

Assessment the Children's Gardens in Damietta Governorate

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ABSTRACT

Cities become crowded and open areas that children can utilize decrease; therefore, it is extremely vital to have play areas and gardens to meet children's needs and requirements. This study was carried out at all children's gardens, Damietta governorate in the north of Egypt during the period from (2016 to 2019). The aim of this study was to investigate and assess all children's gardens in Damietta governorate (New Damietta, El-sananya child and the family, The Child garden in the Woman and Development Association, Faraskour and El-Zarqa gardens) , for comparing them to the model children's gardens for distribution, location, area, design, existing structures, plants, equipment, toys and their safety and maintenance in order to diagnose the points of weakness and strengths of each garden for the necessary procedures to reach the possibilities of improving or establishing a new children's garden at Damietta governorate. The design for this study was a descriptive research design. The results showed that number of children's gardens at Damietta governorate aren't sufficient or fit with population density. All children's gardens are located at the main streets jammed with traffic that endanger on the children and some gardens like El_sananya face the bars of the train in addition to a great noise pollution except for new Damietta garden which take place at wide street and design closest for the model garden. All children's gardens area are very small if compared to the global rates as the child is allocated only 0.22 square meters / child., which isn't accordance the international standards for children under the age of six needs 8-10m² except for New Damietta garden where it is 20243 m². The design of these gardens mostly does not follow the scientific standards, but it is determine by the available space and insufficient resources. Neglecting a large part of most gardens by plants optimally. Some poisonous and cactus plants have to be eliminated from the children gardens. Most of the play equipment in the studied gardens aren't safe for children use. They are made from unsuitable materials, not according to safety measures, crowded in limited. Inspection and maintenance of these equipment are lost. In addition, some electrical and mechanical toys doesn't subjected daily inspection and maintenance periodically which can hurt children. So it is necessary to establish model gardens or modify the existing gardens as recommended in this study in order to meet the standards of the model gardens. Finally the results of this landscaping study and the recommendations have to be presented to the local administration leaders in the city for consideration and benefit of the children.

Keywords: Garden location, children's garden, requirements, Visitors, structure elements and plants

INTRODUCTION

Childhood is the pivotal stage upon which all the successive human phases rely; hence, when due care and attention are provided thoroughly to children, they are to be well-formed citizens mentally and physically. Given this, one of the basic requirements of the positive upbringing is to let children play and try every new item in their young age. Thus, children, in their pre-school age, need wide, spacious, open and natural places to practice physical and mental activities, Ahmed (2010).

Depending on the developmental needs of children, different play environments can be used to meet those needs. The outdoor environment in particular is important for learning skills such as social competence, problem solving, and creative thinking. In the outdoor environment, children can also grow emotionally and academically because outdoor environments provide different opportunities for exploration and experimentation. An outdoor setting also allows children to enjoy sensory experiences with nature, and be more physically active. This physical activity not only enhances muscle growth, but also increases the development of fundamental nerve centers in the brain, allowing for clearer thought and an increased learning ability (Clements, 2004). Said & Abu Bakar, (2005) Through their study, they showed the pivotal association between natural environment and children. Young children's lives focus on playing and moving. Thus, permitting the children to experience the natural and man-made elements in their living environment would generate cognitive, physical, and social skills development. To them natural forces such as rain and wind, natural features such as plants, animals and landform, and man-made elements such as buildings and road are abundant elements in their living environment. By playing with those elements, they learn to recognize their benefits. Mobility and observation in the landscape arouse the children's senses and generate responses and evaluative Hedges, (2000) As a result, it is

essential to design and develop landscapes for children that motivate their senses, provide reactions and afford functional meanings to their cognitive, physical and social skills.

Keci (2016) who identified certain standards for designing a model park. The standards encompass signals, ramps, lightening, urban furniture, equipment, and surfacing ground, materials, acoustics, greenery and water surfaces. According to many researcher as Abu Elyazeed, (2005), Kazalek (2007), Badr (2010) Noah (2011) and Ahmed (2013) the basic conditions in planning a child's garden are: The total area should be surrounded by a vegetal, metallic or structural wall, provided that the minimum height is 150 cm, design and coordination should be simple to fit and age of children, there is one main door of the park to be away from the streets to control the rapid movement of children, providing shade places inside seating places to be comfortable and appropriate, increasing the green areas to be exposed to the sun. It should be neither fertilized nor sprayed with pesticides so as not to hurt children, increasing the places of entertainment of various kinds such as hammocks, skating tubes, and they have to be in corner corners of the garden, and pools filled with fine sand, Increasing in seating places provided that they are scattered and distributed on the total area, The main roads within the park must be paved or tiled for walking or free running and cycling, while walks, corridors and places of sport and entertainment are filled with fine sand, Increasing water closets and drinking water taps provided that they suit children's age and level of residence, Providing open places in winter or shaded in the summer by planting trees of falling leaves in children's play places, Avoiding growing poisonous plants, Avoid establishing open waterways, whether for beautification, irrigation or drainage, and if any should not exceed a depth of 20 cm and be surrounded by a plant fence.

Kazalek (2007) indicated that the minimum area that a child could have in children's playground was (20) square

meters. The National American Authority for entertainment specified the following planning criteria of constructing children’s playgrounds to have a model children’s park, ‘Playgrounds of children younger than 6 years should be 1000 square meters at least’ and they would be in big housing areas, The location should not have any hazard on children; it cannot be connected to housing blocks. The minimum distance between the playground fence and the nearest housing block has to be (10) square meters.

Concerning the plants and their design criteria, Abu Eldahab & Moahmed (1998) had a framework for the unity in plant design. They set six principles for designing and coordinating plants which were simplicity, variation, balance, emphasis, sequence and scale. These principles would determine the final shape of the garden with its plants. Badr, et al. (2010) discussed the great significance of children playground, especially in the heavily populated cities. Statistics indicated that the child needed 8 square meters as a space in the garden.

Following the idea of safety, Afsharlahoori (2007) and Widman (2008) indicated in her study that playgrounds were not safe. Each year more than 215,000 kids went to emergency rooms all over the United States because of playground injuries. Most of these occur on public playgrounds, and most of the more serious injuries involve falls to hard surfaces. 43 percent of the playgrounds had one hazardous piece of equipment. 75 percent of public playgrounds lack adequate protective surfacing. Another type of danger in playgrounds was environmental contamination: arsenic in the treated wood of the playground, peeling lead paint on metal structures, or playgrounds built too close to toxic land. Keeler (2008) suggested that pieces of fixed equipment with a safety fall zone were not enough in a play space but that children needed a variety of rich, stimulating elements in spaces that support a wide range of play experiences.

However, no data have been collected regarding children’s gardens at Damietta Governorate for distribution, location, area, design, plants, equipment, toys and their safety and maintenance for that, this study was carried out to diagnose the points of weakness and strengths of each garden for the necessary procedures to reach the possibilities of improving or establishing a new model children’s garden at Damietta governorate.

MATERIALS AND METHODS

1 Experimental site:

This study were carried out at all children’s gardens, Damietta governorate in North of Egypt during the period from 2016 to 2019), the aim of this study was to investigate and assess the children’s gardens in Damietta governorate , for comparing them to the model children’s gardens for distribution, location, area, design, plants, equipment, toys and their safety and maintenance in order to diagnose the points of weakness and strengths of each garden for the necessary procedures to reach the possibilities of improving or establishing a new children’s garden in Damietta governorate.

2 Type of research design

The design for this study was a descriptive research design (Gall et al, 1996). The researcher used a descriptive design. Descriptive statistics were used for tabulate the data

needed to answer the research questions. The landscape study included all children’s gardens at Damietta Governorate five children’s gardens under investigation (New Damietta, El-sananya child and the family, The child garden in the Woman and Development Association, Faraskour and El-Zarqa gardens)

The study encompassed the following points:

1. A general survey about all children's gardens of Damietta governorate
2. Designing an assessment form that included all the related elements regarding the high performance of the children’s garden (questionnaire).
3. Implementing the assessment form on all investigation of children's gardens to register data the observed
4. Analyzing all collected data in Tables to determine the actual performance of these gardens

3 The questionnaire:

The instrument used of data collection for this study was a survey upon which quantitative statistics could draw. A survey is a sophisticated quantitative research method comprised of questionnaire with the intention of efficient gathering of data from a set of respondents Table (A). A survey mainly consists of closed ended questions with very few open end questions for answering (Surbhi, 2016). In order to get appropriate and accurate results, each garden was visited several times to obtain accurate observations and detailed question answers and photographs were taken as record of these gardens to show their important elements. The administrator in each garden willingly participated the researcher in answering the questions in details and giving the accurate information. This survey was prepared to cover all the items related to the efficiency and readiness of the children's gardens for examine how they are far or near to the model gardens. The survey includes the following items .In order to have a comprehensive and definite concept about the children's gardens in Damietta, the following items ought to be identified and explained:

The data collected for this study consisted of the direct observation of the researcher and the answers of the survey questions by the concerned parties. These two procedures were taken in order to examine:

- 1- What were the problems that hindered the children's gardens in Damietta from giving a better performance?
- 2- What are the differences and similarities between the different the children's gardens in Damietta and the model children's garden?

In data analysis, the observations and the answers of the questions were analyzed and compared in order to give a complete picture of the five children's gardens in Damietta. Through this procedure, the researcher was able to reach the drawbacks that existed in Damietta children garden and how they were different or similar to the model garden. This showed to what extent each garden had maximum or minimum standards of convenience to the requirements of children whether normal or challenged. Scores were given for each criterion as follow:

Very Poor	poor	Average	Very Good	Model
1	2	3	4	5
>30%	30-50%	50-70%	70-90%	>90%

Table A. A questionnaire of the children's gardens in Damietta Governorate

Name of the garden:	Location:	Area:			Design:	
		Very poor 1	Poor 2	Average 3	Very good 4	Model 5
1- The location of the gardens	location Design Area					
2-Plants (trees, shrubs ,climbers, annuals, palms, lawns, cacti and succulents	Number Species Distribution Maintenance					
3- Nature of surfacing ground	Entrance and gates Walks and paths Pergolas Arches Statues Fountains					
4- Constructional elements	Ramps and Grades Lights Signs Tables Fences Seating Management buildings					
5- service components	Cafeteria or kiosks Water closet Fresh water for drinking Drawing or Music corner Baths Dustbins					
6- The safety and health elements	Guards First Aids Emergency exit Fire extinguishers For children with special needs Location of the garden and its safety					
7-Toys (swings, slides balance , ferris wheels and other)	Number Types Material of manufacture maintenance					
8- visitors	Number Age					
General remarks						

RESULTS AND DISCUSSION

Through the visit of the site, observation and photos have been a description of the location, area, design, existing structures, plants, equipment, toys and their safety and maintenance of all five gardens under study .The researcher try to comparison of the existing conditions in the five gardens under study and the international standards gardens, which have been categorized as follow:

1. The location, area and visitors:

There are two types of children gardens in Damietta governorate, the first are independent gardens, which were mainly constructed to provide the children needs. out of the studied gardens the Faraskour, El- Zarqa and garden in the Woman and Development Association that can fall under this type of gardens. Although these gardens can be classified as the best playground established to the meet the requirements of children, but it suffers from very small area and noise pollution. On contrary, new Damietta garden is in the second type complementary gardens, which are attached to any other type of gardens such as public or family garden (El sananya) is the largest area .the design of this important garden allowed for a good children garden to serve the needs of children.

In reviewing the results in Tables (1 and 5), the required location, design and area for children's playgrounds we revealed. Unfortunately the principle requirements are not completely fulfilled in all of the examined gardens except the

New Damietta garden which garden location, design and area meets the standard specifications, overlooking more than two streets and overlooking a main street Photo (1). It is far from the buildings and the residential units, This allows the residents to enjoy the distance between the garden wall and any residential buildings of 10 meters. The road is wide, where its width is more than three meters and easy access to the garden by public transport (Moore & Cosco, 2007) and the garden is established on a large area dedicated 20234 m2 and this area fit to Population density around the garden (127500 population). The garden provides a car park near the main entrance as a unit independent of the garden as a car for every 100 m2 of the land area and is in accordance with international standards. It is obvious that most if not all the surveyed gardens are characterized by informal style. In fact design is not according to the needs of children. There is great variation in the area of each garden in Damietta governorate, the largest one is New Damietta garden followed by El sananya (1000 m2) in spite of less area but fit to Population density around the garden (7500 population) then the Woman and Development Association (2000m2) doesn't fit to Population density around the garden (40772 population) and some of the examined garden are very small like Faraskour (630m2), El- Zarqa (570m2) gardens doesn't fit to Population density around the garden (37322 and 22638 population, respectively) which Kazalek, (2007) indicated that the

minimum area that a child could have in children’s playground was (20) square meters. The National American Authority for entertainment specified the following planning criteria of constructing children’s playgrounds to have a model children’s park. Playgrounds of children younger than 6 years should be 1000 square meters at least’.

It is cleared from data in Table (1 and 3) that classification of the children gardens according to age of children was not considered at any five studied gardens accommodates visitors of all ages as such, all play equipment are used by children of different age .this represent great danger

for the younger children, and more need for maintenance of the equipment and plants. The number of visitors (daily, weekends and on holidays) to the gardens recorded that the location of New Damietta garden in the center of the New Damietta city makes it frequented by a large number of people for relaxing purpose reached to (300- 400, 450-500 and 550-700 visitors daily, weekends and holiday, respectively) followed by Faraskour then El- sananya then El- Zarqa and the least number of visitor were recorded at the child garden in the Woman and development association gardens because it’s governorate garden close in weekends and holiday.

Table 1. The specifications of the location, visitor's ages and visitor's numbers of the five studied gardens at Damietta Governorate

The garden name	Location	Visitors ages	Population density (population)	Area (m ²)	The number of visitors		
					Daily	Weekends	Holidays
New Damietta Garden	Central District in the second neighborhood - next to the city's reconstruction.	The garden accommodates visitors of all ages	127500	20234	400- 300	500 -450	550-700
The garden of the child and the family in El-sananya	El Sananeya - Entrance to Damietta City - next to El Rahma Mosque.	The garden accommodates visitors of all ages.	7500	1000	100 – 50	200 – 150	300-450
The Child garden in the Woman and Development Association	Corniche El Nile Street - Saad Zaghoul Extension - Damietta Governorate Building	The garden accommodates visitors of all ages.	40772	2000	100 – 75	-----	---
Faraskour Garden	The main road- next to the bus station	The garden accommodates visitors of all ages.	37322	630	150- 60	220- 150	220-350
El- Zarqa Garden	The main road- next to the bus station	The garden accommodates visitors of all ages.	22638	570	120- 150	180 - 120	200-280



Photo 1. The entrance of the five Damietta gardens

2. Nature of surfacing ground and Structural elements and:

It was noticed at Table (3) and Photo (2) that grounds in most of the five gardens no standards are taken into consideration while designing the ground, material is hard and lead to harm and put to risk children. Despite the materials that

are not considerably welcoming the people with disabilities due to the ground surface that makes it impossible to be passed by wheelchair children. This interrupts the social inclusion and makes the region for the social exclusion of the people with disabilities in such environment. Disabled

children cannot access play games because of not disposing of any ramps in the play area as found in Faraskour, The child garden in the woman and development Association and El-Zarqa gardens the ground isn't paved it was very hard while New Damietta and El sananya gardens the ground is paved with tiles and lawns but Corrosion of the garden lawns and lack of sand level on the floor of children's play area, resulting in injuries when children fall. In addition, the lack of attention concerning cutting grasses and removal of weeds may result in obstruction of children during running or walking; thus, they are exposed to bruises and wounds (Abu Elyazeed, 2005). Lack of a smooth surface of the playground such as rubber, sand, wood, instead of the concrete, grass or soil floor People who have difficulty walking or maintaining balance or

who use crutches, canes, or walkers and those with restricted gaits are particularly sensitive to slipping and tripping hazards. For such people, a stable and regular surface is necessary for safe walking, particularly on stairs. Wheelchairs can be propelled most easily on surfaces that are hard, stable, and regular. Soft loose surfaces such as shag carpet, loose sand or gravel, wet clay, and irregular surfaces such as cobblestones can significantly impede wheelchair movement. The Occupational Safety and Health Administration acclaims that walking surfaces have a static coefficient of friction of 0.5. A fixed coefficient of friction of 0.6 is recommended for accessible routes and 0.8 for ramps for persons with disabilities (Hanebrinck and Wahington, 2010 & Keci, 2016).



Photo 2. Corrosion of the garden lawns of El sananya and New Damietta gardens.

An analysis of the garden Structural elements Table (3) and Photo (2) shows that most structural equipment (Gates and entrances, fences, Walks and paths, pergolas, seats, tables, lights and Management buildings) are available in New Damietta garden except few number like (statues, fountains, arches and signs). There is not enough lighting around most gardens which lack of lighting system in the garden and depend on the lighting poles of the street. in New Damietta garden exact place of lightening fixtures it is showed in (Fig 2(1)). Lights serve as safety guidance at night for people, unfortunately, in the selected park lights ensures proper function. Owing to this people do not sense safety in the park during night, by this park. Lightening typology are made known, by emphasizing the lack of the proper lightening in the park and their bad preserve, as it is revealed in the additionally, absence of the lightning fixtures in the parking area .They shoud accordance the lightening fixture as stated by (Hanebrink and Wahington 2010) guidelines: while most structural equipment isn't found in the other study gardens (Faraskour, El- Zarqa, El sananya and garden in the Woman and Development Association).

As these gardens do not meet the standard requirements in this respect, it is necessary to take a further step for their design, and structure elements so that they can be used by all children. This gardens especially New Damietta Garden were needed a lot of amendments and changes in order to reach a satisfying level whether for normal or disabled children and their parents as follow:

1- Creating water fountain in art forms in the form of personal

and statues out of which water comes and should be allocated Sources of drinking water (refrigerators). The height and design of drinking fountains have to permit access to people in wheelchairs and children. They necessitate programmed off taps to reduce water waste.

2- Increasing umbrellas, fixed seats and kiosks (the number of which is proportional to the garden area)

Should add signals, Warning elements and offer guiding elements for blind people like taped acoustical semaphores for people with disability: Arrangement in furniture inside the garden improves rhythm and afterward the visual coherence of a garden. Placing seats next to walls or fences, bins next to poles or lights additionally contributes in decreasing visual disorder. It is difficult the way how benches are positioned in the park in consequence of, a wheelchair person, cannot place his chair in line with it acquaintance.

3- Service components and the safety and health elements:

Table (3) and Photo (3) showed that lack most services (Cafeteria or kiosks, Water closet, Fresh water for drinking, Drawing or Music corner or theater, Baths and Dustbins) in most of the studies Damietta children's gardens except for New Damietta garden having a nice Cafeteria for all accommodate age a big theater, number of baths but not enough to serve all number of visitor in holiday and occasion but available many dustbins distribute around all garden. In addition, neglecting cleanliness and order, safety maintenance of most gardens (Faraskour, El- Zarqa, El sananya and garden in the woman and development association) corners, made the garden a home for mice and insects. There is a Lack of an

equipped ambulance, First aids, Emergency exit Fire extinguishers in all gardens under study. Neglecting throwing of the remnants of the garden whether rusty parts of the toys, wooden boxes, metal buckets and remnants of broken seats. This lack services in most of the children's corners like cleanliness, safety and maintenance of the garden. Huckstadt *et al.*, (2004) found that maintenance must also be considered in all phases of the playground planning and development process. If proper design is the key to developing an effective playground, then routine and preventive maintenance is the key to keeping it that way. A comprehensive maintenance program must be developed for the playground. Generally, all equipment must be inspected frequently for hazards and other items that do not comply with the CPSC Handbook and

ASTM F1487. The maintenance program should also incorporate a process to complete repairs identified during the inspection, as well as address custodial maintenance tasks such as the removal of broken glass or other litter and debris. Throughout this document a variety of maintenance checklists, procedures, and requirements will be presented. In this respect, the researcher recommended that New Damietta garden should providing first aid to save the child immediately after being injured and providing an ambulance as well. The presence of a safe guard or a person responsible for the garden to protect children and ensure the safety of the site. The workers whose activities are related to public health in the garden must obtain the health certificates that must be available in restaurants and kitchens.



Photo 3. 1- New Damietta garden, 2- El-Sananya garden, 3-The Children's Garden in Women and Development Association, 4- Fraskour garden and 5- El-zarka garden

4-Plants element:

Data in Tables (2 and 3) recorded that there is lack in plants (Number, species, distribution and maintenance) in all garden except New Damietta garden and The Child garden in the Woman and Development Association there are some

trees, Shrubs, Palm tree, Climbers and covering plants, fences and Some succulents but the problem is neglecting a large part of the garden without plants and not exploiting it optimally in addition some plants containing thorns and protrusions, which may cause problems for children when

they touch like *Nerium Oleander*, *Agave amricana*, *Agave Marginata*, *yucca spp* and *Cereus Peruvianus* Photo (4) but poisonous plants have to be avoided in children garden Johnson & Johnson (2006) classify the poisonous plants in children's gardens and their symptoms like all parts of *Nerium Oleander* caused Vomiting, diarrhea, dizziness. Faraskour , El- sananya and El- Zarqa gardens have some trees for shade and reducing both dust and noise pollution like *ficus retuse* but the numbers are not enough to meet the requirements of such gardens this could be attributed to lack of suitable design and the limited area devoted for the children garden Thus, wind breaks and trees which act as shelter and for screening to provide privacy in the gardens have to be considered. This result was contrast with many researchers like Abu Eldahab & Moahmed (1998), Hegazy (2003) , Alansary (2018) and Noah (2011) who stated that the coordination of children's garden should include increasing the proportion of green areas with no cultivation of areas that impede the movement of children and Hamza& Helali (2015) found the objectives of planting a vegetative fence in the garden are to protect the garden from the outside or from the inside, to avoid undesirable scenes or to break the wind, and to prevent sand sands.

The researcher recommended that New Damietta



garden and The Child garden in the Woman and Development Association needed some amendments and changes in this respect as follow:

- Taking care of optimal landscape for the total area of the garden with plants like:
- Planting trees of falling leaves to take advantage of their shade in the summer and take advantage of the sun in the winter. Flower circles should be made at the end of the garden for shrubs and annual and evergreen plants.
- Planting climbers and creeper plants beside the walls garden to strengthen it, which gives an attractive appearance .
- Lack attention of cutting grass and removal of weeds may result in obstruction of children during running or walking; thus, it exposed to bruises and wounds. For that, replacing the lawns by another one with Maintaining cutting for not obstructing movement or making artificial lawns in order to endure poor maintenance , delaying erosion and to keeping clean children's clothing in case of falling children .
- Planting annual plants (summer or winter) and some shrubs in an isolated section of the garden for the purpose of educate cultivation and care about plants for children. This section is for school trips accompanied with an official in the garden to explain and answer the children questions and may appropriate space for sale with subsidized prices.



Photo 4. Plants are not suitable and random distributions in New Damietta garden and the child garden in the woman and development association

5-Toys

Equipment in the surveyed gardens either not suitable, not enough or made of harmful materials. Table (3) and Fig (2) shows type of playing equipment in the examined gardens. Numbers of toys aren't enough and also not nicely distributed add to that loss of safety and absence of maintenance are common in most of the gardens. Some studies indicated that children's requirements of materials and play equipment include, sand swing, play huts, springs, slides and other play structures as mentioned by Hegazy (2003). Thus, Child garden in Damietta governorate have to be equipped with such elements. As explained while screening the results of the study, most gardens have to keep the safety measure for the play equipment. Inspection is required and maintenance is necessary. Hazards are great from steel materials used in most play equipment, and safety is lost with broken tools and open non isolated electric wires in some of the gardens. All studies garden the toys are made of iron and it is not safe to use. Therefore, toys must be protected from

rust by plastic coating and the protection of their joints and axes of metal toys from rust and corrosion by lubricating them and checking them continuously to ensure their safety, strength and change that are necessary. These toys should be made of reinforced plastic or metals, which are well-coated and not rusted. The absence of toxic substances used in the manufacture of these toys or the presence of rough or sharp things that hurt children .Some toys have sharp edges and corners, resulting in injury to children: bruises and wounds. Therefore, it is suggested to the toys damaged should be repaired or removed from their place because the children use them whether they are good or bad causing them harm and all electrical and mechanical toys must be subjected to daily inspection and maintenance periodically to ensure safety and register this in safety book. Providing and maintaining the floor of children's play area with sand and lawns.

- Providing modern and developed toys as the child wishes and in accordance with international standards of safety and security.

Table 2. The plants species in the five gardens under study

Plant nature	New Damietta Garden	El-Sananya garden	Children's Garden in Women and Development Association	Faraskour Garden	El- Zarqa Garden
			Types		
Trees	<i>Cupressus macrocarpa</i> <i>Ficus nitida</i> , <i>Ficus elastic var decora</i> , <i>Ficus hawaii</i> <i>Araucaria heterophylla</i>	<i>Ficus nitida</i> , <i>Tecoma stans</i>	<i>Ficus hawaii</i> , <i>Malva fiscus Formosum</i> , <i>Cupressus macrocarpa</i> <i>Delonix regi</i> <i>Ficus binnendijkii</i> , <i>Erythrina caffra</i> , <i>Melaleuca genistifolia</i> , <i>Ficus benghalensis</i> , <i>Ficus nitida</i> , <i>eucalyptus rostrata</i> , <i>Schinus terebinthifolius</i> , <i>Psidium guajava</i> , <i>Ficus auriculata</i> and <i>Melia a zedarach</i>	<i>Ficus nitida</i> , <i>Ficus nitida</i> ,	
Shrubs	<i>Duranta Plumieri</i> <i>Hibiscus rosa sinensis</i> <i>Thevitea nereifolia</i> <i>Nerium Oleander</i>	<i>Nerium Oleander</i>	<i>Acokanthera spectabilis</i> , <i>Duranta Plumieri</i> , <i>Duranta plumieri var variegata</i> , <i>lantana camara</i> , <i>Hibiscus rosa sinensis</i> <i>Thuja orientalis</i> , <i>Schefflera actinophylla</i> , <i>Dracena spp</i> , <i>Adhatoda vasica</i> , <i>Pittosporum tobira</i> and <i>Nerium oleander</i>	-----	<i>Adhatoda vasica</i>
Palm trees	<i>Washingtonia filifera</i> , <i>Roystonea elata</i> , <i>Yucca gloriosa</i> <i>Phoenix dactylifera</i>	<i>Washingtonia filifera</i>	<i>Washingtonia Filifera</i> , <i>Yucca aloifolia</i> and <i>Phoenix dactylifera</i>	<i>phoenix dactylifera</i>	-----
Fences	<i>Duranta Plumieri</i> <i>Hibiscus rosa sinensis</i>	-----	<i>Dodonaea viscosa</i>	-----	-----
Climbers and covering plants	<i>Bougainvillea sp</i> <i>Aplenia cordifolia</i> , <i>Plumbago auriculata</i>	-----	<i>Lonicera japonica</i> , <i>Clerodendron inerme</i> , <i>Bougainvillea spp</i>	-----	-----
Cacti and succulents	<i>Agave amricana</i> , <i>Agave Marginata</i> , <i>Yucca spp</i> <i>Cereus Peruvianus</i>	-----	<i>Agave amricana</i> , <i>Agave Marginata</i> , <i>yucca spp</i> ,	-----	-----
Annuals and perennial	<i>Paspalum sp</i>	<i>Paspalum sp</i>		-----	-----

Table 3. The score of the descriptive statistics for the studies children garden at Damietta governorate.

Parameters		New Damietta Garden	El-sananya Garden	Woman Association	El-Zarqa Garden	Faraskour Garden
1- The location of the gardens	Location	5	2	3	3	3
	Design	5	1	1	1	1
	Area	5	1	2	1	1
2- Plants	Number	3	1	3	2	1
	Species	3	1	3	1	1
	Distribution	2	1	1	1	1
	Maintenance	1	1	1	1	1
		4	2	1	1	1
3- Nature of surfacing ground	Entrance and gates	5	2	3	2	4
	Walks and paths	5	1	3	1	1
	Pergolas	4	1	1	2	1
	Arches	1	1	1	1	1
	Statues	1	1	1	1	1
	Fountains	1	1	1	1	1
	Ramps and Grades	1	1	1	1	1
	Lights	4	1	3	1	1
	Signs	1	1	1	1	1
	Tables	3	1	1	1	1
	Fences	5	3	4	3	3
	Seating	4	1	3	3	3
	Management buildings	5	3	3	3	3
4- Structural elements	Cafeteria or kiosks	5	2	2	2	2
	Water closet	1	1	1	1	1
	Fresh water for drinking	2	1	2	2	2
	Drawing or Music corner	4	1	2	1	1
	Baths	3	2	2	2	2
	Dustbins	4	2	3	1	1
5- service components	Guards	2	2	2	2	2
	First Aids	1	1	1	1	1
	Emergency exit	4	1	1	1	1
	Fire extinguishers	1	1	1	1	1
	For children with special needs	1	1	1	1	1
	Location of the garden and its safety	4	1	2	2	2
		3	3	3	3	3
6- The safety and health elements	number	3	3	3	3	3
	types	2	2	2	2	2
	Material of manufacture	2	2	2	2	2
7- Toys	maintenance	1	1	1	1	1
	Number	4	3	1	3	3
	Age	1	1	1	1	1
8- visitors						
General remarks						
Very poor 1	Poor 2	Average 3	Very good 4	Model 5		
>30%	30-50%	50-70%	70-90%	>90%		

CONCLUSION

The present study revealed valuable information about Damietta governorate and children gardens. As the results of the questionnaires' were recorded that Damietta children's gardens were needed a lot of amendments and changes in order to reach a satisfying level whether for normal or disabled children and their parents as follow:

- 1- New Damietta garden is nearly to the model gardens but needs some maintenance for the landscape plants (types, numbers and distribution), structure elements, Toysetc.) with applied the results of study on it.
- 2- Children need more spacious and safer gardens and disabled children need special design but area of current gardens may not be easily increased for that the study also recommended that increasing of the area of the children gardens in Damietta governorate by established a national garden in the site close to the international road. The garden has suitable design at different types of children gardens for needs of children in city.
- 3- Finally the results of this landscaping study about children's gardens in Damietta governorate and the recommendations have to be presented to the local administration leaders in the city for consideration and benefit of the children.

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تقييم حدائق الأطفال بمحافظة دمياط

ناهد مصطفى راشد ، على فتحى حمائل ، السيد عطية البرعى و محمد عادل منصور
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اصبحت المدن مزحمة مع قلة المساحات المفتوحة التي يمكن للأطفال الاستفادة منها لذلك ، من الأهمية بمكان وجود مناطق لعب وحدائق تلبيبة احتياجات ومتطلبات الأطفال أجريت هذه الدراسة على جميع حدائق الأطفال بمحافظة دمياط في شمال مصر خلال الفترة من (2016-2019م) ، وكان الهدف من هذه الدراسة هو تقييم حدائق الأطفال في محافظة دمياط (دمياط الجديدة ، حديقة الأسرة والطفل بالسناينة ، حديقة الطفل في جمعية المرأة والتنمية ، حدائق فارسكور والزرقاء) ومقارنتها بحدائق الأطفال النموذجية من حيث التوزيع والموقع والمنطقة والتصميم والمنشآت والمعدات ولعب الأطفال وسلامتهم والصيانة من أجل تشخيص نقاط الضعف ونقاط القوة في كل حديقة لاتخاذ الإجراءات اللازمة للوصول إلى إمكانيات تحسين أو إنشاء حديقة جديدة للأطفال في محافظة دمياط. كان تصميم هذه الدراسة عبارة عن تصميم بحثي وصفي . ووضحت النتائج أن عدد حدائق الأطفال في محافظة دمياط ليست كافية ولا تتناسب مع الكثافة السكانية للمحافظة. تطل جميع حدائق الأطفال على شوارع رئيسية مزحمة بحركة المرور التي تعرض الأطفال للخطر ، كما تواجه بعض الحدائق كحديقة السنانية قضبان القطر بالإضافة إلى تلوث ضوضاء كبير باستثناء حديقة دمياط الجديدة التي تطل على شارع واسع وتصميمها الاقرب للحدائق النموذجية. جميع مساحات حدائق الأطفال صغيرة للغاية إذا ما قورنت بالمعدلات العالمية حيث يتم تخصيص 0.22 متر مربع فقط للطفل ، وهو ما لا يتوافق مع المعايير الدولية للأطفال(8-10م2) دون سن السادسة باستثناء حديقة دمياط الجديدة حيث تبلغ مساحتها 20243 متر² ، لا يتبع تصميم هذه الحدائق في الغالب المعايير الدولية ، ولكنه يحدد حسب المساحة المتاحة والموارد غير الكافية. (إهمال جزء كبير من مساحة معظم الحدائق لاستغلالها بالنباتات على النحو الأمثل. يجب التخلص من بعض النباتات السامة والصابر من حدائق الأطفال. معظم معدات اللعب في الحدائق المدروسة ليست آمنة لاستخدام الأطفال. إنها مصنوعة من مواد غير مناسبة ، وليست وفقاً لمعايير السلامة ، وهي مزحمة بشكل محدود.وقلت صيانة هذه المعدات بسبب فقدها. بالإضافة إلى ذلك ، لا تخضع بعض الألعاب الكهربائية والميكانيكية للفحص والصيانة الدورية بشكل دوري والتي يمكن أن تؤذي الأطفال. لذلك من الضروري إنشاء حدائق نموذجية أو تعديل الحدائق الحالية على النحو الموصى به في هذه الدراسة من أجل تلبية معايير الحدائق النموذجية . وأخيراً ، يجب تقديم نتائج هذه الدراسة والتوصيات إلى قادة الإدارة المحلية في المدينة لوضعها في الاعتبار واستفادة الأطفال