Organizing healthy landscapes in densely populated urban areas

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Abstract: According to the World Health Organization, in recent years there has been an increase in problems in the physical, mental and social environment of urban residents. These problems are related to obstacles to a healthy lifestyle, lack of physical activity. We analyze the increased attention to this topic by urban planners, architects and other governing bodies due to the global pandemic. In this article, we consider the design of health landscapes for different segments of the population. In doing so, we will cover the equipment used in health landscapes, small architectural forms, types of therapy, the use of plants, how to organize areas, taking into account the age and capabilities of the population.

Keywords: health landscapes, big cities, ecology, natural environment, art, art therapy, phytotherapy, bonsai, small memory shapes, acupuncture, fitness

1 Introduction

After the global pandemic of Covid-19, the shortcomings in greening in many large cities, the lack of green areas, and the problems in the landscape architecture of large cities became evident[1]. In order to mitigate these issues and solve the problems that have arisen, many countries have developed measures for the correct and rational use of urban green spaces. Many presidential decrees and decisions of the Varizlar court were also adopted in the Republic of Uzbekistan. Including the Decree of the President of the Republic of Uzbekistan "On measures for the wide implementation of a healthy lifestyle and further development of mass sports", dated 30.10.2020 No. PF-6099 [2]. In the following decree, tasks are given to promote a healthy lifestyle among the population, popularize "Workout" (neighborhood and street fitness), and organize urban environments that ensure the health of the population. Based on this decree, health corridors were established in different regions of the republic, more than 50 kilometers of health landscapes were established in the city of Tashkent [3]. Currently, many studies are being conducted on the organization of health corridors and health landscapes.

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2 Materials and methods

The use of the natural environment has varied over the centuries, reflecting the beliefs and values of each culture. Historically, people have always used nature as a powerful source of healing and recovery [4]. Natural open spaces and natural elements such as forests, parks, trees and flowers provide opportunities to improve public health and well-being [5]. Currently, researchers and designers should take into account the greening of public spaces, ensuring human health, and the needs of different age groups in the proper organization of urban environments.

Since the mid-1980s, research has shown that parks and natural green spaces have beneficial effects on human health, well-being, and potential [6]. After discovering the connection between natural scenery and less pain medication use and faster recovery in surgical patients, theory and research explored the healing properties of the natural environment. Being in natural environments and gardens can positively stimulate emotional, cognitive and physical functions. In the existing literature, authors have used a number of terms to refer to the therapeutic segment of landscape architecture. Places are often referred to as healing gardens, healing landscapes, or therapeutic gardens. Often, these words and phrases are used interchangeably [7].

Today, therapeutic landscape design is an increasingly developing direction of landscape architecture. "A restorative garden is intended by its planners to evoke rhythms that invigorate the body, inform the soul, and ultimately enhance the regenerative powers inherent in a weakened body or mind" [7]. These gardens offer the physically and psychologically unwell and urban dwellers therapeutic and self-enhancing activities based on elements such as plants, earth and nature.

When designing a healing garden, landscape architects have two goals in mind:
- the first goal is the treatment process;
- the second is to design an external environment that supports this process.

Key design elements in a health-promoting garden help users spend time alone or socialize, walk more freely and enjoy the warmth of the sun or the shelter of the shade of plants. In these conditions, patients' physical and mental direct contact with the natural environment provides healing. Common and design factors exhibited in these landscapes were identified:
- scheduled events and programmed events and features;
- modified properties to improve plant comfort and horticultural techniques;
- clearly defined perimeters;
- the abundance of plants and people - the interaction of plants;
- essentially good and supportive conditions;
- a universal solution for full access to the dominant features, details and spaces of plants.

In the design and organization of health landscapes and health corridors, the continuity of road design is of great importance in covering different groups of people [8].

In a health landscape environment, the road plays an important role in connecting different functional areas. Therefore, three forms of routes are mainly used in the design process:
- the first is a road connecting different areas, which is considered the main tourist route on foot;
- the second is lakeside attractions;
and the third is the roads within each functional area, which are crossings equipped with barrier-free roads.

The unique design project solution of the route allows for rational separation of different areas based on functions.

When designing and organizing health landscapes, they should be divided into the following zones:

- art, artistic recreation treatment area;
- sports treatment area;
- phytotherapy area;
- area of health landscapes for children;
- water health area;

Art, Art Recreational Therapy Area. This area should be designed for holding art exhibitions, art evenings and meetings.

This area is mainly intended for the disabled. Accompanied travel should be considered for most disabled people, where one lane should be calculated for 2 people. Taking into account the fact that they cannot move over long distances, short recreation areas should be organized in areas not far from each other. Barrier-free ramps and handrails along the perimeter of the sheds facilitate access for the disabled.

This area is divided into two parts:

- awnings and umbrellas for relaxation;
- an exhibition of artwork samples will be placed inside the pavilion, which will help to achieve the goal of art therapy.

Various types of topiary (incorporated into artificial shapes) plants are placed around the porch, and an information board introducing types of art samples based on art therapy is installed next to each plant.

Unobstructed recreation areas should be organized for the blind. An unobstructed recreation area near the fountain is used for protection from the sun. Pavements for the blind should be organized with special tactile (embossed) markings [8].

Barrier-free designed areas are the most important part of the health landscape. Taking into account that the age and behavioral abilities of the participants differ greatly, the width of the road lane (width 900-1000 mm for 1 person) should be designed taking into account the wheelchair. The road width is 3 m with handrails (height 900 mm), ramps (height 750 mm, length 8000 mm, width 2000 mm), handrails (height 1000 mm) on both sides of the ramp, as well as in both directions at the same time. designed to facilitate movement in itself. It is organized using non-slip materials.

Sports treatment area

The territory should be organized for youth, middle-aged and elderly people.

This area is divided into three main parts:

- sports stations (workout), areas organized with sports equipment on open fields. These areas are placed in treatment facilities, sanatoriums, yards of small residential areas, taking into account users of different ages;
- lawns for young people to relax (for reading books, relaxing in the sun, various activities) organization of lawns in accordance with the clause "Crossings, sidewalks";
- aerobics and fitness areas for middle-aged and elderly people.

The aerobics and fitness area is divided into two parts:

- fitness station;
• aerobics area.

The fitness station is equipped with sports equipment that helps to improve health, mint and other plants with high phytoncide properties are planted in the area based on aromatherapy [8].

The aerobics area is a circular area that meets the needs of middle-aged and elderly people for sports, dancing, etc. Suitable for events with more than 20 people; semi-open spaces can organize activities for groups from 5 to 15 people, mainly for landscaping, sports, fitness, etc. Private spaces are usually less than 5 people, mostly meditation gardens, plant labyrinths, gardens connected by plants and sculptures. The recreation area around the area is organized with small memorial forms. The surroundings of the field should be arranged with flowers and grasses of different colors based on chromotherapy.
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**Picture:** green compositions

Phytotherapy area

It is organized mainly for the elderly. This area consists of 3 parts:

- mini garden;
- bonsai garden;
- avenue of plants.

A mini-garden is organized in a small area for a peaceful rest. In this garden, small memorial figures and plants are organized in the form of fences, separating small areas [9].
Visual therapy and aromatherapy are mainly used in bonsai gardens. The bonsai garden has flower stands for people of different heights. For the elderly in wheelchairs, the arm height of the wheelchair is 1575 mm, and two flower stands of 806 mm and 1100 mm are needed to meet the needs of people of different heights.

In the avenues of plants, plants should be selected based on visual therapy and aroma therapy. The avenues of plants served as a passage connecting two areas of the park. Small architectural forms should be used according to the area [10].

Area of health landscapes for children
The main goal of the area is to meet the various health needs of children. The area is functionally divided into 3 parts:
- children's creative park;
- lawn for children;
- children's play area.

Children's creative park Small areas for children's creativity will be organized in this area. Plants are placed without obstructing the view [8].

Lawns for children. Sports lawns should be used on children's lawns. These lawns should be accessible without barriers. Transport roads should be blocked with special protective barriers (from noise, gas) [8].

Children's play area. In this area, sandbox children's game inventory and small memory shapes adapted to children's ergonomic dimensions should be placed for recreation [10].

When designing children's play objects, based on the physical and psychological characteristics of children of different ages, extensive designs are made in terms of scale, color, image and material. Brightly colored patterns can be used to attract children's attention from cartoons or pictures of animals.

Water health area. This area is open to all users and is organized to meet the recreational needs of the city's residents. In this area, a water observation deck and rest areas, a quiet area, and paths adapted for walking and running should be organized. The surface of the training tracks should be made of water-absorbing non-slip materials and covered with bumps that touch the acupuncture points of the feet to achieve a healing effect.
When designing all types of health landscapes, it is necessary to plan the type of area, taking into account the vegetation of its terrain. There is a lot of demand for designing such landscapes in large cities with disturbed ecology. The reasons for this can be attributed to the growing needs of the population for green nature and the fact that the standards of greening of cities are not up to the level of demand.

3 Conclusion

It is worth noting that the standards of greening in urban environments are not up to the required level, the density of population in large cities and megalopolises, the excessive amount of equipment leads to the deterioration of the stability of the urban ecological environment and the deterioration of human health. In order to mitigate these issues, it is appropriate to design and organize health landscapes that have a high impact on human health in small areas, in the yards of houses, in kindergartens and similar areas.

References


2. Decree of the President of the Republic of Uzbekistan dated 30.10.2020 No. PF-6099. https://lex.uz/docs/-5077667

3. 3. "Health Corridors" with a length of 50 kilometers will be established in the capital https://aniq.uz/yangiliklar/poytaxtda-uzunligi-50-kilometrli-salomatlik-yulaklari-tas hkil-etiladi


