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THE IMPACT OF CLIMATIC AND ECOLOGICAL CONDITIONS ON THE DESIGN OF WATER RECREATION AND ENTERTAINMENT CENTRES

Ibragimov Najib Khasanovich.

Samarkand State Architecture and Construction University,

Samarkand, Uzbekistan. acting associate professor (Phd),

Pardayev Rasul Tulkinovich

Samarkand State Architecture and Construction University,

Samarkand, Uzbekistan. Lecturer.

Abstract: The article discusses the influence of climate and environmental conditions on the location and formation of water recreation and health facilities. Finding a suitable site is an important issue in the construction of such centres.

Key words: water park, ecology, population activities, physical condition of the population, climatic conditions of the territory.

Introduction and Relevance of the Study. Uncomfortable climatic and environmental conditions, primarily atmospheric pollution, lead to a sharp deterioration in the health of the population, especially children. The results of studies on medical rehabilitation of the population in ecologically uncomfortable areas and rehabilitation using physical culture indicate the need for new special facilities for rehabilitation and health improvement activities.

The creation of a network of water entertainment facilities (water parks) without taking into account the regional, climatic and environmental characteristics of Uzbekistan makes it impossible to implement rehabilitation and health-improving physical activity programmes for the population in practice [1].

Research Object. The paper considers the following types of buildings and structures, as well as the climatic zones of cities in Uzbekistan:
-hydrotherapy, mud therapy and water treatment and recreation complexes.
- climatic zones of cities in the Republic of Karakalpakstan, Nukus, Khorezm Region, Chimay, Urgench, Khiva, Samarkand, etc.
Research methodology - is determined by the purpose and objectives of the study and includes the study of domestic and foreign literature, design and regulatory materials, field surveys of more than 10 water entertainment facilities in Tashkent, Samarkand, Navoi, etc., as well as the use of comparative analysis.

The methodology also includes recommendations on physiological and hygienic requirements for outdoor recreational activities for children, adolescents and middle-aged people in various climatic zones of Uzbekistan.

The main part of the study. For the first and second zones, which include the Republic of Karakalpakstan and the Khorezm region, the natural and climatic conditions in summer and winter are the most severe, especially due to the dried-up Aral Sea. These areas have experienced the most challenging environmental situations. For these zones, the installation of windbreaks is recommended for the centers themselves and their health zones, including swimming pool complexes, recreation areas, and recreational water features. No adjustments to the composition or number of structures are required. Only for some areas of the second zone is the installation of windbreaks for recreational areas and playgrounds for preschool and primary school children recommended [2] .

For the third zone of regions, which are constantly exposed to polluting chemicals at levels of 1.5–3 MAC, which is the most common environmental condition in most cities in Uzbekistan, a set of measures is recommended to reduce the negative impact of pollutants on the body and to rehabilitate the physical condition of the population.

In this zone, it is necessary to ensure the possibility of an annual stay of the population (especially children and adolescents) for 2-3 months in an ecologically clean environment. Naturally, it is necessary to increase the area of water- recreation facilities in the regions to which regular removal of children and adolescents is planned. When deciding on the distance of removal of children, the prevailing wind direction is taken into account. For example, for Chimbay, the "risk" zone for sulfur dioxide is an area with a radius of 270 км, and for nitrogen oxide - 170 км. Taking into account the wind direction and its strength, it may be recommended to remove children at a distance 370 кмequal to at least for a year-round removal schedule, or approximately at a distance 300 кмin the westerly, northwesterly, northern, and northeasterly directions for the summer removal of children [3].

This approach, which determines the minimum transportation distance, avoids the difficulties of transporting children to the southern regions of the country, which entails difficulties in acclimatizing them and high costs due to long journeys. Consideration should be given to increasing the size of swimming pools, especially for aqua aerobics, gymnastics, active games, etc., in regions with elevated levels of radiation contamination, as the benefits of recreational activities in aquatic environments for residents of areas exposed to radiation have been experimentally proven. Pools for such activities should be 1.1 m deep 1,2 м, with provision for a drain to a depth of 70 m 80 см. The pool bottom should be horizontal.

For regions with high levels of relative low air humidity and In areas with high levels of pollutants, it is necessary to install canopies over children's playgrounds. This is due to the fact that high relative humidity (70 percent or more) leads to the appearance of specific aerosol particles that are hazardous to human health, primarily due to the presence of sulfuric acid [4]. In areas that are particularly dangerous for living due to constant air pollution with the most harmful chemicals , structures with an artificial, ecologically clean environment inside for rehabilitation water and health activities are recommended. Currently, such structures would be especially necessary in Nukus, Chimbay, Takhitash, Urgench, Khiva, and elsewhere.

During the study of water entertainment complexes, the main problems affecting the favorable stay and safety of visitors were identified.

Research Conclusions:

1. As data collection on the development of water parks in our country has shown, this is a new

area that requires special attention in terms of design and operation. Unfortunately, however, the regulations in this area are not yet sufficiently developed.

2. In hot regions, throughout most of the year, due to the uncomfortable effect of the external environment on the human body, there is an increased need for swimming to cool the body and for water treatments to remove sweat and dirt from the skin surface and for cleansing. In cold regions, procedures were required to neutralise the negative effects of prolonged hypothermia on the human body, promoting short-term intense heating of the body in specially equipped rooms.

3. The intensity and nature of the use of such therapeutic and health-improving measures were determined depending on the natural and climatic conditions, since the human body's need for health and hygiene measures varied depending on the climatic conditions.

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