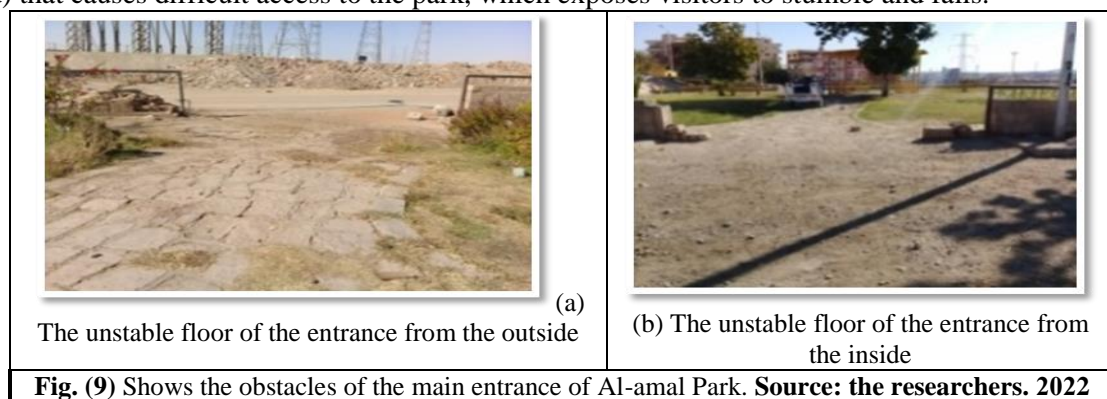


Fig. 9 (a, b) shows the physical obstacles of the main entrance of Al-Amal Park (the degraded and unstable ground) that causes difficult access to the park, which exposes visitors to stumble and falls.



In addition, the main entrances of the two parks do not highlighted (they do not have a distinctive style in their design), and the absence of the signs that include the park’s map, which causes difficult access to the park elements, also the absence of guidance sign. In this context, the study [32]; indicates the inappropriateness of the stairs and the lack of ramps at the Grand Park entrance, which is considered one of the main problems that face disabled persons when visiting the park.

6.2 Curb ramp

The results indicate that the curb ramp of Al-salam Park achieves UD "significantly" by 63%. That result is due to the presence of a curb ramp on the sidewalk at the park entrance, compliance of the width of the curb ramp to UD requirements, non-protruding toward the highway, and the presence of an upper landing. Thus, easy access to the park entrance will be achieved, especially for wheelchair users and low-mobility groups. Fig. 10 shows the curb ramp at the main street in front of the park entrance.

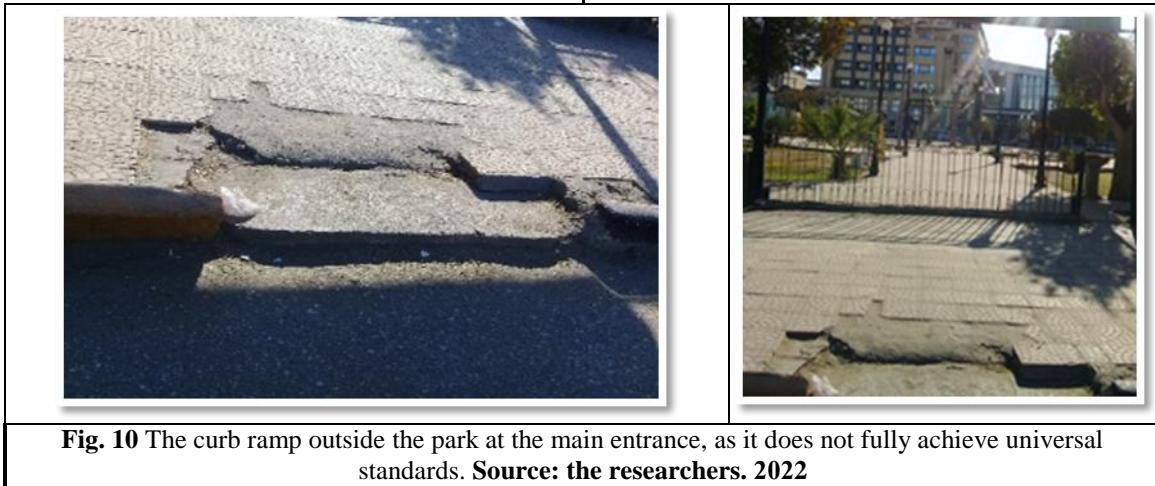


Fig. 10 The curb ramp outside the park at the main entrance, as it does not fully achieve universal standards. **Source: the researchers. 2022**

The results indicate that the curb ramp of Al-Amal Park achieves UD "significantly" by 0%. That is due to the complete absence of the curb ramp from the sidewalk at the park entrance, which causes physical obstacles that deprive visitors of easy and safe access to the park, as shown in Fig.9

6.3 Walkways

The study results indicate that the walkways of Al-Salam Park achieve the UD requirements “significantly” by 30%, while the walkways of Al-Amal Park achieve UD “significantly” by 20%. The

result of Al-Salam Park is due to the satisfactory condition of the surface of the walkways, which are stable, slip-resistant, and solid, as shown in Fig. 11 (a). Despite that, we noticed some physical obstacles, such as the level difference between some walkways, which create risks during the walking, especially for wheelchair users and low mobility groups, as shown in Fig. 11 (b). Also, we noticed the presence of lighting poles in the middle of some walkways, as shown in Fig. 11 (c). Fig. 11 shows Al-Salam Park walkways.

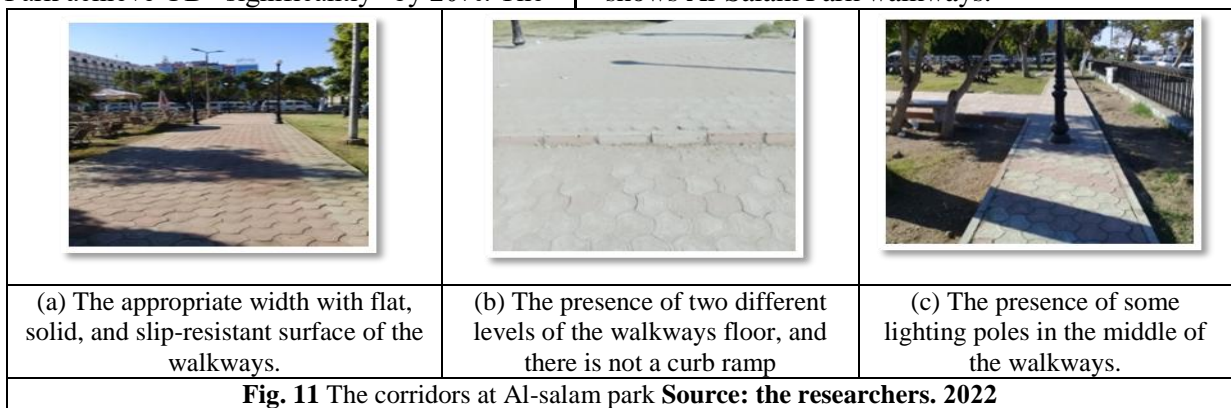
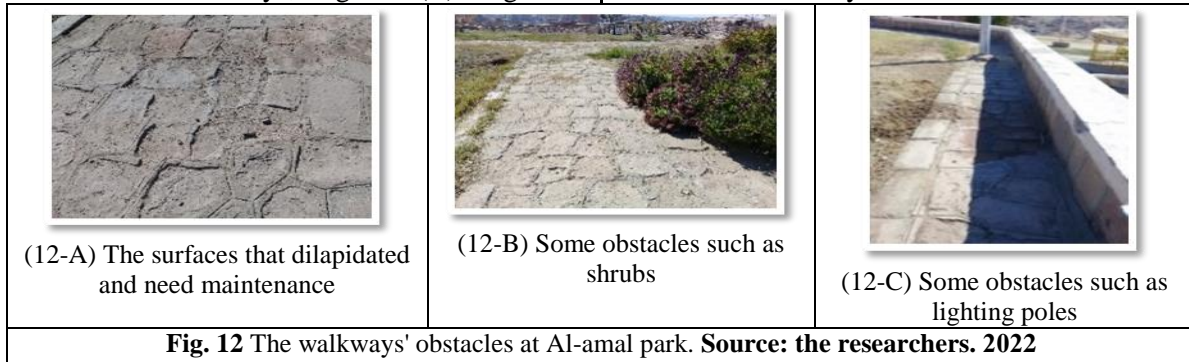


Fig. 11 The corridors at Al-salam park **Source: the researchers. 2022**

In Al-Amal Park, we noticed the unsatisfactory condition of the walkways surfaces, as they are rickety and need maintenance to prevent risks during movement for all users, especially wheelchair users, as shown in Fig. 12 (a). In this context, the study of [33] shows that some walkways need maintenance, due to the cracking of

the asphalt and concrete surfaces in several areas, in addition to, the growth of the grass at the joints of walkways and sidewalks at the park. There are other physical obstacles in Al-Amal Park as; some shrubs growing on one side of some walkways Fig. 12 (b), and the presence of lighting poles in the

middle of some walkways, Fig. 12 (C). Fig. 12 shows the walkways of Al-Amal Park.

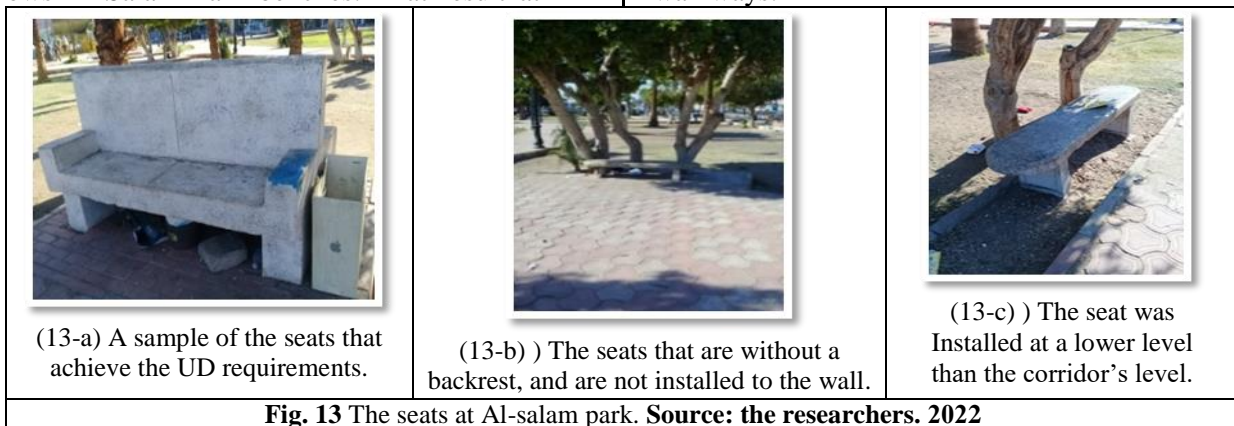


On the other hand, we noticed the absence of the detectable direction indicators from the walkways of the two parks, which serve as a guide for the blind who use a white cane to explore their way. As the detectable direction indicators help blind persons, through their sense of its presence during walking on it, as it helps them reach significant areas in the park.

6.4 Benches

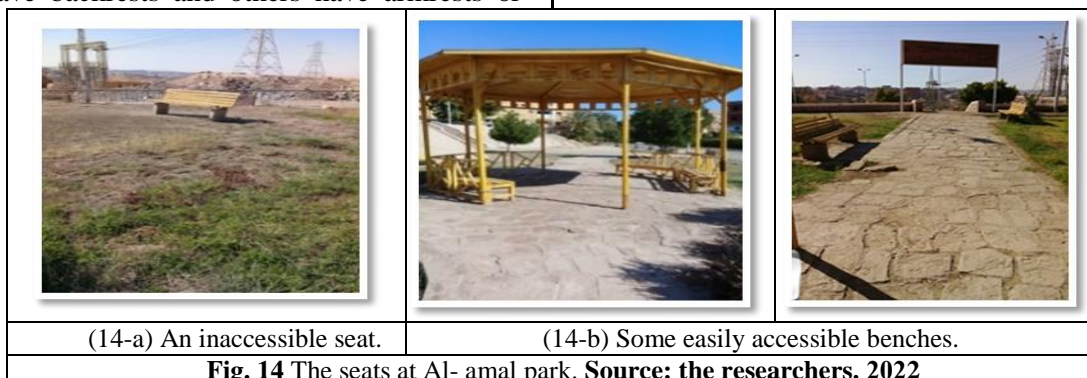
The results indicated that the benches of Al-Salam Park achieve the UD requirements “significantly” by 33%, while Al-Amal Park benches achieve the UD requirements “significantly by 25%. Fig. 13 shows Al-Salam Park benches. That result at Al-

Salam Park is due to the presence of benches along the walkways, fixed surfaces and backrests, and armrests, and compliance of the backrest height with the UD requirements, as shown in Fig. 13(a). But, some benches neither have backrests nor were fixed beside the wall, as shown in Fig. 13 (b). We noticed some benches being outside walkways rather than existing on two sides of the walkways, which lead to difficult access of them for all users, as shown in Fig. 13 (c). In the same context, the study of [32] indicated all benches are inaccessible, as they are installed on the grass and it is difficult to reach them through fixed, solid, and slip-resistant walkways.



Al-Amal Park result (25%) is due to the presence of benches along the walkways, and all benches with backrests and their height meet the UD requirements. Fig. 14 shows Al-Amal Park benches. This low ratio of Al-Amal Park results is due to the benches with multiple options (some of them have backrests and others have armrests or

both). We also notice that some benches are inaccessible to all visitors; as no walkways lead to these benches, as shown in Fig. 14(a). On the contrary, some benches are easy to access, as located directly on the walkways, as shown in Fig. 14 (b, c).



The two parks are similar in the floor surface under some benches since it is not distinguished in terms of color and texture from the surrounding area surface, so it is difficult for blind persons and the visually impaired to discover the benches. Also, most of the benches do not provide a space beside them to enable wheelchair users to be beside them, which reduces opportunities for social interaction and integration among all groups of society. We find that the study entitled *The Assessment of Urban Furniture for the Disabled (Case Study: Shiraz City and Large Park)* recommends installing benches on a floor area 60 cm far from the edge of the walkways [32].

6.5 Playground

The results showed that Al-Salam Park playground achieves the UD requirements “significantly” by 24%, while Al-Amal Park playground achieves UD by 16%. Results do not achieve inclusiveness in the two parks. The two parks' results are due to the playground surface levelness; therefore, playground elements can access by all users. In addition, the

presence of elevated playing features is accessible via a vertical ladder (slides), and the playground location is next to the park entrance.

- Al-Salam Park results are due to the presence of “ground playing components” such as spring rockers, teeter-totter, and swings. Also, results are due to the rammed dirt floor of the playground, thus lack of a safety factor inside the playground, as shown in Fig. 15 (a,b).

- Al-Amal Park results are due to the presence of slides, as shown in Fig. 16. Also, Fig. 16 shows the sandy floor of the playground. Sandy floor achieves safe factor; but does not achieve accessible playground, especially for mobility aids users, such as wheelchairs users and others). In the same context, the study of [34] confirmed that the playground surface in Forest Glen park (its case study) has (powered in place) (PIP) material. (PIP) provides accessible playground surfacing for all users, so inclusiveness is achieved inside the playground.



The observed absence of UD requirements at the two parks' playgrounds is due to the following reasons:

- Lack of a special entrance at the playground that meets the UD [including an accessible path leading to it, a map showing the various playground elements, and a guiding board] standards. The lack of the playground special entrance prevents easy access to the playground.
- In addition, the lack of elements that encourage creative and sensory imagination; for example, sand, water, and animated activity boards; the absence of these creative play elements deprives the children with different abilities gain sensory skills. These elements are necessary for all children, especially those who can not use other play equipments and need high physical capabilities.
- In addition, the researcher noted at Al-Amal- Park the absence of ground-level play equipment such as spring rockers, teeter-totter, and swings, Fig. 16. Also, the study [22] emphasizes that the five

playgrounds (its case studies) provide many opportunities for playing that require a physical and kinetic effort. But there is an absence of playing elements that encourage creative and sensory imagination inside the playground. Moreover, there is a lack of UD features that support fair or intuitive use.

6.6 . Drinking fountains

The results showed that Al-Salam Park drinking fountains achieves the UD requirements “significantly” by 30%, while Al-Amal Park is 0% (due to its unavailability). That result at Al-Salam Park is due to a presence of the units outside the walkways, so the pedestrians do not face a hazard during the movement, especially for visual impairments people, also that result at Al-Salam Park is due to the compliance of the minimum height of the water flow with UD requirements (it must be at least 10 centimeters); thus facilitating drinking process for everyone. In despite, the researcher noted at Al-Salam Park that the drinking fountains are not colored contrast with its background, thus they can not be found easily,

especially for visual impairments users, and the absence of the hand controls of the drinking fountains and the absence of a knees space that aide wheelchairs' users using the drinking fountains. In the same context, the study of [32] indicated that the water fountains in different areas of the city of

Shiraz are inaccessible for disabled persons due to their non-compliance with UD requirements. If weaknesses of the water fountains at Al-Salam Park are avoided, everyone will be able to access and use them easily. Fig. 17(a, b) shows the drinking fountains at Al-salam Park.



17(a) Drinking fountains



17(b) Drinking fountains

Fig. 17 (a, b): Drinking fountains in Al-salam Park.

Source: The researchers. 2023

6.7 Toilets

Observations and monitoring operations confirmed that the toilets at Al Salam Park are available to the public, both men and women, but there are no easily accessed toilets units for disabled, as shown in Fig. 18. Toilets at Al-Amal Park are deterioration

and unavailable for everyone, so they are unusable, as shown in Fig. 19. The absence of easily accessed toilets is one of the main obstacles in the two parks, and to achieve inclusiveness in the two parks, they should be available.



Fig. 18 Toilets in Al-salam Park do not support inclusiveness,



Fig. 19 The deteriorated condition of toilets of Al-amal park, they are unusable for all.

6.8 Parking lots

The two parks do not provide private parking. This result leads to the creation of physical obstacles that deprive visitors especially those with low physical abilities of access to the parks safely and comfortably. The availability of private parking in the parks contributes to direct access to parks by providing paths that lead visitors from parking to inside the parks.

This study examines the UD application in Aswan’s public parks. And it clarifies the importance and benefits of applying the UD approach and its requirements to the park elements by assessing Al-salam and Al-Amal parks in Aswan, Egypt, to verify their compliance with UD requirements. The study results confirm that the elements of the two parks are non-compliance with the UD requirements satisfactorily, hence these parks do not meet the users' needs equally; due to the

7. Conclusions and recommendations

presence of several physical obstacles inside the two parks related to accessibility and the element's usability, for examples the playground and toilets in Al-Salam Park. Also, Al-Amal Park elements suffer from a significant deterioration, such as entrances, walkways, some benches, toilets, and the playground lacks devices that would promote creative play and interaction between healthy and disabled children. However, most Al-salam Park walkways have sufficient widths and have stable

and slip-resistant solid surfaces. Hence, this study presented some recommendations according to the UD approach to help designers and planners to provide a suitable environment for all society members of all abilities and motivate them to visit public parks and enjoy the outdoors. The most important of these recommendations are shown in table 3 as follows:

Table (3) the main recommendations to achieve inclusiveness, in Al-Salam and Al-Amal park

Items	Recommendations
Entrance	<ul style="list-style-type: none"> ✓ Highlight the main entrances in the two parks to facilitate discovering them for everyone, especially for the visually and cognitively disabled. ✓ Improve the sidewalk in front of Al-Amal Park and provide a curb ramp. ✓ Remove obstacles such as the threshold and the metal poles from the side entrances of Al-Salam Park. If the threshold not possible to be removed, it should be no more than 6 mm high, or a curb ramp can be added to allow entry into the park.
Curb ramp	<ul style="list-style-type: none"> ✓ Improve the curb ramp on the sidewalk of the main street at the main entrance of Al-Salam Park and adjust its slope to range between (1:15-1:12) by adding flared sides to it; to accommodate the large numbers of passers-by, and add more curb ramps there.
Walkways	<ul style="list-style-type: none"> ✓ Conduct maintenance to Al -Amal Park walkway surfaces to ensure accessibility and usability. ✓ Due to the topography of the Al-Amal Park surface, ramps must be provided beside the stairs in the park to meet UD standards, thus ensuring link the park levels and allowing easy movement for everyone.
Benches	<ul style="list-style-type: none"> ✓ Provide a space next to the benches to enable wheelchair users to stand to achieve social interaction and participation. ✓ Install accessible benches directly through the walkways and fix them on solid ground, with a color contrast with their background. ✓ Provide benches with several options (some with a backrest, some with an armrest, and others with both); to ensure inclusiveness in use.
playground	<ul style="list-style-type: none"> ✓ In Al-Amal Park, add Play structures accessible from the ground surface to allow access for those unable to use raised play structures and swings with various options to include all children. ✓ In Al-Amal and Al-Salam parks, add features of creative play.
Drinking fountains	<ul style="list-style-type: none"> ✓ In Al-Amal Park, consider adding drinking fountains compatible with the UD standards ✓ In Al-Salam Park, the drinking fountains should meet the standards of UD completely (installing them outside the walkways, providing tap handles of the arm type, choosing the appropriate height, and being color contrasted with their background).
Toilets	<ul style="list-style-type: none"> ✓ Conduct complete maintenance to the toilets in Al-Amal Park, and add accessed toilets to the toilets in Al-Amal Park and Al-Salam Park so that they are compatible with the UD standards, accommodate the disabled, and meet the needs of all people with diverse abilities.
Parking lots	<ul style="list-style-type: none"> ✓ Provide compatible parking lots with the UD standards in the two parks to achieve UD standards and ensure easy and safe access to the parks.

List of Abbreviations:

(UD): Universal Design.

(ADA): The Americans with Disabilities Act.

(CAPMAS): The Central Agency for Public Mobilization and Statistics.

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