

A Study on Newly Founded Nation Gardens in Turkey: A Landscape Architecture Evaluation of Design Principles

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Abstract-The construction of the newly designed large size garden projects, has become important topic, calling ‘Nation Garden’ in Turkey. As a part of the ‘Green City Visions’, Turkish Ministry of Environment and Urbanization has emerged in 81 provinces with a total size of 81 million m² Nation Gardens projected with various aims, sizes and designs principles. However, 61 of these projects have already been completed, and some of still under construction, at present time. Some opened and serviced Nation Gardens, which are located in provinces of Bursa, Istanbul, Konya, Mersin, Samsun, Sivas and Trabzon, were examined in terms of concept of Nation Garden. It has realized that Some Nation Gardens dominantly planted with lawn (Bursa and Baruthane-Istanbul), while some have combination with trees and shrubs (Samsun and Halkali-Istanbul). When surface coverings considered, the concrete hard and lawn soft properties are balance in most of these gardens. However, these Nation Gardens are planned as attraction centers that reflect the identity of the cities. Therefore, they have built with different social dynamics, demand on different green space setups with different qualities and identities. It has been understood that majority of Nation Gardens have been built on close to shores, forests and lakes, or previously existing areas that have relaunched with minor adjustments.

Keywords: Nation gardens, design principles, landscape architecture.

I. INTRODUCTION

The reflections of the changes in societies from the first eras to the present have also been seen in garden structures. However, many factors such as; life style, religious beliefs, environmental conditions, cultural habits, arts and political events have been directly influenced in the design of the gardens [1,2]. These observed changes in different periods enabled us to understand the cultural properties of that period. Therefore, the gardens, which have undergone changes from the past to the present, can also be considered as open-air museums that contain many historical traces and transformed information [2,3].

It has already well-established that it is very important to bring open and green areas together into cities with aesthetic, ecological, sustainable and recreational values. In this regard, it should be carefully plan open-green areas in order to allow the society to live in cities with higher quality of life [4,5]. However, these reserved areas should be constructed with its proper structural and plant elements. The recreational units and open-green areas could be suitable in cities’ geographical and environmental properties and could be positive impact on people feelings against stressful life style in big cities. Numerous literature reports clearly demonstrate that green open spaces in city centers are very helpful for people’s feelings and improvement positive effects on their productivity [5-11].

The term of garden is an important issue for Turkish heritage. There are many garden style and design projects have already been established in Turkish culture [12-14]. The nation garden term was first mentioned in the Tanzimat Period of Ottoman Empire, have become very popular today [14]. However, the concept of 'Nation Gardens' was mentioned in the 11'th national development plan of Turkey, covered in the period between 2019-2023, in articles 676 and 676.1 which was urbanization clause under the sub-title of 'Policy and Urbanization'. It was accepted by the Turkish Grand Nation Assembly on 18.07.2019 and published in the Official Gazette dated 23.07.2019 with numbered 30840 [12, 15]. In these regulations, the Nation Gardens have defined as; "large green areas that bring people together with nature, meet recreational needs, can also be used as meeting areas of the city in case of disaster. The site selection, area size, functions and design are determined according to Nation Gardens Guide, to be prepared, put into effect and practiced by the related ministry" [12, 15].

However, these Green City Vision or Nation Garden project's, include multi design and construction works, have been initiated in order to bring green areas to cities, to create livable environments, and to increase the existing life and environmental quality [9-12, 16]. One of the main aim of establishing these reserved areas are increasing amount of green space per capita from 10 m² to 15 m², which will contribute to increasing vision to cities. [12]. But it is very important to meticulously protect cultural heritage during the planning, and to create open green spaces where the uninterrupted continuation of the urban memory can be ensured. In these regards, the Nation Gardens guide was prepared by the Turkish Ministry of Environment and Urbanization with the coordination of General Directorate of Spatial Planning, within the scope of Article 4 of the planned areas zoning regulation, in 2020 [12, 17-20].

In this study, the concept of the Nation Garden was examined in terms of planning, design and implementation processes applied. However, the basic criteria have been comparatively discussed with aimed to reveal features and functions on already opened Nation gardens. After careful observations, identity and ecological evaluations, some suggestions and recommendations have been given with view of landscape architecture discipline.

II. MATERIAL AND METHODS

The material of this study is newly established, specially designed green open spaces, called Nation Gardens, in provinces of Bursa, Istanbul, Konya, Mersin, Samsun, Sivas and Trabzon. However, the focus of this research was examination of Nation Gardens design properties with evaluating some benefits of these reserved areas. The study was conducted November 2020 through July 2021.

These open-green spaces are carrying a new type of construction model, are usually located in cities. Hence, the concept of Nation Garden has become a popular topic at these days, in Turkey. However, the aim of this study is not to propose theories of how or why these gardens are constructed, but to evaluate which design specifications could be better for visitors to these gardens. Although some valuable fundamental information could be found, there have not comprehensive results was to study on this new type of Nation Garden projects. Hence, the visual and physical information's were undertaken from site visits and some aerial photographs, and detailed analyses were made under the landscape architecture design principles and criteria's. Moreover, some relevant literature information and documentation were also being utilized to evaluate in terms of garden culture in Turkish society.

The analysis of the study areas includes;

- Literature review were made in terms of concept of Nation Gardens,
- Examination of site selection criteria and basic design approaches were conducted,
- Ecological, recreational, and sustainable characteristics of constructed gardens were determined,
- The infrastructure of the concept of the Nation Gardens was revealed.

III. RESULTS AND DISCUSSIONS

3.1. Plant Design Practices in Nation Gardens

One of the important design elements that come to the Nation Garden is the plant design. However, for planting practices, a special care should be taken onto selected species which should be naturally adopted to region. If other species are desired to be used, the selection should be made by considering the ecological and geological conditions of the region to be used. It is important

to note that selected species that require less water and maintenance to be used will ensure the continuity and reduce the maintenance costs.

Figure 1 shows the general photographs of Nation Garden that have already established in Bursa (Fig. 1a) and Istanbul Baruthane (Fig. 1b). It is seen that these designed areas mainly contain grass. The species selected in lawn design should be suitable for the climate of the region and the irrigation system should be well organized. However, these are primarily used for improving greenery texture with establishing flat line properties. It is very useful to harmony with creating visual compositions from other plants rather than seasonal flowers. Because these plants (flowers) usually require continuous planting and maintenance, it should be limited by considering the maintenance costs. Therefore, perennials plants should also be used instead of annual plants (flowers).



Fig 1. Nation Gardens with grass area (Aa: Bursa, Bb: Baruthane-Istanbul).

Figure 2 shows some tree and shrub species in Nation Garden of Samsun (Figure 2a) and Nation Garden of Halkalı (Istanbul) (Figure 2b). When these gardens are carefully reviewed, these reserved areas look more natural with harmony of lawn and plantings. However, it is well-known that plants have also some special properties of climate-, light-, noise-, erosion-, traffic control with cleaning polluted air. But these could only be possible with using trees and shrubs. But when use the trees, it is important to consider the ratio of broad-leaved to coniferous plant species that could be paid attention and very important for seasonal transitions. It is important to note that special care should be taken which planting practices. The coniferous and broad leaf tree should be preferred together in order to create a harmony in that areas.



Fig. 2. Lawn and trees in the Nation Gardens (Aa: Samsun, Bb: Halkalı- Istanbul)

3.2. Structural Design Practices in Nation Gardens

The Nation Gardens are a symbol of national image and identity as well as areas that reflect the welfare, confidence and vitality of the nation. For this reason, these reserved area constructions should be handled within the scope of certain standards and principles. There are some legislation and regulations for construction of gardens (Coastal Law No. 3621, Forest Law No. 6381 and 2863 on the protection of cultural and natural assets, No. 6306) [12, 17-20].

In a general construction rule, before establishing constructional works, the surroundings of planned areas must be carefully examined by the zoning plan, taking into account the land characteristics with natural and cultural assets together. Figure 3 shows view of Nation Gardens of Mersin (Fig. 3a) and Sivas (Fig. 3b). It is seen that soil and surface coverings are not concrete dominant. It is very important for surface properties of these areas that the amount of hard ground to be covered by the structural landscape and architectural units does not exceed 10% which is not affecting the garden character [12, 17-20]. When Figure 3 carefully reviewed, the surface coverings are seen suitable and balanced between concrete/greenery ground characteristics. The hard surfaces (concrete) must be maintained regularly, and the floors should not be done that will threaten safety and health for visitors. Hard surfaces should be protected by prioritizing accessibility and in accordance with standards, and ramps suitable for disabled access should be created. In these regards, some natural and permeable materials have been used for pedestrian paths in these areas.



Fig. 3. General views from the Nation Gardens (Aa: Mersin, Bb: Sivas)

It is very useful to build some playgrounds with sufficient quantity and quality for children of all ages in the reserved areas (Nation Gardens). In playgrounds, equipment must be designed and regularly maintained to meet health and safety goals and provide play opportunities for children with disabilities. However, cycling has also benefited in terms of transportation as well as increasing environmental, social and public health.

Figure 4 show some examples of playgrounds and cycling roads, constructed in Nation Gardens of Konya (Fig. 4a), Umraniye-Istanbul (Fig. 4b), and Trabzon (Fig. 4c), respectively. The materials to be used in children's playgrounds should contain educational and instructive elements that do not restrict the movements of the child and develop their imagination. It looks these structures are well organized and build with more effective use in these reserved areas.



Fig. 4. Playgrounds and bicycle paths in the Nation Gardens (Aa: Konya, Bb: Ümraniye-Istanbul, Cc: Trabzon) (Aa: Konya, Bb: Ümraniye-Istanbul, Cc: Trabzon)

Urban furniture and recreational units to be used in the Nation Gardens should be in quality and quantity to meet all needs. These elements should be unique designs that can meet different needs and have aesthetic valued. These are also be vandal-resistant and in a design that ensures continuity in the garden. Some guiding elements should be positioned so that they are not obstructed by trees and other elements. In the field, water objects should also be included whenever there is enough area and water source available. Water structures should provide entertainment, aesthetic, visual, psychological and auditory functions. The size of the pools to be used may vary according to the location and regional characteristics of the place. For a suitable pool construction with proper maintenance and construction costs, it is important to avoid over 5% of the project area [1,2, 12, 21].

Figure 5 show some urban furniture and water objects examples of Nation Gardens established in Ümraniye-Istanbul (Fig. 5a), Nakkaştepe-Istanbul (Fig. 5b and f), Pendik-Istanbul (Fig. 5 c and g), Hoşdere-Istanbul (Fig. 5d), Başakşehir-Istanbul (Fig. 5e). The materials that used in open-green areas must be of a type that does not harm people and the environment in any way. However, urban furniture looks mostly constructed with natural materials (wood and stones) and very suitable in those construction practices (Fig. 5) [22]. These materials should be fired and vandal resistant, with low maintenance costs. Local and recycled material should also be important for providing sustainable design approaches.



Fig. 5. Nation Gardens with urban furniture and various size water object (a: Ümraniye-Istanbul, b and f: Nakkaştepe-Istanbul, c: Pendik-Istanbul, d: Hoşdere-Istanbul, g: Pendik-Istanbul, e: Başakşehir-Istanbul)

IV. CONCLUSION AND RECOMMENDATIONS

In the study, the structural and plantation application differences between the Nation Gardens were determined. It is very important to protect historical assets and structures that has already in there before constructional works established. Some important suggestions regarding the concept of Nation Gardens are summarized below.

- During site selections and construction practices, it must be taken into account the needs of the region and city population. Thus, the balance of social reinforcement in the city should be preserved.
- Since these projects have been included in the urban space setup, it should be systematically prepared from upper-scale plans to implementation plans. Hence, connection with urban green space systems should be established.
- Urban green space systems should not be ignored during site selections.
- The entrances and exits to the car parks to be designed in accordance with the Parking Lot Regulation, should not prevent pedestrian access and circulation. Hence, open or underground car parking units should be built as needed. Disabled parking lots should also be designed in accordance with the regulations.
- These type of big projects should be prepared holistically, that different professional disciplines work together to consider the whole of the city, and that the people of the region have a voice by including local participation.

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