

Architectural Analysis of The Ayaz Kala Monument and its Role in Tourism

Yuldashev Sherzad Baxramovich
Karakalpak State University named after Berdakh
Email: yuldashevsherzad25@gmail.com

Abstract: This article analyzes the architectural formation, defensive system, structural solutions, and the role of the Ayaz Kala complex in modern tourism infrastructure located in the Ellikkala district of the Republic of Karakalpakstan. During the research, the planning structure of the fortress, its construction materials, defensive elements, and harmony with the surrounding landscape were studied. In addition, the architectural features of the ethno-tourism and archaeological tourism infrastructure formed in the Ayaz Kala area were analyzed, and opportunities for the development of sustainable tourism were considered. According to the research results, Ayaz Kala is not only a historical and cultural heritage site, but also an important model for the formation of sustainable tourism architecture in desert regions.

Keywords: Ayaz Kala, Ellikkala, Archaeological Tourism, Ethno-Tourism, Sustainable Architecture, Defensive Structures, Tourism Infrastructure, Khorezm Architecture

1. Introduction

In recent years, the preservation of cultural heritage sites, their restoration, and integration into the tourism system have become one of the priority directions of state policy in Uzbekistan. In particular, the ancient fortresses located in the Republic of Karakalpakstan are considered important resources for the development of historical and cultural tourism. From this point of view, the Ayaz Kala complex has special scientific significance as a unique example of the defensive architecture of the ancient Khorezm civilization [1].

Ayaz Kala is located in the Ellikkala district and is considered an ancient fortress dating back to the 4th–3rd centuries BCE (Figure 1). The complex consists of Ayaz Kala I, Ayaz Kala II, and Ayaz Kala III, each formed during different historical periods. The fortress system demonstrates the high level of ancient Khorezm architecture through its defensive construction, planning scheme, and harmony with the natural landscape [2].

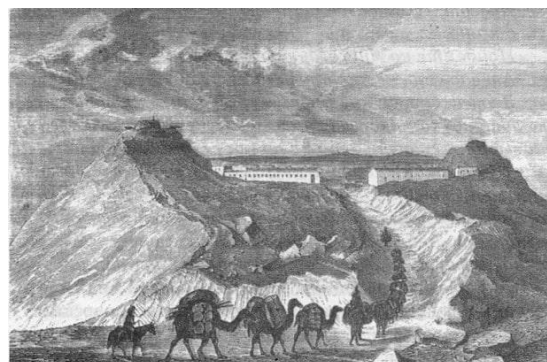


Figure 1. Ayaz Kala of the IV–III centuries BCE

Today, ethno-tourism and archaeological tourism infrastructure has been developed in the Ayaz Kala area, including yurt camps, ethno-villages, hotels, and service facilities. This increases not

only the scientific and cultural significance of the historical monument, but also its economic importance (Figure 2) [3].

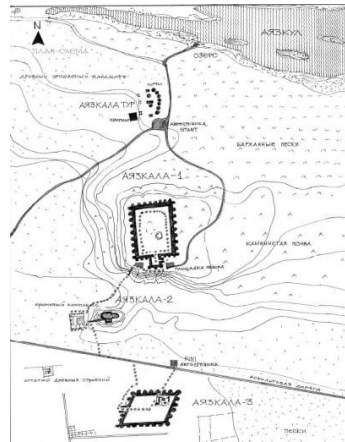


Figure 2. Master Plan of Ayaz Kala (IV–III centuries BCE)

The purpose of this study is to scientifically analyze the architectural features of the Ayaz Kala complex and its integration with modern tourism infrastructure [4].

2. Methodology

During the research, historical-comparative, architectural-analytical, and observational methods were used. The planning schemes, structural elements, and defensive system of the Ayaz Kala complex were studied based on archaeological sources. In addition, the modern tourism infrastructure of the area, including yurt camps, ethno-villages, and service facilities, was functionally analyzed.

The geometric structure of the fortress walls, towers, gateways, and internal corridors was examined based on scientific literature, and their suitability to climatic and defensive conditions was evaluated. Furthermore, the harmony of the tourism infrastructure with the natural landscape and the degree to which it reflects national architectural traditions were observed.

3. Result

According to the research results, the Ayaz Kala complex was identified as one of the most perfect examples of ancient Khorezm defensive architecture. Ayaz Kala I was built in a rectangular shape, and its walls were constructed from thick mud bricks and pakhsa materials. A closed defensive corridor was organized between the walls, intended for the movement of archers. The system of semi-oval towers served to increase defensive efficiency [5].

Ayaz Kala II was built on a natural hill and has a complex geometric form. This fortress included a ramped entrance system, walls decorated with semi-columns, and an embrasure system. This demonstrates that the fortress possessed not only military, but also architectural and aesthetic significance.

Ayaz Kala III was formed as an administrative center during the VII–VIII centuries and is distinguished by its complex defensive system. Traces of gypsum plaster and decorative elements have been preserved on the walls [6].

Architectural analysis showed that local natural material — pakhsa — was widely used in the construction of the fortress. Due to its heat-retaining properties, pakhsa was well adapted to the harsh continental climate of the Aral Sea region. This indicates that ancient architects applied ecological and sustainable construction principles (Figure 3) [7].

The modern tourism infrastructure in the area has been developed in harmony with the historical

landscape. Yurt camps, ethno-villages, restaurants, and hotel facilities have been placed without damaging the visual environment of the historical monument. In particular, yurt-shaped tourist modules reflect the traditional lifestyle culture of the Karakalpak people and contribute to the development of the ethno-tourism concept [5].

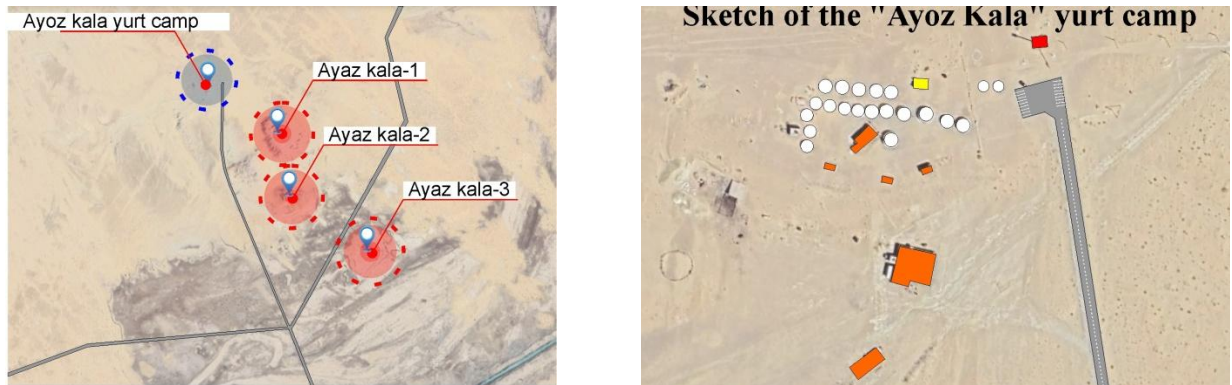


Figure 3. Current Tourism Potential of Ayaz Kala

In the functional zoning of the tourism area, the historical core has been preserved as the central dominant element, while service facilities have been placed in peripheral zones. This is considered an important architectural solution for preserving the historical environment and regulating tourist flows [8].

4. Discussion

The architectural structure of the Ayaz Kala complex demonstrates the highly developed nature of ancient Khorezm architecture. The construction of the fortress on natural elevations increased defensive efficiency, while the inclined design of the walls ensured structural stability [9-11].

A harmony between functionality and aesthetics can be observed in the planning of the fortress. The rhythm of the towers, wall proportions, and the composition of the gateways created an overall architectural integrity. This indicates that the ancient Khorezm architects possessed not only engineering skills but also artistic thinking [12].

Modern tourism infrastructure is developing in integration with the historical environment. The yurt camps and ethno-villages in the area create an authentic atmosphere for tourists while preserving national identity. At the same time, there is a need to design new tourist facilities in the region based on ecological sustainability principles [13][14].

Using Ayaz Kala as an example, it was determined that integrating historical monuments into the tourism system contributes not only to the preservation of cultural heritage but also to the economic development of the region. Therefore, it is considered appropriate to establish recreational zones, scientific-tourism centers, and interactive museum complexes in the area in the future [15].

5. Conclusion

In conclusion, the Ayaz Kala complex is a unique example of ancient Khorezm defensive architecture. Its structural solutions, defensive system, and harmony with the natural landscape demonstrate the high level of ancient architectural development.

The research results showed that the Ayaz Kala area has great potential for the development of modern archaeological and ethno-tourism. The tourism infrastructure formed in the region has been organized in harmony with the historical environment and corresponds to the principles of sustainable tourism.

In the future, through the scientific restoration of the Ayaz Kala complex, the introduction of digital

tourism technologies, and the development of ecological tourism infrastructure, there are opportunities to transform it into an international tourism center.

References

- [1] S. P. Tolstov, *Po drevnim deltam Oksa*, Moscow: Academy of Sciences of the USSR Publishing House, 1948, 327 p.
- [2] V. N. Yagodin, *Kreposti drevnego Khorezma*, Nukus: Karakalpakstan, 1985, 214 p.
- [3] G. A. Pugachenkova, *Arkhitektura Tsentralnoi Azii*, Tashkent: Fan, 1976, 312 p.
- [4] V. N. Yagodin and K. Turabekov, *Arkhitektura i gorodishcha Khorezma*, Nukus: Karakalpakgosizdat, 1975.
- [5] Sh. B. Yuldashev, “Arxitektura drevnikh gorodov Karakalpakstana i ikh rol v turisticheckoy infrastrukture,” *Ekonomika i Sotsium*, no. 9(136), pp. 423–426, 2025.
- [6] UNESCO, *Cultural Heritage of Ancient Khorezm Region*, Paris: UNESCO Publishing, 2022.
- [7] A. B. Askarov, *Ancient Civilization of Central Asia*, Tashkent: Fan, 2010.
- [8] E. Rtveladze, *Ancient Fortresses of Uzbekistan*, Tashkent: Uzbekistan National Encyclopedia, 2001.
- [9] M. Masson, *Archaeological Studies of Khorezm*, Tashkent: Fan, 1953.
- [10] B. J. Abdullaev, “Tourism potential of archaeological monuments in Karakalpakstan,” *Journal of Central Asian Studies*, vol. 8, no. 2, pp. 55–62, 2023.
- [11] R. H. Suleymanov, *History of Khorezm Architecture*, Tashkent: University Press, 2015.
- [12] A. Mukhamedjanov, “Fortified settlements of ancient Khorezm,” *Archaeology of Eurasia*, no. 4, pp. 77–84, 2021.
- [13] A. Karimov, “Tourism development based on cultural heritage sites in Uzbekistan,” *Tourism and Development Review*, vol. 5, no. 1, pp. 12–19, 2024.
- [14] K. Shadmanov, *Historical Monuments of Karakalpakstan*, Nukus: Karakalpak State Publishing, 2018.
- [15] World Tourism Organization (UNWTO), *Cultural Heritage Tourism Report*, Madrid: UNWTO, 2023.