



MODERN GAZEBO DESIGN FOR RECREATIONAL AND PUBLIC LEISURE AREAS

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Abstract: This article analyzes the use of ecological and energy-efficient solutions in the design of modern public spaces, using the “Sunny Oasis” pavilion as a case study. The research examines a biomorphic design approach, the creation of a user-friendly environment, and the possibilities of utilizing renewable energy sources. It is substantiated that the integration of solar panels into the pavilion design enhances energy efficiency, while ensuring a harmonious combination of aesthetic and functional solutions.

Keywords: modern design, pavilion, gazebo, solar panels, ecological design, energy efficiency, biomorphic forms, public space, landscape design, green environment

In the Republic of Uzbekistan, large-scale reforms are also being implemented in this direction. In particular, within the framework of the nationwide project “Green Space” initiated by Shavkat Mirziyoyev, special attention is being paid to greening territories, improving the ecological environment, and enhancing the quality of life of the population. At the same time, the Head of State has consistently emphasized the importance of effective use of renewable energy sources, identifying the development of solar and wind energy as a priority task.

The conceptual project under consideration is a “Sunny Oasis” type pavilion integrated into a modern park area, representing a multifunctional space that combines recreation, social activity, and ecological technologies. The architectural form of the structure is developed based on a biomorphic approach, inspired by organic structures found in nature, particularly the geometry of tree branches and flower petals. As a result, the constructed form is not only aesthetically appealing but also structurally efficient, allowing optimal load distribution and maintaining a balance between open and enclosed spaces.

One of the key features of the project is its focus on energy efficiency. Solar panels integrated into the roof and structural elements generate electricity, which can be used

for lighting systems, mobile device charging stations, and other low-energy-demand functions. This solution contributes to reducing environmental impact, lowering carbon emissions, and increasing the share of green energy in urban infrastructure.

This recreational structure serves not only as a technological object but also as a social hub. Circular seating arrangements and an open-plan layout encourage communication and create a comfortable environment for users of different age groups.



Figure 1. Modern gazebo design for recreational and leisure areas.

In addition, the project includes solutions aimed at improving the microclimate. The semi-open structure ensures natural ventilation, while filtering sunlight helps maintain a comfortable temperature inside. The selection of materials prioritizes environmentally friendly and durable components, enhancing the overall sustainability of the structure.

Overall, this project can be considered an example of an innovative public space designed for modern cities. It integrates ecological, social, and technological factors into a unified system, demonstrating the potential direction of future architecture. Such an approach contributes not only to the development of urban infrastructure but also to restoring the balance between humans and nature.

Conclusion

In conclusion, ecological sustainability, energy efficiency, and the creation of a comfortable environment for people are among the main priorities in designing modern public spaces. The study demonstrated that, through the integration of a biomorphic design approach, functional planning, and modern technologies, it is possible to create an effective design solution, as exemplified by the “Sunny Oasis” pavilion.

The project justifies the possibility of achieving energy efficiency through the use of solar panels, as well as partially transforming the structure into an independent



energy source. Furthermore, the harmony between open and semi-open spaces contributes to the creation of a comfortable, aesthetically pleasing, and socially active environment for users.

The research results indicate that such public spaces, developed based on modern design approaches, are important not only as recreational areas but also as elements that promote ecological awareness and improve the urban environment. This project may have practical significance in the future development of energy-efficient and environmentally friendly public spaces.

References

1. Shavkat Mirziyoyev. Strategy of New Uzbekistan. – Tashkent: Uzbekistan Publishing House, 2021.
2. Decrees and resolutions of the President of the Republic of Uzbekistan on the implementation of the nationwide project “Green Space”. – Tashkent, 2021–2024.
3. International Energy Agency (IEA). Renewables 2023: Analysis and Forecast to 2028. – Paris, 2023.
4. United Nations Environment Programme (UNEP). Green Infrastructure Guide for Urban Development. – 2022.
5. Zaha Hadid. Zaha Hadid Complete Works. – Thames & Hudson, 2009.
6. Ken Yeang. EcoDesign: A Manual for Ecological Design. – Wiley, 2006.
7. Francis D.K. Ching. Architecture: Form, Space, and Order. – Wiley, 2014.
8. Contemporary scientific articles on Architecture and Sustainable Architecture (based on ScienceDirect and Google Scholar).
9. Modern textbooks and scientific articles on urban planning and landscape design. – Tashkent, 2020–2024.

