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A.K. Beisegulova*, M.K. Egyzbaeva

Al-Farabi Kazakh National University, Almaty, Kazakhstan
*e-mail: beysegulovaak@gmai.com

FISHING INDUSTRY OF THE KAZAKHS OF THE TARBAGATAI REGION

The article examines the types of economy of the Kazakhs of the Tarbagatai district, analyzes the fishing industry of the villages located near Lake Zaysan. It presents the species of fish living in Lake Zaysan, its flora and fauna, the fishing profession of local Kazakhs, as well as their fishing gear and methods. The purpose of the article to analyze the development of the fishing industry of the Tarbagatai Kazakhs in the second half of the 19th century and the beginning of the 20th century, its seasonal features and similarities with fishing in other regions. The article employs historical comparative methods, ethnographic observation, and discursive analysis of specialized literature and sources related to the topic. As a result, the activities of fishing complexes located on the shores of Lake Zaysan, their production indicators, as well as the formation of the first professional Kazakh fishermen are presented. The historical foundations of the fishing industry of the Tarbagatai Kazakhs and its place within the traditional economic system are identified. In addition, the tools and methods necessary for traditional fishing are compared. The relationship between fishermen and farmers. It was studied whether farmers are engaged in fishing in winter depending on the season. In conclusion, it should be noted that fishing occupies a significant place in the traditional economic system of the Tarbagatai Kazakhs. This marked the beginning of the development of fishing on Lake Zaysan and the Irtysh River. It has been established that the basis of the traditions of the fishing complexes that developed on the Zaysan River in the second half of the 19th century was fishing.

Key words: Tarbagatai Kazakhs, fishing, Lake Zaysan, Tugyl village, fishermen, types of management, fishing industry.

А.Қ. Бейсегулова*, М.Қ. Егізбаева

Әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан
*e-mail: beysegulovaak@gmai.com

Тарбағатай өңірі қазақтарының балық аулау кәсібі

Мақалада Тарбағатай өңірі қазақтарының шаруашылық түрлеріне тоқтала келіп, Зайсан көлі маңында орналасқан ауылдардың балық шаруашылығы кәсібі талданады. Мұнда Зайсан көлінде тіршілік ететін балық түрлері, оның флора-фаунасы және жергілікті қазақтардың балық аулаумен кәсібі, олардың балық ұстау құралдары мен әдістері берілген. Тарбағатай қазақтарының балық шаруашылығының дамуы, оның мезгілдік ерекшеліктері мен басқа өңірдегі балық аулау кәсібімен ұқсастығын, талдау. Нәтижесінде, Зайсан көлі жағасында орналасқан балық аулау комбинаттарының қызметтері, олардың өндірістік көрсеткіштері және қазақтардың алғашқы кәсіби балықшылардың қалыптасуы беріледі. Тарбағатай қазақтарының балық аулау кәсібінің тарихи негіздері мен қазіргі жағдайы талданып, олардың дәстүрлі шаруашылық жүйесіндегі орны анықталады. Сонымен қатар, дәстүрлі балық шаруашылығына қажетті құралдар мен әдістері салыстырылады. Балықшылар мен егіншілер арасындағы байланыс. Жыл мезгіліне қарай егіншілердің қыста балық аулаумен айналысатыны зерделенді. Тарбағатай қазақтарының дәстүрлі шаруашылық жүйесінде балық аулау кәсібі айтарлықтай орын алды. Бұл Зайсан көлі, Ертіс өзені бойындағы балық шаруашылығының дамуына негіз болды. XIX ғасырдың екінші жартысында Зайсан бойында қалыптасқан балық шаруашылығы комбинаттары дәстүрі балық аулау кәсібінің негізінде қалыптасқаны анықталды.

Түйін сөздер: Тарбағатай қазақтары, балық шаруашылығы, Зайсан көлі, Тұғыл ауылы, балықшылар, шаруашылық түрлері, балық өнеркәсібі.

А.К. Бейсегулова*, М.К. Егизбаева
Казахский национальный университет имени аль-Фараби, Алматы, Казахстан
*e-mail: beysegulovaak@gmai.com

Рыболовный промысл казахов Тарбагатая

В статье рассматриваются виды хозяйствования казахов Тарбагатайского региона, анализируется рыболовный промысел жителей аулов расположенных вблизи озера Зайсан. Описываются виды рыб, обитающих в озере Зайсан, его флора и фауна, рыболовный промысел местных казахов, а также методы и снасти для ловли рыб. Цель статьи: проанализировать развитие рыболовства у тарбагатайских казахов, его сезонные особенности и сходство с рыболовством других регионов. По результатам исследования представлена деятельность рыболовецких комбинатов, расположенных на берегах озера Зайсан, их производственные показатели, а также формирование первых профессиональных казахских рыболовов. Анализируются исторические предпосылки и современное состояние рыболовного промысла тарбагатайских казахов, определяется его место в традиционной экономической системе. Рассмотрены результаты сравнительный анализ снастьев и методы, необходимые для традиционного рыболовства. Взаимоотношения рыбаков и фермеров. Проведен анализ, зимней ловли рыб, зимой в зависимости от сезона фермерами. В заключение следует отметить, что рыболовство занимает важное место в традиционной экономической системе тарбагатайских казахов. Это положило начало развитию рыболовства на озере Зайсан и реке Иртыш. Установлено, что предпосылками для возникновения рыболовецких комбинатов на реке Зайсан во второй половине XIX века является традиционный рыболовный промысел.

Ключевые слова: тарбагатайские казахи, рыболовное хозяйство, озеро Зайсан, село Тугул, рыболов, виды хозяйствования, рыболовная промышленность.

Introduction

It is historically known that cattle breeding has played a significant role in the economic system of the Kazakhs in the Tarbagatai region. This demonstrates the establishment and development of the traditional form of cattle breeding. Along with cattle breeding, the development of hunting and agriculture, fishing has also been an integral part of economic activities. The fishing industry in the Tarbagatai region developed along the banks of the Irtysh River and Lake Zaysan, where it became an established and evolving practice. Historical sources describe the flora and fauna of Lake Zaysan, highlighting its abundant fish resources. This indicates that the local Kazakhs have long used fishing as a supplementary livelihood. The spread of the fishing industry in the Tarbagatai region suggests that it developed alongside cattle breeding. Furthermore, by the early 20th century, fishing had become a fully developed and professionalized trade, as evidenced by the establishment of fishery enterprises in the villages of Tugyl and Topolev-Mys. The traditional fishing practices of Lake Zaysan were based on common methods similar to those used in other regions of Kazakhstan. These included the effective use of fishing tools such as nets, zhylym (a traditional fish trap), rods (inekarmak (name of a small fishing rod) or zhutpakarmak (a group of rods of different sizes designed to be swallowed by a fish along with the bait), and various types of fishing traps.

Materials and methods

The development of the economic system of the Kazakhs of the Tarbagatai region laid the foundation for the development of a variety of occupations. One of these was the fishing industry, which developed around Lake Zaysan and evolved into large fishing enterprises by the late 19th and early 20th centuries. Notably, the fishing and processing enterprises that emerged in the villages of Tugyl and Topolev-Mys illustrate the advancement of the local fishing industry. From a methodological perspective, the villages around Lake Zaysan serve as a valuable research subject for studying the involvement of Kazakhs in fisheries. The research is based on significant material sources, including historical records dating back to 1837 that document the volume and types of fish caught in Lake Zaysan, illustrating that fishing was utilized as a supplementary economic activity in the region. For example, the works of G. Potanin, such as “Winter Trip to Lake Zaysan (Winter 1863-1864)” (Potanin, 1867: 429-461), F. Usov’s “The Siberian Cossack Army: A List of Settlements Based on Data from 1876” (Usov, 1877: 51), and S.D. Lavrov’s “On Lake Zaysan and the Surrounding Steppes” (Lavrov, 1922: 68–87), provide valuable information about the fishing industry in Zaysan, detailing the diversity and abundance of fish species. The study employs comparative analysis, ethnographic observation, and discourse analysis methods. It examines the ethno-social structure and

traditions of fishing villages, the history of fishery enterprises, and compares them with fishing industries in other regions of Kazakhstan.

Analysis

The economic system of the Kazakhs in the Tarbagatai region, including cattle breeding, agriculture, and various trades, has been widely covered in numerous studies. For instance, many works have been published on traditional Kazakh farming, such as Kh. Argynbayev's "On Kazakh cattle breeding". However, specific studies on the fishing industry of the Tarbagatai Kazakhs are scarce. Nevertheless, research on the fishing industry of the Kazakh people as a whole does exist. Traditional Kazakh fishing was particularly prevalent in western regions along the Ural (Zhaiyk), Zhem, and Sagyz rivers and the Caspian Sea coast. In central Kazakhstan, fishing developed along the Ishim and Tobol rivers, while in the southwest, it was practiced in the Aral Sea. In the south, it was common along the Syrdarya, Arys, and Shu rivers, and in the east, it was observed near Lake Zaysan, the Irtysh River, and the Balkhash and Alakol lakes. Fishing in the southern regions, particularly along the Syrdarya River, was closely linked to the fishing industries of other ethnic groups, including the Kazakhs, Uzbeks, and Karakalpaks in the Amu Darya and Aral Sea regions. By the second half of the 19th century and the early 20th century, fishing became a significant industry in Kazakhstan's rivers and lakes, particularly in Zaysan, Ural, and Syrdarya, which were known for their abundant fish stocks. During this period, fishing became a highly profitable occupation among Kazakhs living along rivers and lakes. Several academic works have explored fish species in the Turkestan region and their classification. These include L. Berg's "Fishes of Turkestan" (Berg, 1905: 596) and "Fishes and Fisheries in the Mouths of the Syr Darya and the Aral Sea" (Berg, 1900: 101), as well as K. Kessler's "Ichthyological Fauna of Turkestan" (Kessler, 1872: 47-49) and "Journey of A.P. Fedchenko to Turkestan" (Kessler, 1874: 63). The fishing industry in the Chinaz section of the Syr Darya River was studied in V. Grunberg's "Fishing in the Chinaz Section of the Syr Darya River" (Grunberg, 1904: 691–715). Regarding the fishing practices of the Kazakhs, A.I. Dobrosmyslov covered this topic in "Cities of the Syr Darya Region" (Dobrosmyslov, 1912: 204), while A.S. Pokrovsky wrote "Fishing on the Rivers Syr Darya, Amu Darya, and in the Aral Sea" (Pokrovsky, 1916: 41). Additionally, the fishing industry of the Tarbagatai Kazakhs is discussed in G. Potanin's "Winter Trip to Lake Zaysan (Winter 1863-1864)" (Potanin, 1867: 429-461) and F. Usov's "The Siberian Cossack Army: List of Settlements Based on 1876" (Usov, 1877: 51). From the mentioned works, we can observe the development indicators of the fishing industry in the two regions during that time. For example, along the Syr Darya, the fishing industry had, by the second half of the 19th century, turned into centers specialized in fishing and processing. In contrast, Lake Zaysan was still in the early stages of fishing development during that period. This is evident from the works of G. Potanin, where he describes both the fishermen arriving at Lake Zaysan and the local Kazakh fishermen. These sources provide a description of the traditional fishing practices and fishing tools of the Kazakhs in the Tarbagatai region. Descriptions of the fishing industry are also found in the works of K.V. Struve and G.N. Potanin, such as "A Brief Overview of the Ural Fishing Economy" (Struve, Potanin, 1865: 23-24). In his work, Struve focuses on the state of the fishing industry along the Zhayik River in the western part of our country. Analyzing these works shows that during the period of Tsarist Russia, professional fishing in our country began along border areas such as the Ural River and later expanded to other rivers and lakes across Kazakhstan. Among Kazakh researchers, U.Kh. Shalekenov examined the historical and ethnological aspects of the Amu Darya and Syr Darya regions in "History and Ethnology of the Amu Darya and Syr Darya Peoples in the 18th–20th Centuries" (Shalekenov, 2003: 225-236). Other notable studies include O. Kozhakhuly's "Fishing Industry (Late 19th – Early 20th Century)" (Kozhakhuly, 2004: 48-51) and K. Mendigereev's "Fisheries in Western Kazakhstan" (Mendigeerev, 2004: 53-56), both of which highlight the role of fishing in different regions of Kazakhstan. In addition, the similarities between the fishing practices of the Kazakhs in the 19th century and those of the neighboring Karakalpaks are also analyzed. Furthermore, the article by H.A. Aubakirova, K.V. Jumagalieva, and N.K. Demeuova "Fishing in the Economic Everyday Life of the Cossacks of Kazakhstan in the 19th Century: Historiography of the Problem" (Aubakirova, Jumagalieva, Demeuova, 2022: 40-45) examines the participation of Cossacks in Kazakhstan's fisheries and their interaction with local Kazakhs. Meanwhile, T.L. Yuzhakova's "Legal Regulation of the Fishing Industry in the Zaysan-Irtysh Region in the Second Half of the 19th Century" (Yuzhakova, 2009: 196-202) analyzes the legal aspects of the fishing industry along the Irtysh River. The economic system of the Tarbagatai Ka-

zakhs was based on family traditions and customs, which have been comprehensively studied by M.K. Egyzbaeva (Egyzbaeva, 2024: 165-175).

Results

Cattle breeding remained the primary economic activity of the Kazakhs in the region. As a continuation of traditional society, cattle breeding played a dominant role, with its development stretching back to early historical periods. The historical formation of cattle breeding is closely linked to the ethno-cultural identity of the Kazakh people. Western anthropologists have argued that economic activity shapes ethnic identity, and in the case of the Tarbagatai Kazakhs, their identity and cultural traditions were directly tied to cattle breeding. However, they also engaged in hunting and fishing as supplementary activities.

The development of an ethnic community's culture is often independent of official administrative divisions or territorial restrictions. On the contrary, cultural isolation can sometimes be a result of territorial limitations. The ethno-cultural identity of the Tarbagatai Kazakhs developed as an integral part of the broader Eastern Kazakhstan region. When analyzing the economy and professions of the Kazakhs in the Tarbagatai region, it is important to acknowledge the significance of Lake Zaysan. Presently, the village of Tugyl is located on its shores, and the main occupation of its Kazakh population is fishing. This suggests that these people have lived near Lake Zaysan for many generations.

The formation of the fishing industry at Lake Zaysan is closely linked to these settlements. The wildlife surrounding the lake was the subject of extensive studies conducted by the Russian Geographical Society. Since the time of Peter I, the Russian scientific community had shown great interest in the region's natural resources. This led to the organization of official research expeditions to Lake Zaysan.

In 1922, the Western Siberian branch of the Russian Geographical Society published an article by S.D. Lavrov in the journal *"Siberian Nature",* titled *"Lake Zaysan and the Surrounding Steppe"* (Lavrov, 1922: 68-87). The article reports that in the spring of 1919, a special expedition was organized in response to declining fish production in Lake Zaysan. The expedition team included S.D. Lavrov, fishery inspector Ya.Ya. Grigoriev, and students A.M. Ganago, V. Bernikov, and A.N. Kharin. The expedition route followed the Irtysh River towards Lake Zaysan.

Upon reaching the lake, the team set out to study not only the fish population but also the entire flora and fauna of the lake. Continuing their zoological investigations, Lavrov noted that Lake Zaysan was referred to as the "bell lake" by the Chinese. In his article, he describes his visit to the Topolev-Mys dock and provides observations on the daily lives of local residents. Additionally, he identifies predatory fish such as pike and perch in the lake and suggests that they were reducing the population of other fish species. Lavrov's work provided a comprehensive study of not only the fish but also the vegetation in the area.

In 1877, the records of Siberian Cossack Army officer Usov provided details about the total area and geographical characteristics of Lake Zaysan. He described the composition and purity of the lake's water, noting that it was clean and suitable for aquatic life. Fish species documented in the lake included redfish, sturgeon, whitefish, taimen, grayling, perch, carp, pike, and burbot. Usov reported that the largest sturgeons in Zaysan could reach up to five *poods* (about 80 kg), with an abundance of sturgeons weighing 3-4 *poods* (48-64 kg). Additionally, sterlet fish were found in various sizes, some reaching up to six *poods* (96 kg), and taimen fish grew as large as four *poods* (64 kg) (Usov, 1877: 51).

As we can see from the table, the volume of fish caught from Lake Zaysan in the mid-19th century indicates the professional development of fishing.

Table 1 – Indicators of the fishing industry in Usov's records

№	Years	Types of fishes	Volume
1	1837	Redfish	5114 pood
		Whitefish	8556 pood
2	1840	Redfish	1824 pood
		Whitefish	3578 pood
3	1868-1874	Redfish	4619 pood
		Whitefish	51949 pood

Table 2 – Types and quantities of fish caught from Lake Zaysan in 1837 and 1840

№	1837	Volume and finances	
		Volume	Finances
1	Redfish	2,605 pood	26,050
2	Whitefish	1988 pood	7952
3	Pike	1800 pood	5400
	1840		
1	Redfish	1075 pood	12900
2	Whitefish	1189 pood	9343
3	Pike	2244 pood	8976

As seen in the table, in 1837 and 1840, the primary fish species caught in Lake Zaysan were redfish, whitefish, and pike. The data for each year shows fluctuations in the volume of fish caught. Fishing operations followed a three-year plan. In 1837, the amount of redfish caught was 2605 *poods*, but by 1840, it had decreased to 1075 *poods*. Similarly, whitefish catches dropped from 1988 *poods* in 1837 to 1899 *poods* in 1840. However, the selling price of whitefish increased compared to 1837. For instance, in 1837, 1988 *poods* of whitefish were sold for 7952 rubles, whereas in 1840, 1189 *poods* of whitefish were valued at 9343 rubles. Pike catches, on the other hand, increased from 1800 *poods* in 1837 to 2244 *poods* in 1840. That year, the price of pike rose from 3 rubles per *pood* to 4 rubles per *pood*. A similar trend was observed for redfish, whose price per *pood* increased from 10 rubles in 1837 to 12 rubles in 1840. Among the fish species listed in the table, whitefish showed the highest price increase, rising from 4 rubles per *pood* in 1837 to 7,8 rubles per *pood* in 1840.

Table 3 – Fish products produced in 1853–1856

№	**Produced fish products**	**1853**	**1854**	**1855**	**1856**
		pood	pood	pood	pood
1	Redfish, sturgeon, carp	887	1706	2467	1537
2	Fish fillet	110	109	94	9
3	Sturgeon heads	89	95	79	77
4	Whitefish heads	2374	2170	1360	1148
5	Blackfish heads	133	80	54	8
6	Pressed black caviar	44	70	84	45
7	Granular caviar	35	47	64	37
8	Barrel caviar	11	11	11	11
9	Nelma caviar	266	162	106	93
10	Fish glue	2	3	5	2
11	Sturgeon ridge	1	2	3	1
12	Fish oil	34	42	41	32

The table also presents data on the types and volumes of fish products produced between 1853 and 1856. For example, in 1853, the volume of sturgeon, redfish, and *karish* caught in Lake Zaysan was 887 *poods*, which more than doubled to 1706 *poods* in 1854. This upward trend continued in 1855, reaching 2467 *poods*, but declined to 1537 *poods* in 1856, failing to match the 1854 figures. The data also indicates that fish heads, including those of blackfish, sturgeon, and white-

fish, were specifically processed. In 1853, the largest quantity of processed fish heads was from whitefish, amounting to 2374 *poods*. In contrast, the volume of processed sturgeon heads never exceeded 100 *poods* between 1853 and 1856. Among fish products, caviar production was also significant. This included granular black caviar, pressed black caviar, and nelma caviar. Nelma caviar had the highest production volume, reaching 266 *poods* in 1853 but declining in subsequent years. Some of the sturgeon species found in Lake Zaysan were also processed for their backbones, while fish glue was also produced. Fish oil production remained stable throughout these years, with the highest recorded volume being 42 *poods* in 1854 (Potanin, 1867: 429-461). These figures indicate that different fish products had varying levels of demand over time.

Table 4 – Fish products produced in 1858–1860

№	Produced fish products	1858	1859	1860	Total
		pood	pood	pood	pood
1	Redfish	1212	1826	1177	4216
2	Nelma	1306	819	853	2979
3	Dried Nelma	191	106	457	755
4	Sturgeon fillet	106	123	99	329
5	Severed fish heads	97	104	99	301
6	Blackfish	496	14	13	524
7	Dried Blackfish	5	1	10	17
8	Ide	11	13	9	34
9	Dried tench, pike, crucian carp	28	20	50	99
10	Blackfish caviar	50	42	49	142
11	Pressed black caviar	41	75	48	165
12	Granular caviar	20	25	11	58
13	Barrel caviar	10	9	8	38
14	Fish glue	3	2	2	8
15	Sturgeon ridge	2	1	1	5
16	Fish oil	34	-	44	79

The production of fish and fish products from Lake Zaysan began to be systematically organized in the second half of the 19th century. For example, in 1858, the volume of redfish and blackfish caught in the lake increased, reaching a total of 496 poods. By the 1860s, 17 poods of dried blackfish had been processed. The production of blackfish caviar remained stable at 45-50 poods per year between 1858 and 1860. During these years, whitefish also began to be harvested from Lake Zaysan, although its volume was relatively small compared to other fish species, with an annual catch of 10 poods between 1858 and 1860 (Potanin, 1867: 429-461).

As seen in the table, the production of fish caviar in the three-year period of 1858–1860 was lower than in the earlier period of 1853–1856. For example, in the initial period, up to 85 poods of pressed black caviar were processed annually, whereas in the later three-year period, the peak production was only 75 poods. Similarly, the production of granular caviar declined from 35-64 poods per year in the early years to just 11-20 poods per year in the later period (Potanin, 1867: 429-461). The figures also indicate that the drying of fish was systematically introduced. Entrepreneurs around the lake primarily dried blackfish, tench, pike, and crucian carp. Over a seven-year period, sturgeon fillets were consistently processed, highlighting the stability of this product.

The professional development of the fishing industry in Lake Zaysan attracted fishermen from other parts of Russia. One of the most notable figures was Trofim Bikulov, a major fish industry entrepreneur. In the early 20th century, he established a large

fishing business, employing local people as laborers in the fishing industry.

Several settlements around Lake Zaysan became centers for commercial fishing, including Topolev-Mys, Tugyl, Priozerny, and Novostroika. While these areas became known as professional fishing hubs in the early 20th century, the fishing tradition among the Kazakhs of Tugyl village had existed since earlier times. For instance, in the memoirs of Topolev-Mys resident Zakhar Burtsev, he recalled that the village originally consisted of a few houses and that the first fishermen included Egor Gubanin, Grigory Fedorov, and Petr Matveev (Ismurizina, 2020: 145).

The villages of Tugyl, Novostroika, and Priozerny were founded in 1904, specifically for the purpose of developing the fishing industry.

The professionalization of fishing in the region eventually led to the establishment of the Zaysan Fishery Combine in 1934. During its foundation, Trofim Bikulov played a key role in expanding the fishing industry, with local Kazakhs working as fishermen. One of them, Abilgazy Naizabayev, was recognized for his dedication to the industry and was awarded the Order of the Badge of Honor (Kurmet) in 1936. During the Soviet era, many local residents began their careers at this enterprise.

From its inception, the fishery combine was planned as a major enterprise. In 1935, collective farms such as "Mikoyan", "Molotov", and "Obedinennyi trud" were established in the Topolev-Mys area. These collectives focused on fishing, fish processing, and agriculture. Among the professional fishermen at the newly established enterprise were Nursapa Irgebaev, Zhakyp Nurpeisov, Trais Zhambayev, Abiken Zhanasilov, and Kabizhan Bazarbayev (Ismurizina, 2020: 145).

During World War II in 1941–1945, the fishing industry played a crucial role in the war effort. In 1940, the fishery combine caught 2736 tons of fish, and by 1943, this figure had increased to 4958 tons. This data suggests that fish production doubled during the war years, highlighting the importance of the industry to the wartime economy. After the war, the fishing industry continued to expand, leading to the establishment of additional industrial facilities.

Several prominent fishermen emerged in the Tarbagatai region, including Abilzhan Kurmangaliyev, Baltabay Beldemshinov, Nurgiza Kokysheva, and Mukhamedzhan Akizhanov. They contributed significantly to the fishing industry and were awarded various honors for their achievements.

Kazakh fishing practices followed a standardized system. Along rivers and lakes, Kazakh fishermen primarily used net fishing and zhylym (a traditional fish trap). Zhylym fishing was considered a form of collective fishing. Kazakhs also used zhylym during the winter, driving fish toward the trap by making noises from the riverbank and catching them under the ice. Hook fishing remains a common practice to this day. Boats and rafts were the main means of transport for fishing with nets and traps (Zhailybay, 2020: 74–81). Poorer fishermen often relied on rafts for fishing. Caught fish were sold in agricultural regions, and sometimes fish were bartered for grain. During the 19th and 20th centuries, fishing was a common economic activity among various Central Asian peoples. For instance, the Kazakhs, Uzbeks, and Karakalpaks along the Syrdarya and Amu Darya rivers, as well as in the Aral Sea region, had many similarities in their fishing techniques (Kuttimuratova, 2022: 72–85). They also had similar dietary practices regarding fish consumption. One of the unique aspects of fishing in Kokpekti and Zaysan was the winter fishing technique, which involved using ice holes. Kazakh fishermen pitched tents on the frozen lake surface and fished through holes in the ice using nets and hooks. Different types of hooks were used depending on the target fish species. For example, small fish were caught using inekarmak (name of a small fishing rod) or zhutpakarmak (a group of rods of different sizes designed to be swallowed by a fish along with the bait), while pike were caught using a specialized tool called uskek (Potanin, 1867: 429 – 461). Another characteristic of fishing in the Tarbagatai region was that some fishermen practiced agriculture in the summer and switched to fishing in the winter. By the late 19th century, the fishing industry in Zaysan, Syrdarya, and the Aral Sea had expanded significantly. One of the main reasons for this was the settlement of experienced fishermen from the Ural River and other regions beginning in the second half of the 19th century (Turkestan Reference Book, 1886: 96). These settlers helped develop local fishing industries through their expertise. However, the influx of fishermen from other regions created economic challenges for local, poorer fishermen, who found it difficult to compete. Some of the newcomers built fishing forts along the Syrdarya River to facilitate large-scale fishing and trade. One example is the Vanyushins Trading House, which, in 1874, planned to catch fish in the Syrdarya, Amu Darya, and Aral Sea for export to Russia. Similar developments took place along the Irtysh River and Lake Zaysan in eastern Kazakhstan. The establishment of dedicated fishing enterprises in resource-rich areas was one of the strategies for expanding production during that period.

The history of the fishing industry in Lake Zaysan reveals that it was practiced from an early period

as a supplementary economic activity among local Kazakhs. However, in the second half of the 19th century, professional fishermen settled around the lake, leading to the establishment of large fishery enterprises that processed and exported fish. Despite the expansion of fishing, no dedicated fish farming enterprises existed in Lake Zaysan until the mid-20th century. This indicates that both Tsarist Russia and the Soviet government largely neglected the development of aquaculture. Fishery enterprises primarily relied on harvesting naturally occurring fish populations without efforts to replenish them. It was only in 1964 that specialized fish farming operations were introduced along the shores of Lake Zaysan. During this period, scientific organizations also began actively studying the lake's water composition, flora, and fauna (Baibatyrov, 2017).

Conclusion

By the second half of the 19th century, alongside traditional livestock farming, the Kazakhs of Tarbagatai had developed a fishing industry, demonstrating their long-standing engagement in this economic activity. Most of the fishermen on Lake Zaysan were Kazakhs, and they supplied fish to the newly established fishing enterprises. Kazakh fishing villages were located in areas with abundant fish resources, enabling them to fish year-round. Local Kazakhs, who had been fishing for generations, selectively targeted different types of fish based on their needs. Their fishing tools and techniques were similar to those used in other regions. One notable characteristic of the Tarbagatai fishermen was their preference for fishing near the Irtysh River estuary in winter. In summer, some of them engaged in agriculture. Overall, fishing was considered a supplementary occupation among the Kazakhs of the Tarbagatai region.

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Information about the authors:

Beisegulova Ainura Kydyrgalievna – PhD, acting Associate Professor, Department of Archeology, Ethnology and Museology, Al-Farabi Kazakh National University (Almaty, Kazakhsatn, e-mail: beysegulovaak@gmail.com)

Egyzbaeva Meruert Karpykovna – Candidate of Historical Sciences, Associate Professor, Department of Archaeology, Ethnology and Museology, Al-Farabi Kazakh National University (Almaty, Kazakhsatn, e-mail: egyzbaevamk@gmail.com)

Сведения об авторах:

Бейсегулова Айнура Кыдыргалиевна – кандидат исторических наук, и. о. доцента кафедры археологии, этнологии и музееведения Казахского национального университета имени аль-Фараби (Алматы, Казахстан, e-mail: beysegulovaak@gmail.com)

Егизбаева Меруерт Карпыковна – кандидат исторических наук, доцент кафедры археологии, этнологии и музееведения Казахского национального университета имени аль-Фараби (Алматы, Казахстан, e-mail: egyzbaevamk@gmail.com)

Авторлар туралы мәліметтер:

Бейсегулова Айнура Қыдырғалиқызы – PhD докторы, әл-Фараби атындағы ҚазҰУ археология, этнология және музейтану кафедрасының доцент м.а. (Алматы, Қазақстан, e-mail: beysegulovaak@gmail.com)

Егізбаева Меруерт Қарпыққызы – тарих ғылымдарының кандидаты, әл-Фараби атындағы ҚазҰУ археология, этнология және музейтану кафедрасының доценті (Алматы, Қазақстан, e mail: egyzbaevamk@gmail.com)

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