



УДК 712

COMPARATIVE STUDY OF THREE TYPES OF MOUNTAIN PARK

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This article introduces the design of three urban mountain parks: Toronto Corktown Park, Aobao Hilltop Park in Inner Mongolia, and Bangkok Urban Forest Park. These parks play a crucial role in enhancing the quality of life for urban residents, promoting ecological balance, and supporting sustainable urban development. Corktown Park focuses on ecological restoration and water resource protection while preventing flooding. Aobao Hilltop Park showcases the history of desertification control and offers recreational facilities. Bangkok Urban Forest Park improves the ecosystem and creates a sustainable landscape. These case studies serve as references for park management, regional tourism development, and ecological conservation.

Key words: *designing, mountain park, quality of life, ecological balance, historical inheritance*

INTRODUCTION

Mountain parks serve as crucial green public spaces in urban areas, playing a significant role in enhancing residents' quality of life, promoting ecological balance, and supporting sustainable urban development. This article examines case studies of mountain parks in Toronto, Inner Mongolia, and Bangkok, alongside relevant literature, to analyze their design context and key advantages. By providing empirical research support and guidance, this study aims to facilitate the planning and design of mountain parks, fostering more sustainable and innovative urban development.

PURPOSE

It can help deepen the understanding of their differences and characteristics, providing references and insights for enhancing the management level of mountain parks, promoting regional tourism development, and ecological conservation.

RESULTS AND DISCUSSION

Toronto Corktown Park. The park is located on brownfield land that has undergone significant industrial degradation and requires cleaning and restoration. The low-lying riverbanks face the threat of erosion from flooding, posing a flood risk to the urban area after the brownfield is reclaimed. The eastern side of the park features a flood protection slope, 4 meters high and 750 meters long. The western side is designed as a recreational park for residents.



Advantages:

Ecological Restoration: As shown in Figure 1, the park establishes a diverse ecosystem that provides conditions for people to walk through meadows and wetlands. It also provides green space for migratory birds in the city, which is otherwise dominated by hard landscapes.

Water Resource Protection: The park design incorporates terrain slopes that allow rainwater and park water to flow into wetlands. After undergoing biological treatment, the water enters a reservoir for future irrigation. The practice of introducing graywater into wetlands prevents eutrophication and algal blooms in the water during summer. In Corktown Park, the dual nature of water is evident. On one hand, the park prevents flooding from entering, but on the other hand, water becomes an essential element in this attractive and vibrant place [1].



Fig. 1. Corktown Park, Toronto

Aobao Hilltop Park. Overgrazing, deforestation, expansion of farms, population pressure, strong winds, and drought have transformed Inner Mongolia's once fertile grasslands into sandy lands. The park is located on the site where a temporary office building once stood, providing monitoring, organizing, and resting facilities for thousands of workers involved in desertification control efforts. The park features a concentric layout, with three semi-open viewing pavilions and one fully open viewing platform. The three viewing pavilions are positioned in different directions, representing three historically significant desertification control areas on the Mongolian Plateau.

Advantages:

Historical Narrative: As shown in Figure 2, the design team collaborated with historians and local authorities to create a series of digitally arranged scenes that tell the stories of significant events during the desertification control process. The landscape design incorporates locally excavated rocks, soil, discarded mechanical parts, and native plants, which are reused in the construction of landscape structures and roads. Following the construction methods of local houses, structures are built using gravel, rammed earth, and natural stones, with local plants such as seabuckthorn, feather grass, and dogwood planted around and inside them.



Multiple Uses: In addition to providing suitable venues for contemporary activities and specific traditional cultural events, such as Mongolian song and dance, the park can also be used for potential exhibitions, memorials, and educational activities.[2]



Fig. 2. Aobao Hilltop Park, Inner Mongolia

Bangkok Urban Forest Park. The park is located on an illegally dumped landfill site that formed from past dredging activities.

Advantages:

Ecosystem Improvement: Landscape architects, forest ecologists, and construction teams collaborated to design and construct terraces with porosity that maintains air content in the soil. The distribution and combination of vegetation communities were determined based on the rate of vegetation succession and the availability of irrigation water sources.



Fig. 3. Bangkok Urban Forest Park, Bangkok

Creation of a Sustainable Landscape: As shown in Figure 3, forest environment is closely related to canopy density, and different light, humidity, and canopy closure create different microclimate conditions that promote the growth and



reproduction of other species in the region. The design team combines water features with undulating landforms to lower the ambient temperature, increase humidity, and control the height of the canopy, thus maintaining a stable landscape environment and ecosystem.[3]

CONCLUSIONS

In conclusion, the comparative study of Toronto Corktown Park, Aobao Hilltop Park, and Bangkok Urban Forest Park highlights their significant role in enhancing the quality of life, promoting ecological balance, and supporting sustainable urban development. These parks showcase innovative designs and approaches tailored to their specific challenges. Toronto Corktown Park focuses on ecological restoration and water resource protection, Aobao Hilltop Park incorporates historical narrative and multiple uses, while Bangkok Urban Forest Park improves the ecosystem and establishes a sustainable landscape. These case studies provide valuable insights for the management and planning of mountain parks, serving as references for regional tourism development and ecological conservation. By implementing these approaches, future mountain parks can contribute to the well-being and sustainable development of urban areas.

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ПОРІВНЯЛЬНЕ ДОСЛІДЖЕННЯ ТРЬОХ ТИПІВ ГІРСЬКИХ ПАРКІВ

У роботі представлено дизайн трьох міських гірських парків: Торонто Корктаун Парк, Аобао Хіллтоп Парк у Внутрішній Монголії та Бангкок Міський лісопарк. Ці парки відіграють вирішальну роль у підвищенні якості життя міських жителів, сприянні екологічній рівновазі та підтримці сталого міського розвитку. Corktown Park зосереджується на екологічному відновленні та захисті водних ресурсів, одночасно запобігаючи повеням. Парк Аобао на пагорбі демонструє історію боротьби з опустелюванням і пропонує можливості для відпочинку. Бангкокський міський лісовий парк покращує екосистему та створює стійкий ландшафт. Ці тематичні дослідження служать довідковими матеріалами для управління парками, розвитку регіонального туризму та збереження навколишнього середовища.

Ключові слова: проектування, гірський парк, якість життя, екологічна рівновага, історична спадщина