

университети, Россияның Оренбург мәмлекетлик аграр университети, Белгород мәмлекетлик аграр университети, Қазақстан миллий аграр университети, БМШның дүнья жүзлик азық-ауқат хәм аўыл хожалығы шөлкеми (ФАО), Әзербайжан мәмлекетлик аграр университетлери менен биргеликте жумыслар алып барылмақта. Филиалда Европа шөлкеминиң ERASMUS+, билимлендириў тараўында халықаралық бирге ислесиўди раўажландырыў дәстүринин 586000-EPP-1-2017-PT-EPPKA2-SBHE-JP BUZNET: «Өзбекстанда ветеринария тараўын системалы оқытыў» жойбары орынланбақта. Профессор-оқытыўшылармыздан 5 Италияның Пиза университетинде, 2 оқытыўшы, бир магистр Германияда, бир оқытыўшы Португалияда тәжрибе алмасып келди [6].

Филиалда билим, илим хәм ислеп шығарыўдың нәтийжели интеграциясын тәмийинлеў мақсетинде «AVC» аўыл хожалығында азық шынжыры жойбары

қәнигелери тәрәпинен «Мийўе, палыз өнимлерин жетистириў агротехникасында, инновациялық технологияларды еңгизиў» бойынша семинар-тренинги (Мастер-класс) өткерилип, елимизге жоқары маманлықтағы кадрларды таярлап берийде келеси жыллары, усы жылдан басланған ислеримиз даўам етип, үлкен табыслар қолға киритиў ушын жәмәәтимиз билимин хәм ис тәжрийбелерин жумсайды.

Жуўмақ. Улыўма айтқанда аўыл хожалығы тараўындағы билимлендириўди және де заманагөйлестириў, жаңа технологиялар хәм илимий, билимлендириў процесине киргизиў, аўыл аймақларында оқыў хәм әмелият орайларын шөлкемлестириў, Ташкент мәмлекетлик аграр университети Нөкис филиалы билим, илим хәм өндиристе ислеп шығарыўдың интеграциясын тәмийинлеўде инновациялық технологияларды еңгизиў бойынша нәтийжели жумыслар алып барды.

Әдебиятлар

1. Каримов И.А. Ўзбекистондаги ривожланиш асосий жамоавий, сиёсий ва иктисодий тамойил. ЎЗР Олий Мажлиси 1-сессияси, 1995 йил 24.02. / “Шарқ ҳақиқати”. 25.02 1995 .
2. Ўзбекистон Республикасининг 2020 йил 23-сентябрьдаги «Таълим тўғрисида»ги ЎРҚ-637-сонли Қонуни.
3. Қарақалпақстан Республикасы Министирлер Кеңесиниң қарары (Архив) Фонд №500 опес1 Ед.хр №1314.
4. Буриев Х.Ч. Основные направления реформирования высшего аграрного образования в Узбекистане. // Доклады VIII Академических чтений «Образование и наука проблемы и перспективы развития». – Москва, 2002. С. 16-17.

5. Хамидов Х.Х. Қишлоқ ва сув хўжалигида сифатни таъминлаш ва кадрларни тайёрлаш. “Олий аграр таълимин сифати” тажриба, муаммолари ва қарорлари. – Т.: КСХВ, 2006.

6. Ташкент давлат аграр университети мустақиллик ийлларида. – Т.: ТошДАУ, 2001.

РЕЗЮМЕ. Ушбу мақолада Ўзбекистон Республикаси ва Қарақалпоғистон Республикаси аграр олий таълим соҳасида эришилган ютуқлар ва қишлоқ хўжалигини олий таълим муассасаларини янгидан қайта ташкил этиш бўйича бир нечта йўналишлар кўрсатиб ўтилди.

РЕЗЮМЕ. В данной статье приведены достижения в сфере аграрного высшего образования Республики Узбекистан и Республики Каракалпакстан, а также рассмотрены несколько направлений по реорганизации высших образовательных учреждений в области сельского хозяйства.

SUMMARY. This article outlines the achievements in the field of agricultural higher education in the Republic of Uzbekistan and the Republic of Karakalpakstan, as well as several directions for the reorganization of higher educational institutions in the agricultural sector.

GENERAL AND SPECIFIC FEATURES OF THE GEOGRAPHICAL LOCATION OF THE OKCHADARYA BASIN AND THE LOWER ZARAFSHAN VALLEY

I.I.Usmanova – junior doctoral researcher

Urgench pedagogical institute

Tayanch soʻzlar: Shoʻrohon, Sulton Uvays, Qizilqum va Orol, Oqchadaryo hududi, A.V.Vinogradov, Jonbos, Jonbos, 5, 11,12,14, Qavat-7, Maʼmur -1, 3, 4, 3 B, 4, Kunek-1,3, Dingilji-6, Qurgʻoshin G, D, Tadjiqazgan-2, 3, 6, 6 a, 10.

Ключевые слова: Шорохан, Султан Увайс, Кызылкум и Арал, Окчадарьинский район, Виноградов А.В., Джонбос, Джонбос, 5, 11, 12, 14, Этаж-7, Администратор-1, 3, 4, 3 Б, 4, Кунок-1,3, Дингильджи-6, Кургошин Г, Д, Таджиказган-2, 3, 6, 6 а, 10.

Key words: Shorokhan, Sultan Uvays, Kyzylkum and Aral, Akchadarya region, A.V. Vinogradov, Jonbos, Jonbos, 5, 11,12,14, Floor-7, Ma'mur -1, 3, 4, 3 B, 4, Kunek-1,3, Dingilji-6, Kurgoshin G, D, Tadjhiqazgan-2, 3, 6, 6 a, 10.

The article discusses the geological development of the Okchadarya and the lower reaches of the Zarafshan River, ancient climatic conditions, and human settlement processes based on archaeological findings. Special attention is given to the significance of historical sites identified through paleohydrological and archaeological research. The cultural uniqueness of the region is revealed through extensive archaeological studies conducted in the Southern Okchadarya region and the Lower Zarafshan Valley.

The study analyzes the geographical features of the Okchadarya Basin and the Lower Zarafshan Valley, shaped

by both natural and anthropogenic factors. The economic, ecological, and historical importance of these regions is evaluated, with a focus on their advantages and disadvantages. The conclusion highlights key aspects of geological processes, migration, ethnic formation, and the utilization of natural resources.

Introduction. The Eurasian continent consists of several natural-geographical regions that have historically formed due to the repeated occurrence of unique geological processes, each with distinct geographical locations, natural features, and climatic conditions. One of these regions is Uzbekistan, which is centrally located within the Turan

Lowland. Despite its geographical unity, Uzbekistan's surface is diverse, consisting of both mountainous and flat terrains. Its geographical environment, natural conditions, climate, anthropogenic landscape, and uneven population distribution create significant variations.

One of the prominent natural-economic regions is the eastern part of the Khorezm oasis (Shorakhan village), which is geographically connected to the so-called Lower Zarafshan Valley, a term documented in various publications. The formation and development of this geographical expanse are the results of geological processes that occurred during the Tertiary and Quaternary periods (the Tertiary period dates back 50-60 million years ago, while the Quaternary period, which saw the emergence of human labor, began around 3-3.5 million years ago).

Literature review and methodology. Based on the results of paleohydrographic, paleogeographic, and archaeological studies, the final conclusions indicate that the Amu Darya–Okchadarya tributary, as well as the lower part of the Zarafshan River, including the Daryosoy, Echkiliksoy, Oyoqagitma, Makhondaryo, and Khojayli tributaries, have deposited silt enriched with mineral substances. This has resulted in a humid and fertile lowland.

Ancient populations settled in these areas, utilizing the available natural resources to sustain their livelihoods and continue their economic activities in subsequent historical periods. Research publications suggest that during the Neogene and Eopleistocene stages of the Quaternary period, the region was a flat plain. By the end of the Mindel–Würm glaciation, the lower basins of the Okchadarya and Zarafshan rivers reflected the landscape changes caused by Pleistocene glaciation.

Historical records indicate that 4-3 million years ago, the area between the Kyzylkum Desert and the Aral Sea was a flat plain. The surface of this lowland consisted of undulating sand dunes and barchans of the Kyzylkum Desert, with depressions that accumulated rain and snowmelt, forming water basins and shaping its paleogeographic features. The general geographical landscape of this lowland was influenced by the Kyzylkum Desert, differentiating two distinct geographic regions.

For instance, the Shorakhan–Sulton Uvays mountain range was separated by the Okchadarya tributary due to the floods of the Amu Darya River, forming water basins in the depressions of the Kyzylkum Desert. According to historical sources, the southern Okchadarya region (which includes the territories of Turtkul, Beruni, and Ellikqala districts in the Republic of Karakalpakstan) was suitable for 160,000 hectares of agricultural land. Its geographical location formed a triangular shape, with the Sulton Uvays mountain range in the north and the red-yellow sand dunes of the Kyzylkum Desert in the east.

The hydrological conditions of this basin were shaped by the construction of the Kaltaminor irrigation canal, which was diverted from the Amu Darya during the late 6th century BCE. Along its banks, ancient settlements such as Bozorqala and Dingilja were established. By the 4th–3rd centuries BCE, the Tozabog'yob and Amirobod main canals were developed, with smaller branches extending

from their central and terminal points. Fortresses built along these canals reflect the paleogeographic and ethnogeographic characteristics of the region. Today, the ruins of these structures remain preserved as open-air archaeological museums, attracting both international and domestic tourists.

The southern Okchadarya basin is linked to the lower Zarafshan River basin, which possesses distinct paleogeographic features. According to geographical literature, the Lower Zarafshan Valley underwent geological processes during the Neogene and Quaternary periods. The paleogeography of the Bukhara–Karakul, Gazli, and Sanduqli natural-geographical regions reflects significant diversity.

The hydrological structure of the lower Zarafshan River basin is shaped by the Makhondaryo, Khojayli, Echkiliksoy, and Ayakagitma riverbeds. Unlike the Okchadarya basin, the Lower Zarafshan Valley lacks mountains that would prevent the accumulation of water in the Kyzylkum depressions, making the formation of water basins more feasible. However, the paleogeographic conditions of the Okchadarya basin are limited due to the eastern extension (25 km) of the Sulton Uvays mountain range.

Results. Based on the above considerations, the positive and negative aspects of the location of these two regions can be explained as follows:

Positive aspects:

The fact that the main lowland of our homeland is located in the Turan Plain makes it convenient for human settlement and economic activities.

The stability of natural resource reserves.

The population living in the region has no restrictions on migration policies towards neighboring areas, considering historical necessities.

Being located at the center of the Great International Caravan Route, the residents of the Middle and Lower Zarafshan and Surkhan valleys played a key role in introducing their economic achievements to the European population, thereby fostering economic and ethno-cultural relations.

Negative aspects:

Situated between the Kyzylkum and Karakum deserts.

The spread of wavy and mobile sand dunes over fertile lands suitable for cultivation, causing food supply issues.

Limited access to seas and oceans, restricting maritime trade opportunities.

Despite these negative characteristics, extensive archaeological research in the southern Okchadarya basin and the Lower Zarafshan Valley has confirmed the presence of cultural traces of ancient human settlements in these regions.

Discussion. Under the leadership of S.P. Tolstov, the Khorezm expedition began extensive archaeological research in the southern basin in the 1950s. Later, under the leadership of Ya.G. Ghulamov, the Makhondaryo group researchers carried out large-scale excavations in the lower reaches of the Zarafshan River. However, it is difficult to find historical information about Stone Age settlements in these publications.

From the mid-1970s, members of the Khorezm Archaeological and Ethnographic Expedition discovered artifacts related to the daily activities of hunter-gatherers in the final stage of the Stone Age in the cultural layer of the open-type Burli-3 settlement, located at the foot of the Sultan Uvays Mountains on the left bank of the Amu Darya. These findings indicate the presence of ethnic interactions.

Thus, during the Würm glaciation period of the Pleistocene, the population of the Burli-3 settlement on the left bank of the Sultan Uvays Mountains increased. As a result, they expanded to the right bank, where geographical conditions, climate, and natural resources met their daily needs.

According to the works of S.P. Tolstov and A.V. Vinogradov, in the 6th–5th millennia BCE, the rising water level of the Amu Darya in the southern Okchadarya region caused floods that shaped the sandy landscape of the Kyzylkum Desert. These waters formed interconnected or isolated basins along the high banks. The Jonbos-4 settlement (26x17 m), built artificially using wooden posts, leaves, shells, reeds, and clay, provides valuable information for studying paleohydrology, paleogeography, paleoethnography, and ethnodemography.

A.V. Vinogradov, a researcher on the Neolithic history of the Khorezm oasis, recorded details about the Jonbos-4 settlement and its surrounding areas, including Tuyamuyin. He noted circular and rectangular semi-underground dwellings. His research also covered settlements from the Paleolithic, Mesolithic, and Neolithic periods between the Amu Darya and Syr Darya. For example, in the eastern Ayakagitma basin, sites such as Qizilqura-1 and Bashagitma 1, 2, 4, 6, 15, 31, and 38 have been identified as belonging to the Stone Age. However, there is limited data on Mesolithic sites in the Lower Zarafshan region.

Nevertheless, some Neolithic settlements, such as Uchashi-131 (4th–3rd millennium BCE) along the Daryosoy tributary, and Darvozaqir I and II, have been recorded.

In his monograph, researcher N.U. Kholmatov analyzed the paleogeography and paleo-climate of the lower Zarafshan basin, along with archaeological evidence from the Mesolithic and Neolithic periods (e.g., Chorbakti II, 23, 27, 41, Uchashi-31, Darvozaqir 1 and 2, Chorbakti 13, 14, 15A, 15B, 16, 18, 20, 21, etc.).

M.A. Itina studied the geographical and ethnic aspects of settlements such as Qo'shbuloq, Karri-Qizil, and Sultan Sanjar, which formed due to Amu Darya flooding in the Tuyamuyin region and the Karakum dunes.

According to archaeological literature, Neolithic tribal communities adapted to the natural environment, constructing fortresses and semi-underground dwellings. However, there is no consensus on the exact geographic and cultural origins of the settlers in the Okchadarya basin and the Lower Zarafshan valley.

Data suggest that Jebel hunters from the eastern Caspian Sea region may have influenced the activities of the Yonbosh-4 tribal community in southern Okchadarya. A.V.

Vinogradov noted that ethnic processes accelerated in this area during the Neolithic period. However, he did not specify which cultural-economic groups settled in southern Okchadarya.

It is likely that the inhabitants of Sultan Uvays Mountain's left bank settled in the Khorezm oasis due to stable natural resources and a favorable ecological balance, thereby contributing to the region's ethnic and geographical landscape.

Although there is extensive geographic information on Neolithic settlements and tribal communities in the lower reaches of the Zarafshan River and the Bukhara-Qorakul region, their specific cultural origins remain unclear. According to N.U. Kholmatov, the Uchashi-131 settlement, dated to the late 7th–mid-5th millennium BCE, played a role in early ethnic processes.

However, researchers have not explored whether the Uchashi-131 inhabitants were native or migrants who settled in the lower Zarafshan valley due to stable water sources. Based on available data, it can be assumed that hunter-gatherers from the Samarkand settlement in the late Stone Age moved towards the banks of the Daryosoy tributary. Due to population growth, they likely expanded towards the Maxondarya tributary floodplain and Tuzkon surroundings, adapting to new environmental conditions and influencing the regional landscape.

Researcher Ye. Bijanov studied Stone Age settlements in northwestern Uzbekistan, including Ustyurt, where Acheulean-era (1.5 million years ago) sites such as Yesen 2, 3, Qoraquduq, and Churuk have been discovered. These settlements show that people utilized natural resources and engaged in ethnic-cultural interactions during the Middle and Late Stone Age, Mesolithic, and Neolithic periods.

Similarly, in the Tashkent Valley and Central Fergana, Neolithic populations continued their daily activities, shaping the geographical landscape. The Syr Darya divided the region into left and right banks, with the right bank encompassing the Tashkent Valley, an area suitable for agriculture.

According to archaeological records, during the Acheulean stage of the Pleistocene glaciation, one of the earliest ethnic settlements, Kulbuloq Spring, was established near the Chotqol mountain range in the Angren region. This site became a migration hub for neighboring communities.

Conclusion. Geological processes have shaped Uzbekistan's geography, consisting of mountainous and lowland regions. One of these lowland areas, the Okchadarya basin, is geologically connected to the Lower Zarafshan valley. These regions are distinguished by their unique natural environments and ecological conditions. The Okchadarya River, branching from the right bank of the Amu Darya near Sho'raxon village, has played a crucial role in shaping the geographical landscape of the Bukhara-Qorakul oasis.

By analyzing the Stone Age and Neolithic geographic characteristics of the Zarafshan River, this study highlights the general and unique aspects of these periods.

References

1. Kabirov J., Sagdullaev A. Geography of Central Asia. – Tashkent: «O‘qituvchi», 1990. -P.14.
2. Vinogradov A.V., Itina M.A., Kes A.S., Mamedov E. Paleogeographic Conditions of Early Human Settlement in Central Asian Deserts // Early Humans, Their Material Culture, and Natural Environment in the Pleistocene and Holocene – Moscow: «Nauka», 1974, - PP. 290-291.
3. Andrianov B.V. Ancient Irrigation Systems of the Aral Region. – Moscow: VP, «Nauka», 1969, -P.98.
4. Andrianov B.V. Ancient Irrigation – P. 64.
5. Baratov P. Natural Geography of Uzbekistan – Tashkent: 1996, - P.170-180.
6. Tolstov S.P. Works of the Khorezm Archaeological and Ethnographic Expedition (1949-1953) // TrKHAE – Moscow: «Nauka», 1958, Vol. II, - P. 66-67.
7. Vinogradova E.A. First Paleolithic Discoveries in Sultan Uvaysdag. // Ancient and Medieval Aral Region – Moscow: IVL, RAN, «Nauka», 1998, - P. 74-77.
8. Matyakubov H.H. The History of the Khorezm Oasis in the Bronze and Early Iron Ages. – Tashkent: Alisher Navoi National Library of Uzbekistan, 2017, -P. 14.
9. History of Khorezm Civilization. – Nukus: «Karakalpakstan», 2017, - P. 42.

REZYUME. Ushbu maqolada Oqchadaryo havzasi va Quyi Zarafshon vodiysining geografik joylashuvi, tabiiy sharoiti va tarixiy-geologik jarayonlari o‘rganiladi. Tadqiqotda Turon pasttekisligidagi paleogeografik shakllanish, iqlim o‘zgarishlari va antropogen ta’sirlar tahlil qilinadi.

РЕЗЮМЕ. В данной статье рассматриваются географическое положение, природные условия и историко-геологические процессы бассейна Окчадарьи и долины Нижнего Зарафшана. В исследовании анализируются палеогеографическое формирование, изменения климата и антропогенные воздействия на территории Туранской низменности.

SUMMARY. This article examines the geographical location, natural conditions, and historical-geological processes of the Okchadarya Basin and the Lower Zarafshan Valley. The study analyzes the paleogeographic formation, climate changes, and anthropogenic impacts within the Turan Lowland.