

RESEARCH ARTICLE

Khorezm Oasis Bronze Age Culture: Paleoecological Conditions and Migratory Connections

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VOLUME: Vol.06 Issue03 2026

PAGE: 58-60

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Abstract

This article examines the Bronze Age culture of the Khorezm Oasis and its cultural interactions with southern and northern neighbors, as well as the region's paleoecological conditions and migratory processes. The study analyzes Bronze Age sites, ceramic and metal artifacts, animal figurines, anthropological data, and river systems to assess their impact on the cultural and economic development of the region. The article also provides information on the settlement patterns of sedentary and semi-nomadic communities, their agricultural and pastoral activities, and their adaptation to water resources and climatic conditions.

KEYWORDS

Bronze Age, Khorezm Oasis, paleoecology, early culture, ceramic artifacts, animal figurines, anthropology, migration, agriculture, water resources.

INTRODUCTION

The Bronze Age marked a significant stage in the cultural and economic development of the Khorezm Oasis and its surrounding areas. During this period, the local population practiced a mixed sedentary and semi-nomadic lifestyle, engaging in agriculture and animal husbandry. The geographical location of the region, its water resources, and climatic conditions shaped ancient migration routes, cultural contacts, and distinctive cultural traits.

LITERATURE REVIEW

Paleoecological and archaeological studies provide insights into the living conditions and cultural connections of Bronze Age populations in the Khorezm Oasis. Ismailov [1] analyzed ceramic horse figurines and their cultural connections with southern regions. Itina [2] studied ceramics and animal bones at the Kavat 3 site, highlighting ethno-cultural relations with southern neighbors. Trofimova [3] and Vinogradov [4] conducted anthropological research to determine population

types and migration patterns. Kuzmina [10] examined materials from the Zamonbobo cemetery, demonstrating links between Bronze Age culture and northern hunting-fishing societies with southern farming communities. Masson [7] and Berdiyev [8] highlighted the influence of water resources on sedentary settlement patterns.

METHODOLOGY

The study is based on Bronze Age sites, ceramic artifacts, animal figurines, anthropological materials, and data on river flows and water bodies. Archaeological excavations, paleoecological analyses, and anthropological observations were used to investigate settlement patterns, migratory links, and cultural contacts in the region.

DISCUSSION

At the Qavat 3 site, a ceramic horse figurine was discovered. Among numerous animal figurines found in Bronze Age

agricultural settlements of southern Central Asia, no direct analog of this figurine has been identified [1, 46–48]. A similar clay horse figurine with broken legs was found at the 2-Mysovskaya site in southern Trans-Ural. Inhabitants of Qavat 3 may have had prior knowledge of horses, as horse bones were found in the cultural layer [2, 103–106]. Evidence from Qavat 3 suggests cultural interactions were primarily with northern regions. The migration route likely moved from north to south, with southern cultural elements, including farming practices, eventually influencing the oasis.

Anthropological studies at Kokcha 3 cemetery indicate that Bronze Age populations of southern Central Asia exhibited predominance of Andronovo-type traits, rather than Mediterranean-type features [3, 3–79; 4; 5]. This helps explain external cultural connections and migration patterns in Khorezm during the Neolithic and Bronze Ages.

Excavations in 1957 revealed Neolithic sites where ceramic artifacts were analyzed, showing cultural interactions with southern farming and pastoral communities [6, 63–81]. Masson [7] noted that ancient tribes living in the foothills of the Kopet Dag and along the Murghab River adapted to seasonal water bodies, constructing dwellings on sand dunes and practicing traditional crafts using the paxsa guvala technique.

Berdiyev [8] reported that grains such as two-rowed barley (*Hordeum disticum*), soft wheat (*Triticum vulgare*), and compact wheat (*Triticum compactum*) were found at Chag'illi-Depe, dating to the late Jeytun period, matching crops of southern Turkmenistan farmers during the Eneolithic and Bronze Ages.

Excavations at Zamonbobo cemetery by Y. G'ulomov revealed materials reflecting southern connections [9, 118–170]. Kuzmina [10, 33] interpreted this as evidence of interaction between northern hunting-fishing cultures and early southern farming communities.

Paleoecological studies indicate that in the late Bronze Age, fishing did not become a major economic activity due to early religious beliefs [11, 54]. Itina supports this, noting that fish were considered totems and initially restricted for consumption. Tokarev later observed that occasionally fish were consumed in ritual contexts [11].

Bronze Age migrations along Central Asian rivers opened new settlement routes. According to Matyakubov [12, 192–193], routes from Khorezm to the Uzboy channel and the eastern

Caspian coast led to southwestern Turkmenistan. Another route passed through southern Khorezm, including present-day Khazarasp, Sadvar, Darg'onota, following the left bank of the Amu Darya, reaching Lower Murgab (Margiana) and western and southern Bactria.

Sagdullayev and Togaev [13, 91] describe mid-2nd millennium BCE migrations of agricultural and pastoral communities as a new phase of economic and cultural interaction, expanding settlement areas. Sarianidi [14, 20–29] notes southward movement of Andronovo steppe tribes from the Ural and Central Kazakhstan steppes. As a result, a distinct Bronze Age sedentary agricultural culture emerged in southern Uzbekistan, leading by the end of the 2nd millennium BCE to Yaz I culture in Margiana and Bactria, combining innovation (hand-decorated ceramics, bronze items) with local cultural traditions (mud-brick houses, potter's wheel).

Changes in Amu Darya's delta (Orolbo'yi) affected settlement patterns. During the 2nd–1st millennium BCE, main channels – Sariqamish and Aqcha rivers – silted, altering water flow and creating new channels, which influenced Bronze Age site locations [15, 199–200; 16; 17, 22].

Rtveladze [18, 11–12] reports that late Bronze Age Khorezm settlements were centered along major irrigation canals, with semi-subterranean houses, central hearths, and storage pits. Bronze tools (sickles, arrowheads, needles) and molds for casting arrowheads were widely used. Advanced irrigation networks indicate social and economic development. Steppe Bronze Age nomads gradually influenced populations in India, Afghanistan, Iran, and Central Asia, while desert dwellers contributed to Scythian-Saka ethnocultural communities [19, 21].

RESULTS

Based on the analyzed issues, the following results can be highlighted:

- At the Qavat 3 site, a ceramic horse figurine was discovered, showing similarities with the southern Trans-Ural region.
- Anthropological studies indicate that the Bronze Age population of Khorezm predominantly exhibited Andronovo-type components, reflecting migratory patterns and cultural contacts.
- The Zamonbobo and Kavav 3 sites demonstrate cultural interactions with southern neighbors, including elements of agriculture and pastoralism.

- The Amu Darya and Sariqamish deltas determined the availability of water resources and influenced agricultural activities in the region.
- Sedentary and nomadic communities adapted to the ecological conditions, establishing settlements and economic activities near water bodies.
- Bronze tools and advanced irrigation networks indicate the socio-economic development of the population.

CONCLUSION

In the Khorezm Oasis, Bronze Age culture developed in close interaction with paleoecological conditions and water resources. Cultural contacts with northern and southern neighbors persisted, while migration patterns shaped settlement structures, agriculture, and pastoral activities. This research enhances understanding of the cultural and economic development of the region and clarifies Bronze Age cultural connections and migration processes.

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