

## **Children's playgrounds & Recreation Areas**

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**Abstract:** *Recreation is one of the basic needs for all of stages in man's life, especially childhood. Children's need for recreation is higher as it helps with development of their growth and self-expression and abilities. The physical environment is known for its effect on the behavior and interaction of both children and adults. Sufficient physical space is, thus, essential to ensure a safer environment which gives children the opportunity to explore their world, whilst moving freely and energetically. The amount, arrangement and use of space, both indoors and outdoors, should facilitate children's physical, intellectual, social and emotional development. Children playgrounds should be a material of interest for architects, landscape designers and educationists, which have to work together in order to create successful designs. Children playgrounds must be designed and equipped from the point of view of their function and display. The playground should not serve passive entertainment, but ought to stimulate active, independent and creative play.*

*In order to meet the development needs of children, they shall be nurtured within a safe indoor and outdoor environment.*

*Children love to play, especially outdoors. The outdoor environment provides unique opportunities for playing and, therefore, for learning, but they can only benefit from playing outdoors if it is safe. Outdoor play equipment, in particular, poses hazards to children when it is not carefully designed or maintained.*

**Keywords:** *recreation area for children, Outdoor recreation, children space, Architectural for Children, Parks and Playgrounds for Children.*

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### **I. Introduction**

Associated standard of nations is very closely attending with what got the childhood reached and scored of achievements for children, so the children are the first goal on the road to development in any country in the world, also they are a mirror of society and what will the image of future will be.

So, we should not spare any effort in the state to provide the basic needs of the child believes and his future, it is not just care of person in the family, but that child care at the present time become a science and art.

Recreation is one of the basic needs for all of stages in man's life, especially childhood. Children's need for recreation is higher as it helps with development of their growth and self-expression and abilities, therefore we must care about the needs of childhood.

#### **Research problem :**

- Previous studies & research did not interested about the effect of in our country
- No one has been taken the strategy of children's development and their needs during different growth stage.
- There is no professional designer to design attractive area for children in effectiveness of recreation places that develop the creativity of the child who is the basic axis in the community

#### **The aims of study:**

**Main aim:** Studies the standard criteria that should be considered when planning for children's playgrounds, and defines the bases and conditions on which their environment should stand.

#### **Other aims:**

- 1) Showing the effect of urban arrangement on the recreational area for children.
- 2) Pointing out the bases and conditions that should be facilitated and designed for in children's playgrounds.

### **II. Environmental Education**

Environmental education is the socialization on love of nature and the protection of the surrounding for the purpose of the values and principles of cleanliness and hygiene in children and encourage them to interact with nature learn from it, gain best behavior, recognition the real facts, also to learn how to protect the environment, avoid any thing pollute nature.

Children like nature in freedom, instability, innocence, sometimes fierceness, the child has not fixed look to the nature, but interacts with it, take as far as their needs, and this look for nature change with their growth, and learn new values more than they learned.<sup>[1]</sup>



Fig(1): children and environment

**2. Green area and Children needs.**

It is difficult to fix rates for recreation area at the national, regional and local level, because these rates are largely dependent on the natural factors of place, in addition to social and economic characteristics of the users of the green areas to be created.

As well as the rate /capita for person who use recreation area different according to his country, city, below some of different rates of green/recreation area.<sup>[2]</sup>

Area for parks & green area (m <sup>2</sup> /1000 person)	No .of people
7350 m <sup>2</sup> /1000 person	10.000 people
8925 m <sup>2</sup> /1000 person	50.0000
9450 m <sup>2</sup> /1000 person	100.000
10500 m <sup>2</sup> /1000 person	250.000
11550 m <sup>2</sup> /1000 person	500.000
12075 m <sup>2</sup> /1000 person	1000.000

Table (1): The rates of required open spaces areas according to no. of people.<sup>[2]</sup>

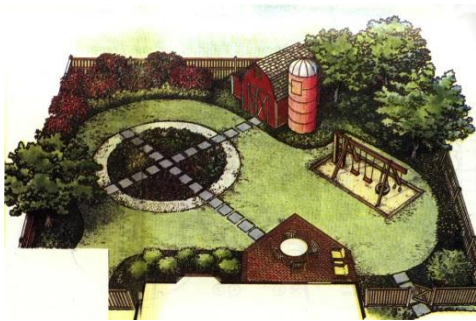
Age of child	Mini. users	playing area		Max. users	playing area	
		Acre	M <sup>2</sup>		Acre	M <sup>2</sup>
<b>CHILDREN FROM (4- 6 YEARS)</b>	80	1.00	4200	480	3.00	12600
<b>CHILDREN FROM (6- 12 YEARS)</b>	80	0.50	2100	480	2.25	9450
<b>BOYS from (12-15 years)</b>	150	4.50	18900	1500	19.50	81900
<b>GIRLS from (12-15 years)</b>	150	4,00	16800	1500	15.50	65100

Table (2): The rates of required open spaces areas according to age of children<sup>[3]</sup>

**III. Relationship between different kind of green area & children.**

**3.1- internal park:**

It is a type of garden inside the building especially private housing. Man resorted to the lack of spare time on it according to the difficulty to visit the out garden<sup>[3]</sup>



Fig(2) : internal park<sup>[3]</sup>



Fig (3): kind of plays in internal park

**3.2- the parks attached to the building:**

It is vary according to the function of building into, house gardens, gardens of public building and hospital garden.<sup>[3]</sup>

In France, for Example., there are playgrounds above some building's roof made from cement designed by " Le Corbusier" which reflect sculpture style of art .and have verity uses for play "climb – slide-draw on cement wall& another games".<sup>[4]</sup>

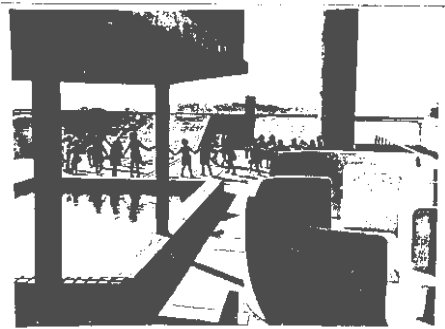


Fig (4): playgrounds above some



Fig (5): the parks attached to the building:



**Building's roof- "Le Corbusier"**

**3.3-Residential park.**

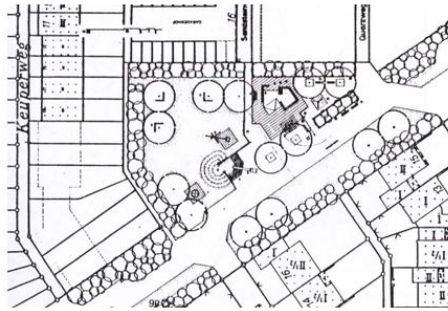
Most children under "6 years' use it instead of play in the street.it may be used during the morning on their own so as to provide privacy, comfort and safety for children...And accommodate "100- 200 users". It should also be chosen the site so that its users can access it without having to cross the main street.<sup>[5]</sup>



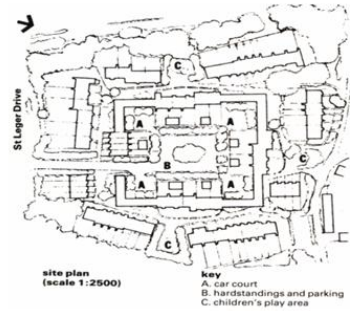
Fig (6): example for Residential park

**3.4-Neighboring residential park:**

The population ranging in this garden (5000-7000 people),and its area of 1000 m<sup>2</sup> ,almost have square or rectangle design.it consists of playground for adults, boys, children, gathering place, seating area, reception and services area<sup>[3]</sup>



Fig(7) :Neighboring residential park in German [6]



Fig(8): Residential park .[6]

Children`s playground where either in one area or separate include services, the children's area must be  $2m^2$ /child. And the circle of paths to this garden about (0.25- 0.50 mil), where the design.<sup>[6]</sup>

### 3.5- Neighborhood park.

The space of area should not be less than "5 acres", and designed in any style, all local parks it has to be shown at this level, and directed to serve population about (45.000- 60.000 people) . Allow them to practice some activities in all the following courses (tennis, volleyball, basketball, recreation area,reading....).

part of the park it has to be specified for children by using trees to make private zone for them. The impact of the service range (0.5 -3.00 mil radius). And to make access more easily it must be designed near to main road, and distributed so as to reach distances range(1.6-4.8 km).<sup>[3]</sup>

### 3.6- City Park.

The park should not be less than "15 acres" and must be directed to serve all city "metropolitan parks". And almost designed on edges of city, the walking distance (approximately a half-hour ride) the area of this parks usually about ( 2-5 acres/100 person. <sup>[7]</sup>

These parks are available in attractive natural places to provide the greatest amount of freedom, relaxation and its component as follows: (Private park & Public Parks), they are either historical park or cultural park, social park and recreational park, and is divided into:

- a. **Big Public Park:** The park should not be less than "50 hectares "it is designed to be located places at wide celebrations and festivals and exhibitions, as well as created by some of the sports venues such golf, tennis ,ride horse, handball.....and so ,with the possibility of uses waterways, small boats for fishing ,and swimming also.  
Zoo, Plant and Fishes Park can be considered one of the public park if it is included wide area for visitors and a lot of trees & plants. <sup>[6]</sup>
- b. **Small Public Park:**The Park should not be less than "100 acres", and designed inside cities, anyone can access it easily. It has playground for children, musical celebration place and popular concerts.

**3.7-Regional park:**It intended serve the region and often of which required a high level of processes and techniques are difficult to be provided at the level of cities, which large area are special natural qualities. Which give large wide of recreation, And the time need to arrival about an hour by car. These park include different activity<sup>[6]</sup> like(Elkanater park & Giza region park–in Egypt).

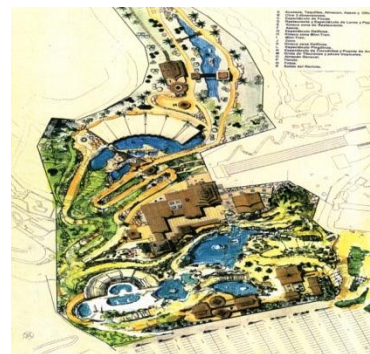
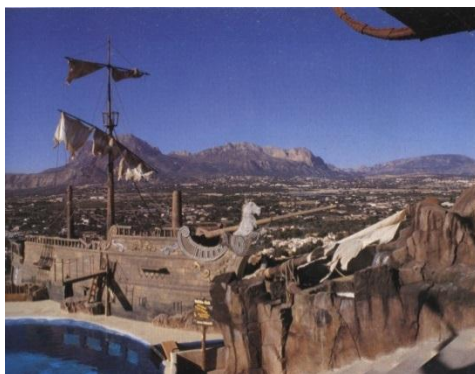


Fig (9) : example Regional park

**IV. Children and playing in green area.**

There are different methods used for children to go to playground according to different stage as the shown table.

Go with adults %	Go alone%	The methods used to go to playground %			Age
		on foot	bike	car	
60.6	39.4	68.4	12.1	19.5	5- 7 years
44.00	56.00	71.00	12.8	16.2	7- 11 years
28.00	72.00	74.1	21.9	4.00	11 – 14 years

**Table (3) :methods used for children to got playground& parks<sup>[3]</sup>**

From criteria of parks & the methods used for children to go to it, we can define the kind of areas where children play in it as<sup>[7]</sup>



**Fig(10) :Children method to go to his club.**

**4.1 Not designed playground.**

- Children until the age of(6 years) play near the house or at internal house.
- Children until the age of (14 years) play at streets & Neighborhood Park.
- The children attracter to places that are safe more than dangerous one<sup>[7]</sup>

**4.2 Designed playground.**

- This playground integrated with the residential community.
- As outdoor space in school, child care centers that have become an extension of the interior area.
- In the past, not designed playground found to meet the needs of children's recreation , but it is not suitable for all stage of children, so it must be to provide net of recreation area to unable every child play on it<sup>[5]</sup>

**4.3 Chosen area for play depend on :<sup>[7]</sup>**

- Proximity from the main axis.
- Proximity of the houses.
- Characteristics of the site.
- Compatibility between the type of play and the surrounding areas.

a. *Proximity from the main axis:* play area are located next to the main road to be easy access for children & facilities follow –up of adults .a child loves being in the areas of activity and the movement of more isolated area.

needs	Max. for no. for children use playground	Mini. Playground Area & landscape ; m <sup>2</sup>	Mini. M <sup>2</sup> /child	Age
Small area need different plays	37	125	3.5	2- 5 years
Attractive plays (climbing, jumping...) ,popular football plays, green area, trees should be in it.	40	335	8.5	5 -8 years
Different football plays-,spaces suit to plays group .	53	670	12.5	9- 15 years

**Table (4): the shape & form for children building<sup>[4]</sup>**

- b. *Proximity of the houses*: the aim is documenting human relations between the people of region.
- c. *Characteristics of the site*: safety, barrier-free environment, the availability of necessary services, controlled & safe entrance, lovely health environment, clear vision to and from the playing area, trees & plants.<sup>[5]</sup>
- d. *Compatibility between the type of play and the surrounding areas*: some play areas be incompatible with surrounding areas, for example: adventures playground has special needs like high barrier around the site.<sup>[2]</sup>

## V. Philosophical trends of the architecture of the child.

During the nineteenth century became the child is a primary axis of the family and began to interested concepts of the space for him.<sup>[8]</sup>

With the beginning of twentieth century, and after the industrial revolution, many types of buildings appear and the school did not become the only space for building of the child, but appeared museums, library, culture center for children which the child can touch things and exercise activities and hobbies as well as recreation area & parks for children.<sup>[9]</sup>

At this period of century, new philosophical trends appear in European countries as construction and this trend affected on The seventh period in twentieth century consider the important period where it was beginning to develop concepts of space and its characterized & style. The research proved the important role for space on philosophical development. so the famous social scientist "Robert Koles" named this century "child century".<sup>[11]</sup>

### 5.1 Reorganization of children to architecture building.

Children recognize the building in three stages:<sup>[10]</sup>

- I. Look for the visual image and keep it in his mind-( throw sensory & organic level)
- II. Distinguishable, identify its landmarks and draw this image ( throw mental organic level)
- III. Understanding of the form & its meaning.

Kevin Lynch confirms about the Environmental Image that is the filed which children live in, and which composed the result of the evaluation of the mental image he has. And that this environmental image is a key element in the integration of performance directed to children within their spaces. The architecture task must be let children to understand the abstract symbolic mastery.

The stage of development of psychological and biological divided into two phases;<sup>[11]</sup>

- The child stage ore- primary school (2-6 years): this stage consider the beginning to formation the concept and with the end of the stage children can definition of the concept of projective.
- The child stage primary school(6-12 years) :the reorganization space for children develop toward to how to deal with the concept of projective and geometry for space.

### 5.2- The basic conditionsof architecture children's building.

Some basic condition should be facilitated and designed for in children's building as:<sup>[11]& [12]&[13]</sup>

- a. The architecture of the child must allow him to interact free commensurate with child abilities and interests, and become friendly to each child commensurate, and must fit with his physical, mental, psychological and muscular growth
- b. Children affected by two factors:
  - The nature social and psychological of the human.
  - The environment architecture and surrounding space.
- c. Provide protection and safety through suitable space and landscape.
- d. Attract his attention by varying colors, lights, heights space.
- e. It should be the landscape for children suit to uses of them.
- f. Architecture element must be simple and clear.
- g. Architects should be co-operation and noting research for children.

## VI. Conclusion

Nature is very important in our life, love & protect of nature must be learned since childhood. Environment education for child gives importance rules & behavior which impacts on the child, therefor the world around the child must be interact with him and learn from, through his own building which allow him to work translation and experience. So the architecture children's building must be designed criteria and standard for the children and including the suitable for his different scales and movement, and have the ability to connect the meaning of the purpose of the originator of him through the perspective of child

Children recognize the building in three stages:

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III. Understanding of the form & its meaning.

It is difficult to fix standards rate and condition for children's recreation area at the national level, or region or local, because these rates are largely linked to nature factors of the site. This is in addition to the social and economic characteristic of users, so there are various types of parks for recreation area gradation from smallest to largest area as follows: (internal park -the parks attached to the building- Residential park -Neighboring residential park- Neighborhood park- City Park- Small Public Park- Big Public Park- Regional park).

By study each species were identified earlier, children's playground divided into:

- *Not- designed playground*: not safe- not to use child- near the home, neighborhood and street, no plays.
- *Designed playgrounds*: safety, near from major road, take into account many factors of site.
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VII. Results.

1. Recreation consider as the basic needs for human in its different age especially childhood, therefore the state must put them first goal to achieve development.

2. Nature is the best place for a child's play; he always tries to discover what's new in, and learn from it the values and principles. The concept of the nature differs from child to child and ages.

3. The child has a personality and imagination differs from adults, so we must design building for him from his perspective of him, to can discover the world and grow himself. to deal with child and the surrounding environment should be ;

- Study the stages of child growth to define the basic needs of each age.
- The most effective ways to know the behavior of the child is play, it enable us to deal with child, study his behavior. Playing is not a recreation area purpose wasting time, it is quite different from the fun.

4. Children's area playground should be available by the following factors;

- Playground must be in the middle of the neighborhood, with easy access to it.
- provide safe itance sentenced.
- Continuity of the vision from & to the playground (confirmation of places for adults to the monitor )
- integration relates&playing area.
- Barrier- free environment.
- Standard criteria should be considered when planning for children's playgrounds, and defines the bases and conditions on which their environment should stand.
- It must be separate& continuity of vision between young&adult children and every area suit to the children who use it.
- Sun & shadow by using fast-growing plant.

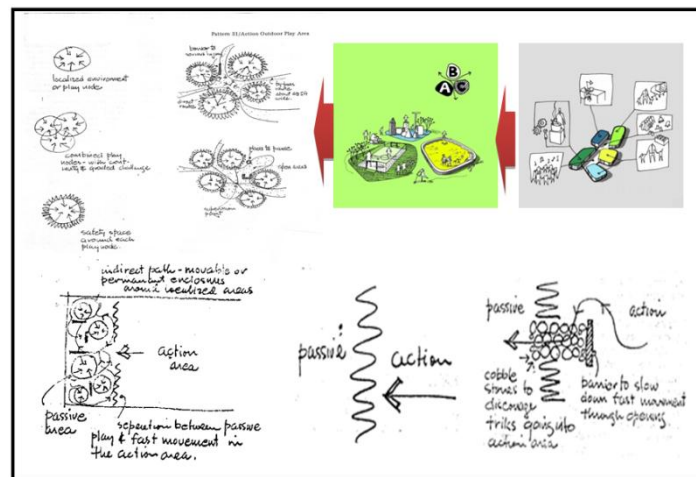


Fig (11) : separate & continuity of vision between different play area

- Children may suffer injuries and hazards in public designed playground and parks, because they are not efficiently equipped or provided with upgrades of design criteria on playgrounds and their facilities. Meanwhile, no clear plans for further development of children's skills and abilities for every stage of their childhood are planned or designed for in playground locations

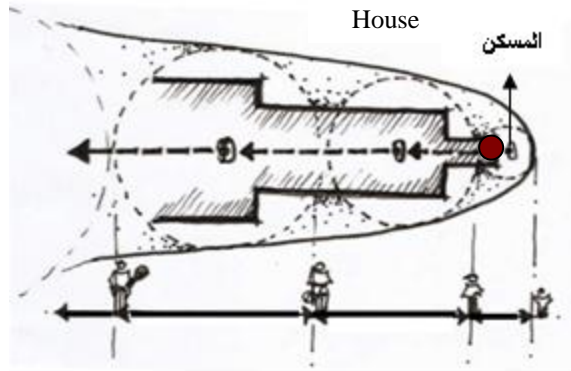


Fig (12) : gradation play of children from his home to outdoor Children prefer Playing near home which more safe.

### VIII. Recommendations

The study recommends the importance of applying the theoretical approach built up in this research with respect of local conditions, in order to create successful recreational areas for children, which may provide for healthier and safer environments, with more ability to accommodate and adapt with the special features and characteristics of children in Egypt. So we must do:

1. *Suitable environment*: by using shaded trees, umbrellas, water areas of hydration, to protect children and play area from atmospheric changes.
2. *Continuity of the vision from & to the playground*: by merging the sitting area near the children's playground or by design area for adult children near to young children, so as to provide a good observation.



Fig (13) : Continuity of the vision from & to the playground



Fig (14): Suitable environment

3. *Safe entrance & sentenced protection zones* ; by surrounding the playing area (plant walls, trees, separate different area by protection zones).



Fig (15) : Fences protect (plant & trees) Security entrance sentenced &



Fig (16) : Separate playing area & visual communication

4. separate & continuity of vision between young & adult children by: Using short trees, different levels, seating, mild light games for all)
5. Continuity of activity and divided into other activity.
6. Multi- play areas (quiet, movable, play in nature)



7. Provide circular motion paths.
8. Contact between the nearest groups which have the same activity.
9. Multi – different values at park (cultural, educational, artistic, musical ...).
10. Multiply between play area(adventure, environmental ...).
11. Suitable building & spaces for child user and respects its scale.
12. Sculptures has great importance for renewal the different children's ability (mental, physical, motor,.....).
13. Using attractive colors for children's area for ex. the color more uses at day& night; white on black/ white on red/ black on yellow/ white on green
14. Lighting enough at playing area for child's safety when they play at night.
15. It must be interested about landscape that which it is not harmful for children.

So, if we do the previous Standard Criteria children's playground, we will make strong attractive and safe playground for children in all their different ages.

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