



## Design Criteria and Limitation for The Urban Park Design at City Level, Study Case Halep

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### Abstract

This urbanization throughout the early decades of the twentieth century was overwhelming even at the expense of the green areas of cities and rural areas. The provision of housing, employment and services to the growing population was a priority on the theme of “entertainment”. Thus, for the last three decades, the city’s public parks and green areas have become increasingly popular in response to urban overcrowding and high urban densities, which resulted in environmental problems and visual pollution. The results of the urban tyranny against the green spaces in cities began to emerge; the city planners and decision-makers discovered that residents need gardens and parks no less than their needs for housing, work or services. The city, without a network of interconnected and gradual parks and public green areas, suffers from great environmental problems that put in danger its sustainability and the health of its citizens. In this dissertation, the character and the significance of public parks and green areas in the city shall be scrutinized. This will encompass the definition of history and roles of public parks at the city level; besides, what motivates the visitors to come and what they would be their needs in parks. Later, in the chapter 2, the factors that influence the design of public parks will be examined; such as nature, social and physical factors and neighborhood data, and the choice of the park’s design systems will be conferred. Moreover, in the chapter 3, the design components of public park shall be enumerated; the physical, the aesthetic components and principles of parks’ design. Then, the design standards of public parks shall be appraised with their quantitative and qualitative aspects, this would include: the functions and services provided inside parks, the circulation system and paths as well as the plazas, the vegetation and water bodies and finally design criteria of the urban furniture inside the park. In the chapter 4, case studies from previous experiences shall be explored. The case studies examples concern two parks at the city center of Istanbul and Aleppo, they are Maçka Park in Istanbul/Turkey and The Public Park in Aleppo/Syria. Finally, the conclusion shall contain development remarks and results of the research and shall determine the future orientations of the research.

### Keywords

Public Park. -Green Areas. -Public Garden. -Theme Park. -Park Design. -Green Spaces.

### 1. Introduction

Recent studies have shown the different roles played by gardens and parks have highlighted their role in improving the living standard, the quality of life of the inhabitants, as well as their physical and psychological health (making it an important element of the city

sustainability). Those studies make us reconsider our priorities to bring the attention to the organization and development of public parks and gardens network in our cities. The prolonged Syrian crises laid its impact on the Syrian people lives especially in Aleppo. This study aims to find the right methods to provide open spaces

and public parks that respond to the daily needs of the different social categories of the population. Hence, residents could spend a large part of their daytime exercising their activities to improve their physical and psychological health; and, at the same time, to develop their culture and strengthen their social interaction by studying the actual organizational problems and by exploring the appropriate methods to find a solution to the problems that suffer from the public parks in Aleppo. The scientific methodology of this research is based on a systematic approach to evaluate parks planning and design criteria, completing the theoretical basis for the planning and design of public parks. Since the process of arranging or developing public parks is an integrated process that includes direct and indirect aspects dealing with different levels, urban planning level, design level, administrative level and scientific level have been taken into account. To ensure the success of development procedures at the urban planning level, the process of developing existing public parks should be planned and designed according to the needs of their users.

## 2. Criteria for Planning, Design and Development of Public Parks

### *Public Parks and Green Areas in the City*

The public parks and green areas of the city will be discussed through their definition and organizational characteristics of their development in addition to their roles at the city level.

### *Definition of Public Parks and Green Areas*

The definition of the green zone is associated with its broad concept to the nature, in which Mankind were created, and from which his observation was derived besides many of his ideas and the raw materials he used to make his tools and his primitive dwelling. Informal human truncation of an area and taking a special care of is the origin of the garden concept in human thoughts. The city's green areas network is the cultivated green spaces that link urbanization and nature, they reflect and extend the natural surroundings of cities. They are open spaces where the natural ecosystem has been transformed into a human-induced ecosystem (Maulan, 2002).

### *Roles of Public Parks and Green Areas*

Gardens and green areas offer great benefits to the population, they play countless roles at the city level, some of them are visible and known and others are only realized by the defenders of green areas and decision-makers (Kucukali and Atabay, 2013).

- The recreational and aesthetic role: It is the most obvious role played by all gardens and green areas in cities, which incorporate water bodies plus the number and variable green elements in shapes and colors.
- The urban composition role: The gardens and the green areas form the civilized facade of the city. They are green and esthetic barriers that limit the tyranny of the urban sprawl, (Hussien Ziad Jalal, 1994; Kucukali and Atabay, 2013) and creates architectural spaces with distinctive urban texture (Sherer, 2003)
- The environmental role: The city's network of parks and green areas are a major source of its sustainability and ecological balance because (Bilgili and Gökyer, 2012; Haq, 2011; Chen, 2015):
- The health role: Parks and green areas in cities form an important source of the population physical health (Groenewegen et al, 2006; Whrater et al, 2007; Wolch et al , 2014)
- The social role: Parks and green areas in cities strengthen the family ties and increase social relationships (Codbey et al, 2005; Jim et al, 2013; Konijnendijk et al, 2013).
- The educational role: Parks and green areas are an open book to learn from through meditation and follow-up (Gabriel, 2011)
- The economic role: Parks and other areas of the city, through their function, play an important role in saving the government's expenditures on sectors like the environment, health, social and educational. (Bilgili and Gökyer, 2012; Chen, 2015; Groenewegen et al, 2006; Li et al, 2015; Whrater et al, 2007; Wolch et al , 2014; Haq, 2011)

### *Visitors of Public Parks and Green Areas in the city*

The estimation of the successful landscape designer to the types and locations of the park's elements and to their planning specifications varies according to the city, the location of the park within, the scope of its service, its budget and funding, also to the various categories of their visitors, which are directly reflect on the disparity

of their material and moral needs and their interaction with the park and thus their behavior within it.

#### *Motives for visiting Public Parks and Green Areas*

The motives for visiting parks and public green areas vary according to the characteristics of the visitors' segment in terms of age, sex, social category, and physical and mental capabilities. However, no matter what the motives of the visit differ, they fall under one or more of the following motives (Dunnett et al, 2002):

- **Enjoy the environment:** to enjoy the greenery and the beauty into the nature and observe its changes during the seasons, besides inhale the breeze and the fragrances of flowers and plants.
- **Social networking:** parks are considered a distinct place to meet friends or to do family excursions, to socialize and get to know and talk in order to form new relationships and to take photographs.
- **Break the routine:** to get out of the pressures and complications of civic life, and to enjoy the possibility of doing something different.
- **Walking:** Walk alone, with someone else or in a group, or walk with dogs (in countries where dog breeding is common).
- **Passive recreation:** this includes all non-mobile activities (such as relaxation, meditation and reading) that occur by sitting on grass or on benches with views towards nature.
- **Positive entertainment and exercise:** this includes all activities such as playing in all kinds, physical exercise, sports of all kinds and all other recreational activities available (kites, boats, water toys).
- **Attend events:** these include festivals, official celebrations, musical and artistic performances.

### **3. Visitors needs of Public Parks and Green Areas**

Previous planning and design of public parks (since 1954) was based on Maslow's hierarchy of human needs, where he divided it into six needs that begin with basic physiological needs and end with the need to feel, taste and appreciate the beauty. Assuming that achieving the needs at the top of the pyramid necessitates first achieving the needs of its base (Poston, 2009).

### **4. Design of Public Parks at the City Level According to The Visitors Needs**

The design process can be defined in its comprehensive sense as: the organization of simple parts in a composite image and in a technical manner with the aim of achieving organization and thus good design. The design of public parks is influenced by a number of factors and data, it passes through a series of stages to end up by the choice of system and the most appropriate design components of the park. These ideas are discussed in the following paragraphs.

#### *Factors influencing the design of public parks*

Natural Factors, Neighborhood data, Social factors, Physical factors, Design phases of public parks).

The process of designing a park is sequential, it goes through series of stages in which each one is relying on the precedent. These stages can be defined as follows

#### *Data collection and information analysis*

The first step in park design is to collect sufficient information on all the factors that might affect its plan. This includes (Sherer, 2003):

- Knowing the climatic data of the site (temperature, solar radiation, humidity, precipitation, and direction and intensity of the prevailing winds in summer and winter);
- Obtaining a topographic map of the site and drawing sections to determine the slope in different zones and identify areas with a potential good view;
- Studying the geological data and analyze the nature of the soil in different areas of the site and determine the ability to be built or for plantation or both;
- Developing a preliminary outline of the site's present situation and what contains in it such as structures or vegetation and locate the main lines of water, drainage, electricity lines and telecommunication;
- Studying and analyzing the neighborhood data and the type of buildings in the proximity, their functions and heights and the diameter of their impact, the circulation type dimensions and traffic intensity;
- Studying and analysis the far neighborhood data in terms of the existing functions and the diameter of their impact;
- Analyzing the structure of the population pyramid in the city and the current social and cultural situation and the target of the visitors.

- Analyzing the needs of expected segments of the population from functions and activities.
- Study the prevailing customs and traditions and determine what may be imposed by them on the design of the park;
- Estimate the total cost of the park and identify the present and future funding sources responsible for implementation, periodic maintenance and development.

#### Concept formulation and design philosophy

After the analysis of the collected data, the information shall be reflected on the park's site to start the elaboration of the concept idea as well as the design philosophy of the park. At this phase, the followings are to be determined:

- Number and location of main, secondary and service entrances, if any, as well as the numbers and locations of parking lots.
- The proposed activities, events and functions of the park.
- Determining general character and the design philosophy of the park.

The design philosophy of the park and its general character depends on the creative abilities and intellectual skills of the architect or landscape designer to reach the optimal link between beauties and needs (Harris and Dines, 1998). This process is done after choosing one or more of the following design orientations (Sherer, 2003):

- The design concept which results from the urban facts: it aims that the visitors would reach a healthy state by dealing with the social and urban problems of cities, such as overcrowding, urban density, environmental pollution and population growth.
- The design concept that consider the cultural context: it focuses on the importance of the cultural and historical dimension of the surrounding urban environment. It becomes clearer in heritage areas, which requires the consideration of the place's urban content, its historical meanings and cultural uniqueness.
- Architectural design approach: This design approach takes into account the interaction between the green areas and the existing architectural structures within the park in order to form an integrated panel.

The design philosophy is determined in written statement with a clear objective and a logical sequence. Later, the general character and idea of the theme of the park are formulated by means of sketches and drawings following four principle points:

- Formulation of the idea according to the site characteristics: where the designer derives the ideas from the components of the surrounding environment and what impose like arrangements and organization as well as the visual possibilities and view axes.
- Formulation of the idea according to the function: the designer works on the achievement of high efficiency in performance through the concordance and the complementarity of the activities and their easy access.
- Formulation of the idea according to the principle of simulation: the designer draws the ideas by simulating the forms of surrounding elements.
- Formulation of the idea according to the principle of abstraction: where the designer tries to create a mere formation stemming from the nature of the project or from an abstract idea, such as the Taekwondo Park in Korea where the design concept of the park was inspired by the holistic training customary in the sport.

#### Choice of the Park design System

A variety of park system are offered as choices design a park, they would be divided into several sections that are shown below:

##### *Geometric system*

The geometric system is characterized by regular axes based on the repetition to create a balance and beauty. It is suitable for flat and small size pieces of lands with regular shapes. This system gives the possibility of fully grasping the whole view with one look (Hussien Ziad Jalal, 1994), but it may generate a sense of boring by repeating the looks. This system might be symmetrical or asymmetric depending on the method of the repetition and the arrangement of the design elements (Edriss Rashed Salim, 1986). The symmetry of the geometric system takes many forms:

- Axial symmetry: where the design unit is repeated (basins, trees, etc.) on both sides of the main axis and can be implemented in small parcels.
- Dual symmetry: in which the design unit is repeated on the sides of two main axis, it can be used in medium or

large parcels where there is a need to be designed in a symmetrical way.

- Circular or oval symmetry: where the parts are repeated in a circular or oval central unit, and can be double-edged. This system is generally implemented in circular squares or in gardens with distinctive elements (fountain or statue).

- Radial symmetry: whose parts are repeated following one central point, the number of radial parts does not exceed 8-10 parts. This system is suitable for public squares or small gardens.

One of the most important rules of the geometric system can be mentioned as follow (Hussien Ziad Jalal, 1994):

- The supremacy of the geometric axis over the green areas where their length and dimensions commensurate with the area and form of the garden.

- The intermediary position of the main views to increase the clarity and shapes of the park elements.

- The need for precise trimming and careful operations, which may raise the costs of construction and maintenance.

#### *Natural or informal system*

The natural system is characterized by free, irregular axis and is based on the phenomena of simulating the nature in inducing balance and beauty. It is suitable for plain terrain, wide areas or those that overlook beautiful views such as lakes and forests. In this system, natural and structural elements are selected and merged with the nature in a manner that implies non-human intervention (Hussien Ziad Jalal, 1994).

#### *Dual or mixed system*

The character of the dual or mixed system is highlighted by blending the geometrical and natural systems, it is more suitable for large, light sloppy lands. In this system, the network of main axes is geometrical whereas the network, which is connected to them, is freely spontaneous. It is subject to the rules of both systems, combines their features, and gives great freedom in the design and the selection of elements (Hussien Ziad Jalal, 1994).

#### *Contemporary or modern system*

This system began in Switzerland in the early 20th century and then moved to Europe and America, it is founded on the choice of an innovative idea of design

without complying with the design rules used in different systems. This system is suitable for small or medium areas regardless of their topography, and rely on the principle of simplicity without complexity but considering balance. It aims at simplifying and stripping geometric lines, reducing the number of plant elements and selecting them as distinct individual models while minimizing costs (Hussien Ziad Jalal, 1994).

#### *Planning phase*

Later to the achievement of the concept and design philosophy, the stage of elaborating the plans begins through which the abstract idea is transformed into a project with plans, this process goes through several major steps.

Step 1: Drawing a zoning plan for the distribution of areas and events and the relationships between them.

Step 2: Reorganizing the elements of the previous chart after taking into account the factors that affect the design and considering the point of view of the landscape designer.

Step 3: Drawing the land use plan in the park by defining the size and form as well as the suitable composition of each area regarding its main function.

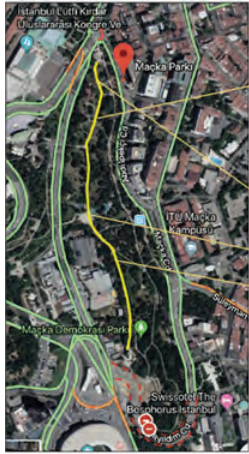
Step 4: Formulation of the draft site plan with dimensions and final form.

Later, the final site plan shall be formulated with series of diagrams, sections, facades, and detailed and operational studies of its built and natural elements . The final site plan is the result of all detailed plans, which concern the circulation network, the vegetation, the water bodies, as well as the service buildings and urban furniture.

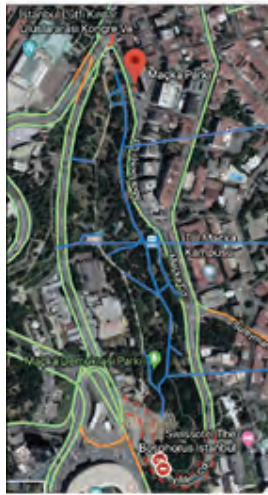
## **5. The Design Component of Public Parks**

### *Natural physical components*

The British Encyclopedia classifies natural physical components for the design of green areas into three elements: (Earth and rocks, Water bodies, Green Cover)

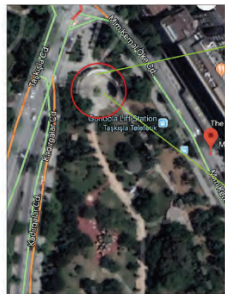


● Main Pathway



● Secondary Paths

# Pedestrians



● Main Entrance 1



● Main Entrance 2



● Secondary Entrance 1



● Secondary Entrance 2





**Figure 1.** Maçka Democracy Park circulation networks (main, secondary, pedestrian promenade) and squares



### *Plant material components*

The British Encyclopedia classifies structural material components to design green areas into five elements:

- Site related facilities: which include all elements of circulation and connectivity that enable the links between the circulation axis, squares and plazas, and leveling structure like stairs, ramps and retaining walls. These facilities vary according to the park's design style and its nature elements.
- Enclosure facilities: they are the containment elements that help to control the vision or movement or both.
- High walls of 2m and above that allow the visibility only through the entrances and gates.
- Barriers of less than 1.5m that allow visibility and define the entry and exit points.

Barriers or fences can be natural, trimmed, or not trimmed or built from a single material (Cement - concrete - stone

- brick - iron - metal mesh - wood), or mixed (cement, iron, brick, wood) in accordance with their role and degree of enclosure required. Since the barriers fall within the view levels, the choice of shape, material and height must achieve aesthetic considerations in addition to the functions (Hussien Ziad Jalal, 1994).

### *Fences and barriers in the park*

- Shelter facilities: they are light structural elements with partial or full cover according to the required protection level. They are present under many forms: small or large umbrellas, or pergolas, or in the form of huts. Their materials vary in relation with their shape and extension, they could be from metal, wood, or concrete.
- Service facilities: to provide asset for services to the visitors, they could be buildings with different functions or urban furniture.



**Figure 2.** Difference of the line of sight according to the organization of the green elements

- **Infrastructure:** they are hidden because they are implemented at first stage of the park's construction, such as drainage system, electricity lines network, water pipes network, drainage valves, electrical and mechanical transformers and others. In the good design of public parks, these facilities are integrated within the general layout.

*The aesthetic components of public parks design*

*The aesthetic elements of design*

The British Encyclopedia classifies the aesthetic elements of the Green Zone coordination into five main elements:

*Point, Line and Shape*

The shape resulting from the motion of the water bodies is definitely three-dimensional in any visual scene, and the shape acquires a fourth dimension through the motion and time factors. The green areas changes in shape if we consider the weather and season as well as the visual changes during the day with the alternation of shadow and light resulting from the sun path.

*Solid and void*

The mass and the void define each other, everything that cannot be defined as a void is actually a mass, which is the space defined by the physical elements seen by the human.

*Texture, color and smell*

The texture is the visual or tangible effect of the surface where one can look through or touch to estimate the material of the different surfaces and the feeling caused by each one of them (the differences between the coarse and smooth surfaces or between the corrugated and flat surfaces . Vegetation varies according to their types and leaves, which gives many possibilities in design, the choice of types may differ following the purpose of design.

As for the color, it is the visual sensation that results from lengths differences in light waves. Colors of surfaces are affected by the amount of light radiation and the degree of absorption, transition or reflection. The colors vary by according to their degree (red, yellow, ..), density and intensity (light to dark),

*Shadow and light*

*Season, climate and time factor*

The season and climate factors have influence on the green areas because of the daily and seasonal changes in the relations between temperature and humidity and between shade and light on the same location. Consequently, time factor is essential in defining the degree of aesthetic of a park, vegetation only take its final form and image after a certain period of time (Hussien Ziad Jalal, 1994).

*Separation, climate and time factor .*

*The aesthetic principles of design*

The British Encyclopedia classifies ten aesthetic principles of the Green Zones' design, which can be grouped into five pairs as follows: (*Unity and Variety, Rhythm and Balance*)

Rhythm and balance result from the arrangement of three-dimensional elements in a park area and from the type of these elements. Firstly, rhythm is the use of regularly recurring sequence of visual elements to provide a consistency of a strong, regular repeated pattern of movement or a correlation of colors or elements. It could be:

The dynamics of harmony and intensity are increased when as in Figure 4.



Figure 3. The rhythm and order of colors in Flower Park Dubai

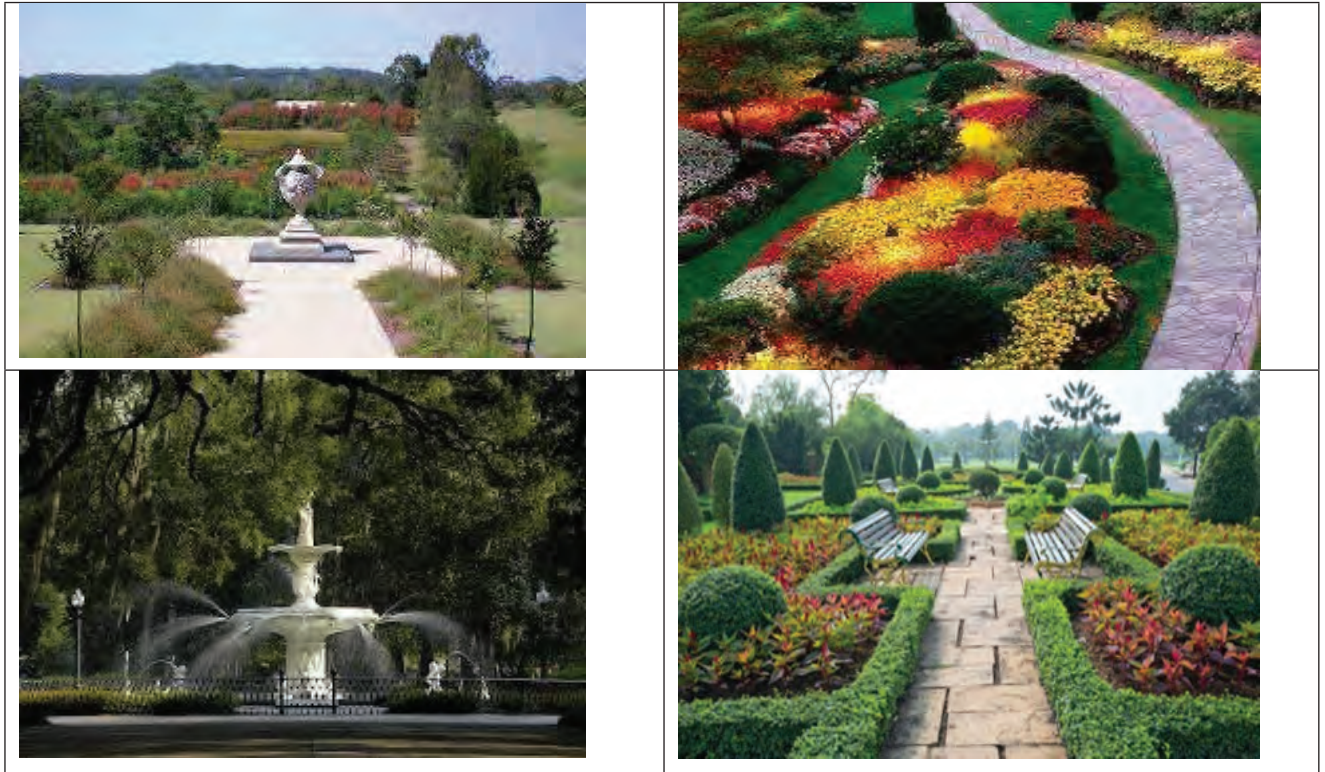


Figure 4. The rhythm and order of colors in Flower Park Dubai

- The number of elements increases to achieve a real rhythmic harmony. The rhythmic harmony is generally simple or complex, as in Figure 5.
- Simple Rhythm,
- Complex Rhythm
- Symmetrical and asymmetric balance.

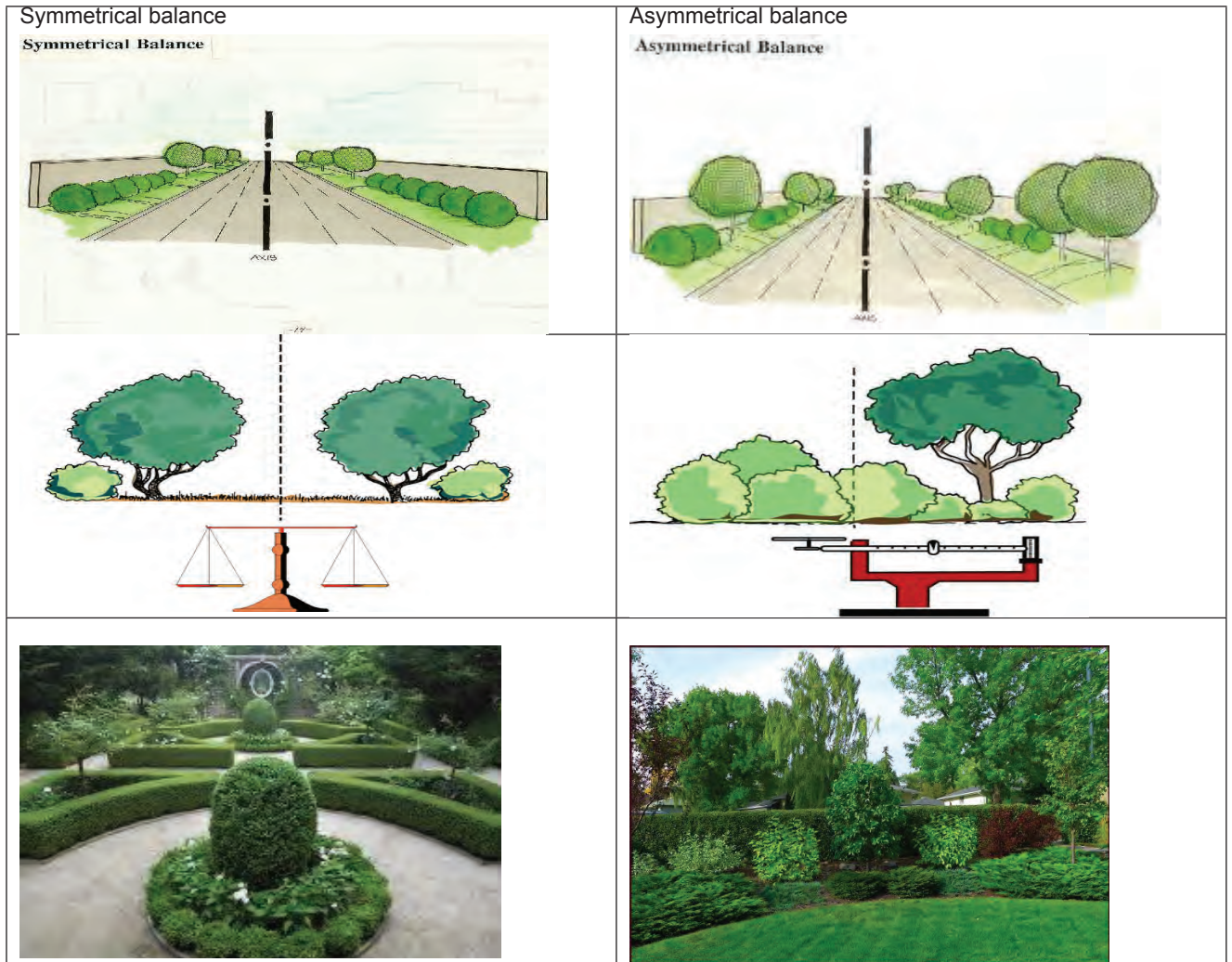


Figure 5. Symmetrical and asymmetrical balance

*Emphasis and Contrast*

*Openness and Enclosure*

*Scale and Proportion* : Absolute or optical scale, The human scale.

*Design standards of public parks at the city level*

*Criteria for selection and distribution of functions and service buildings (Quantitative criteria, and Qualitative criteria)*

The zones inside the park can be classified into: Recreational zones. Sport zones. Social zones, Cultural zones, Service zones).



Figure 6. Site plan elements of Wonderland Park in Ankara

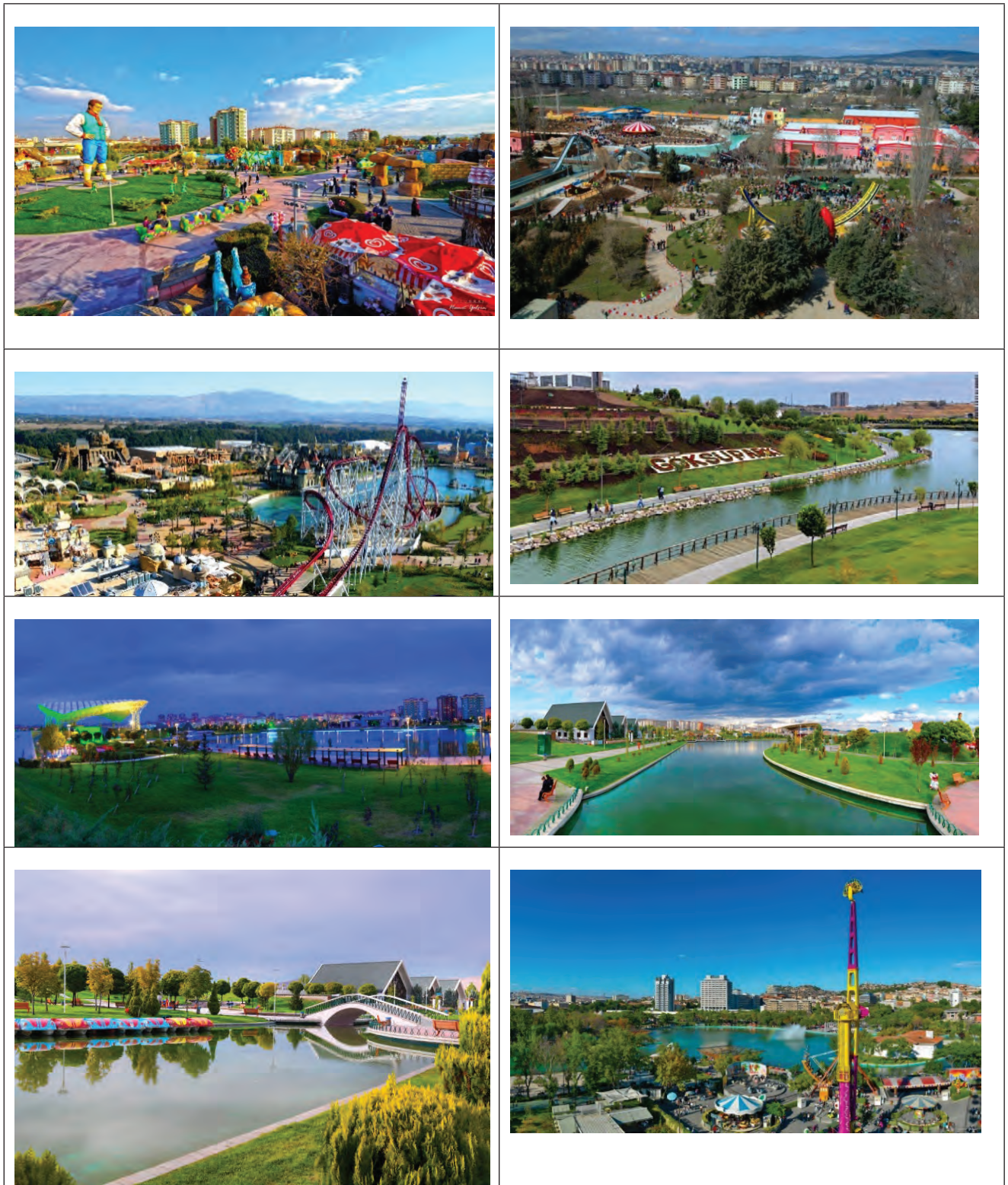


Figure 7. Photos of different functions and services in Wonderland Park in Ankara

*Detailed criteria*

The detailed process of choosing suitable functions is a meticulous one. It relies on the choice of sufficient areas, their locations that fit for the built and natural elements, with the aim of responding to needs of the visitors to ensure the followings:

- Attract the most possible number of visitors that contribute to the development of the social and cultural life.
- Promote the health and fitness levels of the population.
- Self raising funds through the investment of the service buildings which facilitate maintenance and development procedures.

*Design criteria of the circulation networks and plazas*

*Quantitative criteria*

The type of pathways and plazas could be defined according to their dimensions, importance and density of pedestrians, they are classified into three categories:

- 1-Main circulation network and plazas
- 2-Circulation network and linkage plazas
- 3-Secondary circulation network and plazas



Figure 8. Red Ribbon Park, Qinhuangdao, Hebei, China



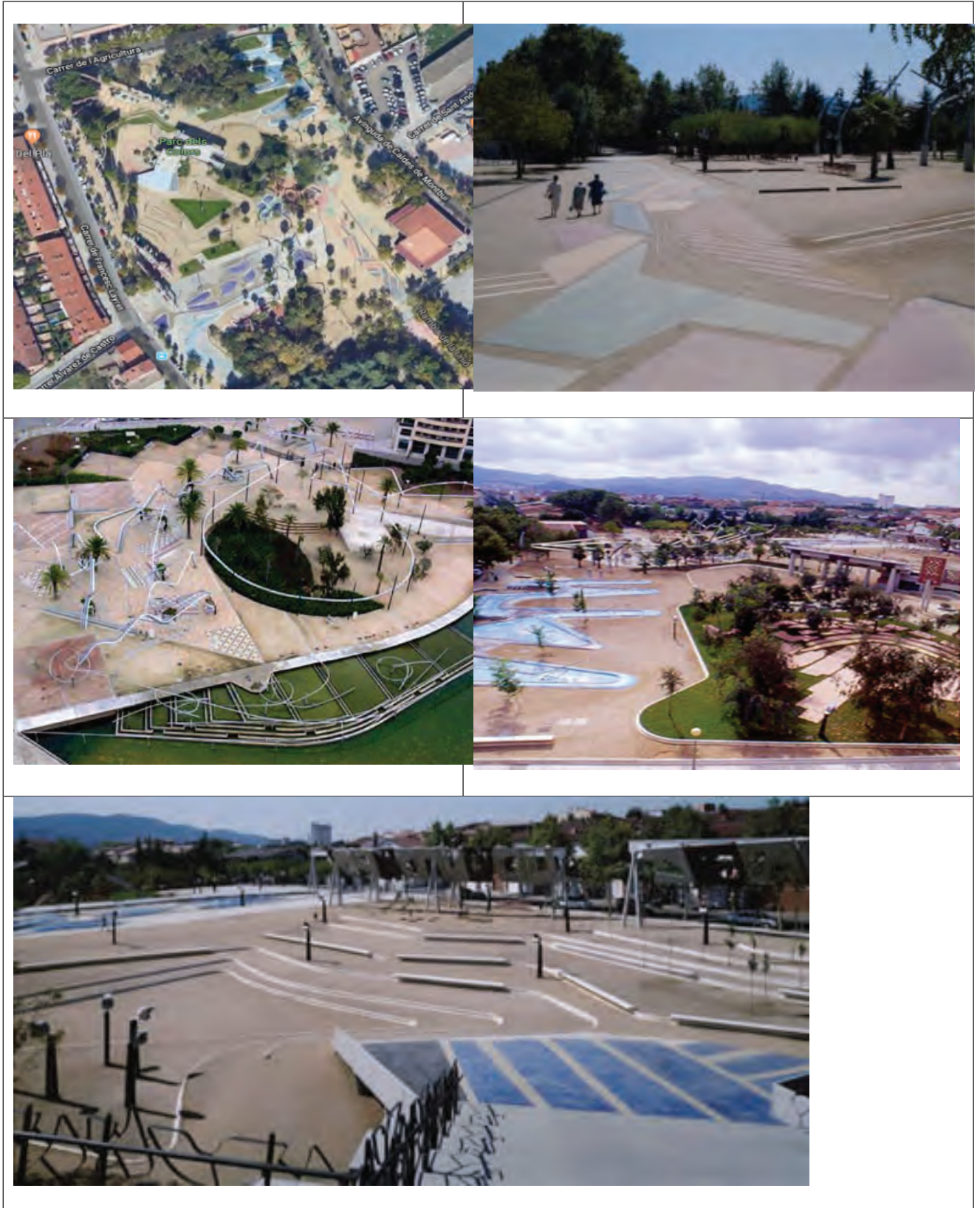


Figure 9. Parc dels Colors”, Mollet del Valles, Spain

### 3.3.2.2 *Qualitative criteria*

The circulation pathways and plazas could be identified according to the following factors:

1-*Sides*: The side of the circulation networks differ by their openness or enclosure: partial or complete, which could be defined by the type and the height of vegetation. The openness and enclosure could be defined also by the type of service they provide.

2-*Surface*: They could be covered with stone, cement or marble pavements or they could be asphalted or covered with grass.

3-*Equipment*: according to the circulation network and plazas inside the park the equipment can be classified into three groups:

-Natural elements: like basins, fountains, water flows or plants.

-Distinctive elements: for instance statues, sculptures, and even decorative flower or plant elements.

-Service elements: such as shading elements, seating benches, garbage bins, and lightings.

4-*Activity*: all the above-mentioned criteria can be defined depending on the expected activities that the users would do in the park.

#### *Design criteria of the vegetation in Public Parks*

Vegetation is a primordial element of public park design, almost half of the park area is reserved for various types of greenery. They have different criteria as for type and proportions, for the equality, and for the role of green areas.

#### *Quantitative criteria*

The proportions of the vegetation vary with the functions inside the park as well with the design criteria. However, they share in being divided into zones separated by circulation axis or paths and squares and plazas. Vegetation areas can be divided in accordance with their main function:

I-Containment areas and fencing

II-Promenade zones

#### *Qualitative criteria*

I-Classification according to the height

II-Classification according to the form and shape

III-Classification according to the structure and texture

IV-Classification according to the growth

V-Classification according to the seasonal change

VI-Classification according to the color and fragrance

VII-Classification according to the environmental requirements

#### *Design criteria of water bodies network*

Water bodies are considered as a vital element that gives to the park its character and special taste being part of the nature philosophy and symbol of life, strength and cleanness. The network of water bodies has different criteria along with their sources, forms and characteristics that follow their assigned role.

#### *Quantitative criteria*

The proportions of water bodies vary following the design and the functions of the park, they are directly related to the availability of the natural water sources within the site like lakes, rivers and the underground water. In addition, they can be divided into the following: (Lakes and ponds, Water streams, Waterfalls, Fountains, Pools and basins, Water fountains).

#### *Qualitative criteria*

The applicable criteria to trace the impact of the water body components is the nature of water movement, this include all the types that could exist in a park. Thus, the water component in parks can be still or moving, water bodies can be decorated, colored, or home for plants and fishes. The effects of their design vary according to their dimensions, their materials that define the degree of water reflection, their visual connectivity with the sight line and finally with the geometry of the surrounding park's components. The water flows in these elements either by gravity or by pressure. Under gravity there are the falling or free falling water, flowing or cascading water, whereas under pressure the water can be spouting that has various forms such as column, aerated mass, splash, spray, etc.

#### *Design criteria of the Park's urban furniture*

Urban furniture inside the park vary in type and quantity according to the park's area and functions. There is common standards of what a park should include but there are main furniture components that have to be present in all the parks.

### *Quantitative criteria*

The urban designer shall define the types of the urban furniture inside the park that reflect the idea and the concept of the design, as well as the functional role to accomplish, so, this phase should starts at an early stage of the design. The look to urban furniture has been changed from being complementary objects to elements that attract and contribute to provide a distinctive image to the park.

### *Qualitative criteria*

The urban furniture of each zone in the park is directly related to its function; so, from the one side, there is the specific urban furniture assigned to a certain zone e.g. the furniture in the social area is different than those of the sport or service areas, from the other side, there is the public urban furniture which could be found in the general areas of the park. The most important criteria to be taken into account are:

- Sufficiency: that respond to the number of the visitors.
- Comfort: while using the furniture by means of its form and dimensions.
- Simplicity and Aesthetic: in the shape and in details of the park's furniture.
- Durability: resistance to climate and possible vandalism of some users.
- Ease of maintenance: that can be achieved through the use of durable and sustainable materials.

## **6. Results and Recommendations:**

The scientific methodology of research was based on a systematic approach by concluding the theoretical foundation for the planning and design of public parks; and evaluating the criteria for their planning and design. As the process of organizing or developing public parks is an integrated process, it involves direct and indirect aspects that concern different levels: the urban planning level, the design level, the administrative level, and the scientific level.

*To ensure the success of the development procedures at the level of Urban Planning, the process for the development of existing public parks should be planned and designed according to the needs of their users, this requires:*

- Understanding the process of developing public parks

as a systematic and sequential process that begins with the development of parks and green areas in the city in general, and ends with the development of the design elements in the framework of the future vision according to the population numbers, densities, customs, and social needs.

- Safety and flexibility of the planning approach imposed by the legislative factors of the city.
- Acknowledgement of the location of the new park within the urban structure of the neighborhood to consider the “radius of impact”.
- Organization of comprehensive studies of residential densities and the population numbers and their habits, social lifestyle and their current and future needs.
- Making use of the natural data in determining the area of the new parks and taking into account the impact in the choice of location, character and function.
- The selection of the location for public parks, which will play a role in diversifying the character and function of the public parks to suit with the surroundings.
- Suggesting an increase in the public parks “number” and reducing the “radius of their influence” in accordance with the city’s urban structure, taking into consideration the impact of selecting new park “sites” and “areas” or increasing the “area” of existing parks to be converted into public parks.
- Taking all the possible sources of funding into consideration and looking for investment opportunities and less expensive sites.

*To ensure the success of the organization process at the level of Urban and Site Design, the process for the design of new public parks requires the:*

- Selection of detailed specifications for service buildings and urban furniture to suit with the nature and function of the park and with the actual needs of the social segments of the target groups taking into account the impact of both financial factors and neighborhood data.
- Design of the vegetation and water bodies’ networks in proportion with the natural factors as well as with the character and function of the park.
- Study of the circulation network of major and secondary pathways to suit with the natural data of the site and the conditions of the local climate.

- Benefit from all possible funding sources for development and of the investment opportunities, which may be provided by the coordination determinants that have been proposed for development.

At the Administrative Level, officials and Decision Makers should perform the followings:

- Advise the development of the planning principles related to the network of parks and green areas, according to the location, number, impact, and nature and function.
- Counseling with those who are required to set quantitative, qualitative and detailed criteria for all the determinants of the landscape and public parks elements. This shall be in accordance with their character and function and with their required role from one side, and with the natural, urban and social characteristics of the inhabitants from another side.
- The planning scheme for parks and green areas vary from one part to another in the city and from one neighborhood to another according to the natural characteristics, the population size, and to the urban and cultural background.

At the Scientific Level, the recommendations for city planners and landscape designers as they are the “Maestros”, who regulate the pace of organization and development of parks. Urban Planners and Landscape Designers should be careful about:

- Working within a planning approach to the city’s parks and green areas network that has sequential and clear steps; that are consistent and flexible in their quantitative, qualitative and detailed criteria.
- Providing a gradual and connected network of green areas and parks in the city, and considering it as an essential element of its sustainability and vitality to raise the life quality of the citizens.
- Coordinating with specialists from other fields and particularly from other public institutions to obtain all the required data and studies (natural, urban, legislative, social and financial) that affect the planning of public parks in the city.
- Proposing the development of the planning network of green areas and public parks in the city or suggesting the design development of some of them based on the latest technical methods of the assessment, collect and

the analysis of data.

- Setting the priorities and then develop logical strategies for the implementation of new public parks or the extension of the existing ones.
- Taking into account the planning principles and tailoring the plan and the design of public parks according to their users’ needs.
- To work within quantitative, qualitative and detailed criteria to determine the landscape design elements of the park, its character, function and ensure the homogeneity and proportionality with the required role.
- To consider the achievement of both function and beauty side by side in the design and the selection of the park’s components.
- Taking into account the principles of design and development of public parks according to the users profile and needs.

*For the City of Aleppo, the Local Authorities should:*

- Contribute effectively to the development of the detailed guidelines for the design of parks and green areas of Aleppo city. In addition, to set the quantitative, qualitative and detailed criteria in proportion to its area, population size and social background, local climate of the city, as well as to its natural characteristics and urban structure.
- To develop a future vision for the Green Zone Network in Aleppo and to search for practical measures to ensure the implementation of this vision. This has objective to increase the percentage of parks in the city and to achieve a fair distribution at different levels.
- To provide public parks at the level of the city of Aleppo with appropriate area, locations and effective radius, and with design parameters that are related to different interests and daily life of the city’s residents. Besides, to benefit from the natural data in the city of Aleppo in the selection of site “character and function”.
- To develop the planning foundations for public parks to include determining the number and radius of impact and diversification of character and function, and taking into consideration the population of the city of Aleppo, their habits, and their social needs in accordance with the city’s urban structure and its organizational plans.
- To diversify the character and function of the parks in Aleppo through the development of specific functions,

services and urban furniture tailored to the expected target groups of users.

- To seek potential sources of financing for parks' development and maintenance and taking into account the investment opportunities and financing opportunities.

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