



# THE LOST INDUSTRY: THE TURKMEN MARINE FISHERY

The report

DEMOCRATIC CIVIL UNION OF TURKMENISTAN

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## THE LOST INDUSTRY: the Turkmen marine fishery

### HISTORICAL BACKGROUND

Turkmens living in the South-Eastern shore of the Caspian sea – in the current cities Turkmenbashi, Khazar, Garabogaz <sup>1</sup>and etraps Turkmenbashi and Esenguly<sup>2</sup> – consider themselves the indigenous inhabitants of these places who settled in seaside thousands of years ago. According to the main occupation of their ancestors they call themselves hereditary fishermen and are proud of their fishing origins, especially in the coastal towns. It is confirmed by their way of life, daily graft, houses, cuisine, crafts, weaving, folklore, marked by millennia-old ties with the sea.



Fig. 1. The Caspian sea and the states of the Caspian region.

The objective reasons contributed to the development of marine fisheries, first of all, it was the biological diversity of the Caspian sea, surpassing even in the recent past, today's presentation about his wealth. Warm climate, low costs for clothing and housing, guaranteed income of healthy protein rich foods (not only fish but also poultry), as well as the opportunity to take refuge on offshore islands from aggressive neighbors attacks, all that was attracted people to settle on the coast. In the existing fishing

communities the main business was year-round fishing and seasonal waterfowl hunting. Distant-pasture animal husbandry, and especially the dawning, as we would say today, subsistence agriculture with mainly the cucurbit crops, played a secondary role. Arabic, Persian and European travelers, who visited this region in the middle ages and new time, referred to it.

Reports of geographic expeditions from Russia and Western countries indicated that the Caspian Turkmens had long-present skills of fishing in the 18th-19th centuries. In addition to spear harpoons and large hooks for sturgeon fish<sup>3</sup>, they were able to weave fishing nets with

<sup>1</sup> Former towns Krasnovodsk, Cheleken, and the settlement of urban type Bekdash.

<sup>2</sup> Former Krasnovodsk and Gasan-Kuliisky areas.

<sup>3</sup> In those days, the sturgeon fish, especially the Beluga, ganoid fish, which was tabooed to consume, Turkmen caught mostly on the sale for the Astrakhan merchants. However, in the memoirs of D. Livkin - captain of the Cossack troops - it

different sized cells and make floats for them for catching small fish in the bays and the open sea. Turkmen was familiar with the long casting net. They threw it and pulled to shore during the seasonal cycle of Caspian carp, Caspian roach, kutum. The Astrakhan akhans and kalads, which found a way to Turkmen's shores, were not unusual to them.<sup>4</sup> But the Turkmen used them rarely and reluctantly. Firstly, there was no domestic demand for the "red" fish, and secondly, residents believed such tackle is not desirable gear that even threatens human life. Caught on a hook or in a squaw net, the fish could be long tormented before the arrival of the fishermen and fear "to sleep", infected its body before the death with deadly hormones, which is colorless and odorless.<sup>5</sup> And fisherman, who tangled in the hook and line gear for sturgeon, was doomed to certain death in the depths. Caught on the hook, large belugas and sturgeons weighing from 100 to 500 or more kilos dragged people to the bottom in a matter of seconds.

At the time the coastal Turkmen lands were included in the Russian Empire, a relatively developed fishing industry was formed on the coast. They got the fish on a wooden rowing and sailing boats. The boats were built of wood in traditional ways, which were handed down by memory from father to son. Therefore, the boats almost did not differ from each other in design, but they were different sizes depending on the fishing location. On shallow water, the fish were caught with a small one-oared taimuns and light two-oared kulazes. They put out to sea on medium and large many-oared boats - kulazes and kirzhims, equipped with sailing masts and rigging. As a legacy of the Seljuk era, the very large commercial fishing and transport vessels - single-deck "nau" with a triangular sail plan and a capacity of about 1000 quintals. Turkmen craftsmen built sailing ships, that did well on the steep waves of the Caspian sea and were tacking under any wind. To procure fish for the future and for the sale, Turkmen used smokers, salteries, drying houses in the fresh air and other methods of handicraft industry.

The arrival of the Russian fishery managers on the coast stimulated the local fishing industry, as there appeared a huge market for previously not popular products. Created companies with mixed Russian-Turkmen capital were created, the Turkmen entrepreneurs appeared, who had concentrated in their hands the major part of the fishery sector in the Caspian sea. Among them the family of Sharapov, Kiyatov, Ataev, Kovusov – on Cheleken; Annaev, Yasztuvakov, Bordzhakov – in Kyzyl-su; Hadzhiberdyev, Orazmamedov, Artykov – in Gasan-Kuly; and many other famous representatives of the nobility and the nascent national bourgeoisie. The population and number of fishing villages increased from Gasan-Kuly in the South to the border with Mangyshlak in the North. Between them there were small settlements of immigrants from Russia, also engaged in fishing. They cooperated in artels with the Turkmen fishermen, adopting their practices and, from their part, introduced the local

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is argued, that in the 17th century the Turkmen-ersarin, who lived here, caught only red fish on the wooden hooks and used it as food. But it is not consistent with the religious restrictions of the Turkmen at that time. For now, the sturgeon fish is a delicacy for all citizens of Turkmenistan, not to mention black caviar, which is going for a fabulous price now from two to three thousand US dollars per 1 kg.

<sup>4</sup>Akhan - "double-wall" net with different cells; kalada - long heavy rope with iron hooks dangling from it on fishing line. Illegal tackle.

<sup>5</sup> Like all civilized peoples, the Turkmen considered any dormant fish as unclean and did not use it as food.

fishermen to the modern day methods of fishing. Yields grew each year, and together with them the well-being of the coast inhabitants, for whom fishing was the main source of livelihood, had improved.

In the coast sector, which is of interest to us, near the recently found city of Krasnovodsk, there were the following fishing auls were located: Karababa, Sue, Kaiman, Bekdash, Karasengir, Jafara, Karshi, Aksengir, Tarta, Aiym, Kuuli, Alataepe, Tazeabad, Baimamed, Avaza,



Fig. 2. Commercial production of fish in the Caspian sea in the early XX century.

Chaiburun and other Turkmen villages. In the south of Krasnovodsk spit, the Turkmen aul Kizilsu and a mile away the Russian village of Petrovsky coexisted peacefully. In the latter, there was built a stationary fish processing plant in the form of the manufacturing company, which was then partially mechanized with the use of steam engines. In addition to the workshops for cutting,

smoking, salting and pickling fish, the plant included a cooperage shop, ice-making plant to produce ice for storing fresh fish and a small power plant running on oil. Small jetties were built for the fishing boats and high logged berth to handle larger vessels of steamship companies. They came from Baku, Makhachkala, Astrakhan with food, fresh water and merchandise for fishermen. For the needs of the enterprise, the sailors delivered supplies and, after unloading, took on board the finished product from the fish processing plant.

Before the World War I tens of thousands of pounds of fish were caught and processed in Krasnovodsk region. The fishing authority was created in the city of Krasnovodsk to assist the many fishing artels, or troops, as they were called. In addition, the responsibilities of the authority included the prevention of poaching and protection of fishery resources.

During the World War I, the catches decreased in several times in connection with the mobilization of men into the army and encountered economic difficulties. The Russian revolution and the ensuing civil war brought even more problems. The new period in the history of the Turkmen fishermen had begun since the Soviet government was victorious in Turkmenistan.

## MARINE FISHERY IN THE SOVIET ERA

In the first years of Soviet government, the main occupation of the Krasnovodsk district<sup>6</sup> population remained fishery and animal husbandry, subject, however, climate risks and the lack of fodder. No farming crops were carried out due to lack of irrigation water. The industry was represented by depleting Yagmansky coal mines, oil and ozokerite crafts on the Cheleken island, and salt craft in the towns of Jebel and Kuuli-Mayak. In the vicinity of Krasnovodsk, brick, lime, plaster and other building materials were produced from local raw materials for internal use.

Against this background, the socially significant and the most stable in terms of its development was the fishery, and the new state took measures to strengthen it. The societies of consumers and the fishing cooperatives were created in the coastal fishing auls. The trust "Turkmenistan" was formed in March 1925 in Krasnovodsk, which became the city-forming enterprise alongside with the sea trade port.

In the years of collectivization, the fishing farms named after Kalinin, Stalin, Mikoyan, Voroshilov, the kolkhoz "Bolshevik" and other collective farms of fishermen were created on the Turkmen coast. Later, the cooperative farms of fishermen became part of the "Turkmenrybakkolkhozsoyuz", which was carrying out the centralized procurement of fish caught and support to the newly organized collective farms with financial and technical supplies, provision of boats and fishing equipment. Diesel wood and metal fishing boats and small seine boats with carrying capacity up to 30 tons and above, which had been built at the shipyards of the country, came into operation of the fishermen. At the same time, traditional fishing boats of Turkmens were continued to use for coastal fisheries. They were built on ship repair technical station (SRTS), which was built in 1937 in the village of Kizylsu. The catches increased, and at the beginning of the War of 1941-45, they surpassed the pre-revolutionary indicators.

In the sixties and subsequent years, the sea fishery has become an advanced sector of the food industry, with a developed onshore infrastructure and differentiated by functionality fishing fleet in its disposal. In the late 60-ies in Krasnovodsk the production association "Turkmenrybprom" was established on the basis of the trust "Turkmenrybprom" during the structural adjustment of fisheries. It includes fish processing plant, "Turkmenkholodflot" office, state fishing administration and other industrial entities, modernized in the postwar period.

In the village Kyzyltu, which is appeared to be on the island in 1962 after laying the shipping channel for the ferry on the Krasnovodsk spit, the reconstructed SRTS, that was renamed the ship repair workshop (SRW) and the kolkhoz "Caspian", which has its own seiner spread, continued to operate. However, the fish processing plant on the Kizilsu island was closed due to capacity expansion of Krasnovodsk fish processing plant. Its construction in the early 50-ies of the last century were mothballed, then dismantled, except for a solid pier, which stood for another 30 years.

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<sup>6</sup> Established in January 1925, the City Council was allocated as an independent administrative unit. Krasnovodsk district with the administrative center in the city of Krasnovodsk covered more than half of the present territory of Balkan province without today's etraps Serdar (Kizyl-Arvat), Bereket (Kazandzhik) and Makhtumkuli (Kara-Kala).

"Turkmenkholodflot" office arose in connection with the admission of refrigerated vessels to the association of the fishing industry. The shipyard, engaged in routine repairs of small tonnage fishing seiners and building wooden boats for coastal fishing, and additional capabilities in the fisheries sector and fleet operation were transferred to it. The office had a Harbor cranes, shore-based and floating workshops, equipped with latest lathe, welding, plumbing and other equipment, rail platform feeder, electromechanical boat ramp for ascent and descent of several vessels at the same time, stacker blocks for seiners and keel blocks for boats and pinnaces. Kyzylsun ship repair-construction workshop was subordinate to "Turkmenrybkhodflot" with the shipyard of the smaller scale than at the corporate headquarters, but it was also well equipped for careening and land-based repair of small fishing vessels.

In the 70-ies - early 80-ies there were more than thirty fish carriers and fishing vessels of class RS, PTS and other small seiners with standard carrying capacity up to 40 tons in the structure of the production association "Turkmenrybprom". In addition to them, the fishing fleet of "Turkmenrybprom" included at various times from five to 10 permanent fishery processing vessels, which were secondary autonomous ships for the far sea fisheries. Vessels of this class – RDOS, RMS, RDMS and others - could take on board from 500 to 1,000 tons of fish. A large part of the catch was processed on ships to the finished product: fillet, canned food, fish oil, flour and other. The fish caught at the end of the fishing were brought ashore frozen. Fish-reception pier for mooring was equipped with an access railway and gantry cranes. Monthly thousands of tons of frozen fish were unloaded from these vessels to refrigerated wagons.

Until Turkmenistan's independence enlarged fishing kolkhozes remained on the coast: "The Supreme Council" in Gasan-Kuly area, "Caspian" on the Kizilsu island and named after Kalinin in the village of Kiyarly in Krasnovodsk district.<sup>7</sup> Kolkhozes with a rowing-sailing kulazes up to 0.5 tons and coastal fishing-boats carrying up to four tons, had, in addition to these vessels, the sea seiners and were on an equal footing with fishermen of Goslov<sup>8</sup>. Members of a kolkhoz were linked to production association "Turkmenrybprom" by seiners rent and other mutually beneficial contractual obligations.

Members of a kolkhoz catches were good. Only one kolkhoz named after Kalinin produced over five thousand quintals of fish in 1984, received the net profit in the amount of more than 120 thousand rubles, or more than 175 thousand US dollars at the exchange rate at the time. Fish delivered by the kolkhoz fleet and small seiners of "Turkmenrybprom" were refined, mainly in the shops of Krasnovodsk fish processing plant, and sold in the city and within the country in frozen form.

City fish processing plant had the system of branched shop productions. It included capital refrigerator with freezers of different temperatures for a total volume of 35 thousand cubic meters. On the territory of the plant, there were fish canning plant, pickle and salting

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<sup>7</sup> Residents of Avaza located between the towns Kizilsu and Kiyarly in fact worked in both kolkhozes. Fishing camps with docks with inventory containers, salt and other supplies were equipped on the territory of their village. There was a platform with canopies for drying and wooden vats for salting fish.

<sup>8</sup> The system of state fisheries.

production, smokehouse, outdoor area for drying small fish, mainly roach and bream, oil and flour shop, numerous piers for mooring boats, storage for salt and spices, boilers, transformer stations, diesel generator and other energy production infrastructure. Before the end of 60-ies, the Western edge of the city housed a cooperage shop, which produced crates and barrels of various sizes from imported riveting. In the 70-ies, the packaging in association "Turkmenrybprom" moved to more modern plastic containers, and cooperage shop was liquidated.

Until the mid 80-ies, the plant produced huge amounts of high quality fish products. Canned sardines, carp, herring, pike perch, sturgeon, stellate sturgeon, beluga was worth from 0.3-0.6 to 1.5 rubles. In the 70-ies, at any time in Krasnovodsk shops you could buy a whole box (12-15kg) of smoked or sun-dried bream roach prepared by real professionals for 14-15 rubles (about 20 US dollars at the exchange rate at the time). Now it would be worth not less than 200 US dollars, despite the decline in quality. Until the early 80-ies, nor delicacies of sturgeon, nor caviar were unusual for the inhabitants of Krasnovodsk. This time is remembered in Turkmenistan as the Golden age of the national marine fishery.

## MARINE FISHERY OF TURKMENISTAN IN THE POST-SOVIET PERIOD

In 1991 Turkmenistan became independent. During the first five years of the independence, the marine fishery continued to maintain its position. Experienced staff, qualified experts, who gave the best years of their life to marine fishery, still worked in the governing body of the association "Turkmenrybprom". Among them, in addition to the Turkmen, there were many representatives of other nationalities, which stood in former years as a strong team. They did everything they could to prevent a sharp fall in production, to give it a new impetus to development.

However, the production and processing of fish annually fell due to the weakening of economic ties between regions in the former Soviet Union and restricting fishing areas by the territorial waters of Caspian states. They lacked the necessary spare parts, equipment, consumables and other materials. Turkmen fish industry in the Caspian sea worked by inertia, wasting the accumulated potential, depleting the material and technical base, emptying warehouses with the remnants of the fishing nets, tackels, and other fishing equipment.

At this time, the government's attention was focused on TEK as the basis for the development of the national economy. The Committee of fishery, while remaining formally independent of the state structure, was taken by the Ministry of petroleum and mineral resources of Turkmenistan under his wing. Production association "Turkmenrybprom" was transformed into the state enterprise "Balkanbalyk". On a wave of nationalist euphoria, selfish motives and patronage of the central authorities, random people with inflated ambitions, but absolutely not versed in matters of fish production and fishery, came to lead the enterprise. As a rule, they were qualified oil professionals – the puppets of the oil and gas industry. Their arrival was followed by criminal prosecution of unwanted persons from among the former

management of production association "Turkmenrybprom"<sup>9</sup>. Broke out the persecution of the foreign personnel, the enterprise "Balkanbalyk" were under structural changes, which caused a serious loss of jobs. In the late 90-ies of the last century the office "Turkmenkholodflot" were dismantled and demolished under the pretext of the transfer of the ship repair facilities far out of the city, where more than one thousand fishermen and shore workers of different professions worked. The working staff in SRW on the Kyzylsu island were reduced in three times, the orders for repairs of fishing trawlers and the construction of small boats were almost ceased.

In Esenguliysky and Turkmenbashi etrap<sup>10</sup> kolkhozes were falling apart, transformed respectively to the realities of a new day in fishing enterprises, based on private initiative of its members. However, it was impossible to keep seiner that were transferred to those enterprises in good technical condition. With the discontinuation of the office "Turkmenkholodflot" and a reduction in the number of employees and production capacities in ship repair and building shops on the island Kyzylsuv<sup>11</sup>, there was no place to make repairs, not to mention major revision of the fishing seiners.

The newly established associations of fishermen experienced an acute need for traditional sailing and rowing kulazes and motor boats, built at the shipyards in Krasnovodsk and Kyzylsuv, but there was nowhere to take them. Turkmen boats were effective in coastal fishery, which became the basic livelihood in Turkmen marine fisheries. They were uploaded up to five quintals of fish caught without the fear to roll over. A small and light aluminum boats of the type "Yuzhanka", "Kazanka" with motors "Vikhr-30" and other outboard motors, were uncomfortable and dangerous during a light storm and a breaking wave. But they were also used in the coastal fishery for lack of others, mainly, by private individuals.

The former farmers had problems with the lease of the vessels from the state enterprise "Balkanbalyk". At that time it was discovered a shortage in qualified labour force and an oversupply of the small class ships in the enterprise. Fishing seiners were willingly given to the tenants of the fishermen's associations in exchange for the part of the catches supplied to enterprise. Over time, the amount of fishing vessels of this class in company "Balkanbalyk" significantly reduced due to multiple exceedances of the amortization period of their operation. To fulfill production plans, "Balkanbalyk" unilaterally terminated the contracts with the renters, and returned a fishing seiners. First it affected DBE-150 bots with a payload up to 4 tons, that are essential in coastal fishery. Then the turn came to transfer small fishing seiners of RS-150 and fish carrier vessels PTS-225 to the State enterprise "Balkanbalyk".

In these circumstances, hastily created, or rather, arisen from the renaming of kolkhozes, the associations of hereditary fishermen have become non-viable social and productive entities.

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<sup>9</sup> One of the most prominent professionals of the marine fishery, the Director General of the production association "Turkmenrybprom" Enver Dzhulbukharovich Dzhanchurzaev lost his job, after he got into a car accident. The Director General Khodzhi Khodzhiniyazov and Deputy of sales Department Vladimir Burmistrov were sentenced to imprisonment; the head of unloading berth, an experienced specialist in fish production Tachdurdy Artykov and other workers of the enterprise suffered from the persecution.

<sup>10</sup> Former Gasan-Kulijsky and Krasnovodsky areas.

<sup>11</sup> Kizyl-Su in the modern national writing.

They were getting shallower, divided in cooperatives and private entrepreneurs - legal and natural persons and poachers, who were the majority. A significant portion of fishing families were resettled to other places of residence, mainly in the city of Balkanabat and Turkmenbashi of <sup>12</sup>Balkan velayat<sup>13</sup>.

The disintegration process of the marine fishery equally occurred in the south and the north of the Turkmen coast. Thoroughly thinned out the ranks of the Turkmen fishermen in Esenguly, Khazar<sup>14</sup>, Kyzylsuv, Okarem, Kiyarly, Garabogaz<sup>15</sup> and other places of traditional Turkmen fishing. A sad fate befell on the fishermen of the Avaza village. With the construction of the national tourist zone "Avaza", the fishing aul that has stood for a centuries was razed to the ground. Forcibly removed from the sea fishing, people have changed their professions. Almost none of the indigenous residents of Avaza and their children had not returned to the antiquated craft for objective reasons.

Arbitrary decisions, that were taken concerning the organization of marine fishery, were of a propaganda nature and adversely affected the performance of the state enterprise "Balkanbalyk". Mass exodus of national minorities representatives from Turkmenistan, in fact, left the Turkmen fishing fleet without a high level captains, navigators, mechanics, motormen, electricians and other professionals. Catches and the volume of the fish processing declined, fishing boats went out one after the other, filling the waterfront of the city of Turkmenbashi and the coast of the Turkmenbashi gulf with piles of scrap metal<sup>16</sup>. Summarily, up to 400 trained professionals left the system of fishing industry of Turkmenistan for various reasons, including adverse personnel policy of the country leaders.

Fishing vessels have deteriorated to such an extent that, by the Russian register, that has the rights of International Maritime register, has repeatedly barred their exit to the sea. To save the situation, the urgent, even cosmetic, repair of vessels was needed. In 2007, the Committee for fisheries of Turkmenistan hastily reanimated ship repair workshop in the village of Kyzylsuv, which has been mothballed with a single watchman caretaker since 2000. The workshop was renamed to the production area of the shop for the repair of vessels<sup>17</sup> of the State enterprise "Balkanbalyk". About 20 jobs were opened at the new site according to staffing structure. Since the beginning of 2008, repairers started painting buildings and a partial auditing of marine engines. The work was carried out on the worn equipment in the use of small diesel power stations, which supplies the village with light in the evenings<sup>18</sup>. In an emergency order, nine light seiners were knocked into shape. However, during the repair, due to the lack of sufficient resistant paints, the substituted analogs were used, which was applied to ships surface, that was untreated from old paint layers. Such "cosmetics" was kept short in an aggressive marine environment, but the stress with sea sailing was removed for

<sup>12</sup> New names of Nebit-Dag and Krasnovodsk.

<sup>13</sup> The former Krasnovodsk area.

<sup>14</sup> Cheleken.

<sup>15</sup> Bekdash.

<sup>16</sup> Former Krasnovodsky Bay.

<sup>17</sup> There was never such a shop in the real "Balkanbalyk" structure, unless you count a half-submerged floating shop, which the company inherited from "Turkmenrybkhodflot" office.

<sup>18</sup> In November 2014, the village received electricity cable laid along the bottom of the shipping channel, that cut off Kyzylsuv in 1962 from the mainland part of the Krasnovodsk spit and turned it into an island.

the time. With the end of the cosmetic boom, the productive activity of a newly discovered for the repair of ships also ended. Currently it is a neglected area with rusted winches and slipway rails disassembled and the deteriorated lathes and woodworking machines in a crumbling building workshops. The same picture is in the industrial area of the state enterprise "Balkanbalyk". Of all maintenance facilities, there is only half-submerged floating workshop of the former office "Turkmenrybkhodflot" standing at the pier, now serving as a mooring place for fishing trawlers and tugs.

The presidency of Gurbanguly Berdimuhamedov noted in the fish industry of Turkmenistan



Fig. 3. The rusty remains of the fishing fleet

by numerous of international forums, exhibitions, scientific-practical conferences. During these promotional activities, much emphasis is on the conservation of biodiversity of the Caspian sea, its environmental safety, aquaculture as a way of reproducing fish, and very little about specific projects in the field of strengthening and development of marine fishery. Since 2007 continuously argued that the country's fishing industry is experiencing a

boom, the period of complete renovation and upgrading. It was focused on the artificial breeding of fish, reported on the construction of hatcheries in Esenguly, Turkmenbashi<sup>19</sup> and other etrap of Turkmenistan. As in the times of Niyazov-Turkmenbashi, the team of the new head of state promised from high tribunes to upgrade the marine fishing fleet with more efficient and less costly, according to them, low-tonnage vessels. Fishermen expect that they will acquire six fishing-freezer vessels, equipped with modern fishfinding, navigation, fishing and technological equipment. In return, in 2008 they received a small batch of unnecessary small boats "Kazanka" and twenty widely publicized whale boats with engines "Yamaha" and load capacity of 0.5 tons. The initiative of the leaders, who are far from the sea of reality, turned out to be a waste of money, unless you count on "kickbacks" accompanying such transactions. The boats operated only a short time due to economic and production inappropriate. But it was the only practical step, though not devoid of anecdotage, taken by

<sup>19</sup> Until today, a single factory for artificial breeding of fish has not been built in the Turkmenbashi etrap, although the construction of one of them - industrial complex on artificial cultivation of sturgeon - began in the village of Kiyarly in 2008.

the government<sup>20</sup> to upgrade the Turkmen fishing fleets in the Caspian sea. The second step was followed only six years later when, in 2014, three fish freezing vessels were purchased in Hong Kong.



Fig. 4. Freezer vessel "Denizkhan".

By the beginning of 2010, three fishing manufacturing of the type RDOS remained in the ranks of the Turkmen sea fishing fleet: "Oguzkhan", "Khazar", "Gyulkhan", five fishing seiners RS-150 and five fish carriers PTS-225. All these ships were in poor condition and repeatedly endangered the lives of seafarers. By the time, the fish freezing and processing vessel – RDOMS "Denizkhan" (it has not removed the flag of Turkmenistan) and the fish freezing vessel RMS "Ayhan" has

become a trash in the parking lot of dead ships in the city of Turkmenbashi, and dozens of small seiners were sold for scrap or thrown away in the waters of the Muraviev, Bekovich-Cherkassky and Balkhansky bays.

Fish catch has decreased dramatically. For 45-day swimming, RDOSes, designed to carry from 700 to 1000 tons of fish, brought from 40 to 80 tons of meager catch. In June 2007, RDOS



Fig. 5. Dump ships in the Balkanskiy Gulf

"Khazar" came back from the field with 20 tons of sardines. Small seiners, which are able to carry up to 35-40 tonnes of fish, brought to shore not more than three tons of sardines. Additional spoil, and that is not always, was accounted for sturgeon fish - no more than 300 kg<sup>21</sup> for 30 days in the sea. It was considered a good catch, although it was obvious that the end does not justify the means. The mechanism of fish harvesting became too costly for

<sup>20</sup> Even such fine bargains in Turkmenistan are made with the consent and participation of the government.

<sup>21</sup> It's from what was officially delivered to the shore. In fact, there were caught significantly more sturgeon because the entire fleet was focused on their harvesting.

the company. The vessels, especially a huge-scale Caspian RDOs, does not pay back its content.

Compared to the 70-ies - 90-ies of the last century, annual catches of Turkmen fishermen has decreased in 2-2.5 times in the first decade of the new century. In the last two decades of the Soviet period, the Turkmen fleet produced an average of about 30-35 thousand tons of fish. More than 70 percent of them were commercial species of sardines: anchovy sprat, big-eyed and Caspian common kilka. The rest of the catch was accounted for by valuable species of fish – sturgeon and ordinary fish. In the context of the species, the percentage of sprat has increased significantly in fish catches during post-Soviet period and has accounted for more than 90 percent of the fishery.

In the first decade of the state independence, the dynamics of marine fishery in Turkmenistan steadily glided along the line down. But the catches, despite their reduction in two to three times compared to baseline in 70/80-ies of the last century, were still high. Annual amount of fishery, including fish harvested by private entrepreneurs, has reached an average of 12-16 thousand tonnes and up to 2005 was almost comparable to the amount of fishery of the Soviet era<sup>22</sup>. For this reason, the fishing industry did not cause the government much concern and could, as they say, to wait, all the more so that it brought significant income to the state and corrupt officials. In 2004/2005, the monthly catch of Turkmen fishermen exceeded 1,300 tons, and the annual exceeded fifteen thousand and more tons.

It was the peak of the national marine fishery in Turkmenistan. It was followed by a steep dive. In January-May of 2009 there were caught 750 tons of fish, and for the 12 months of the same year - about 1,400 tons. In 2010, the annual catch amounted to 1,380 tons in 2011 - to 1,350 tons. In January 2011, it was caught only 150 tons of fish. It is nine times less than in January 2005. It is noteworthy, that in the first five months of 2011 it was caught only 650 tons<sup>23</sup>. In January 2012 - 140 tons, or 10 times less, than in January 2005, and for the whole year it was less than 1,350 tons. In 2013, the average monthly catch of fishermen of the state office "Balkanbalyk" was a total of 116 tons, according to official figures, and the annual catch was just over 1,300 tons<sup>24</sup>.

## ORGANIZATIONAL AND TECHNICAL CAUSES OF THE DEGRADATION OF THE MARINE FISHERY

A prolonged deterioration of oceanic fisheries in Turkmenistan is systemic. It includes a number of key aspects, including environmental, economic, and moral aspects of the

<sup>22</sup> In the early 90-ies of the last century, all post-Soviet space was lived in the entrepreneurial fever. It involved representatives of all social classes and ruling elite. Fish production went off from Turkmenistan to the near abroad, and the domestic market experienced a shortage of fish.

<sup>23</sup> It is less productive than one RDO for 45 days of work in the sea.

<sup>24</sup> In 2013, according to facts revealed during the investigation of criminal cases in 2013/2014, there was produced only 190 (one hundred ninety!) tons of fish. Such was the scale of the fraud. On this basis, the reporting of statistics had to be adjusted accordingly.

problem. Of these, the human factor was the most devastating. His influence exacerbated the situation in the fishing industry in the years of perestroika and, especially, in the 90-ies of XX century, which was a difficult period in the modern history of Turkmenistan.

Altruism, that formed the basis of the ideology of the Soviet system and, accordingly, the spiritual worldview of the Soviet people, was being deformed in front of our eyes. Collectivist ideals during the period of perestroika and the parade of sovereignties, retreated before the wild revelry of the market, that planted perverse forms of extreme individualism and the aggressive psychology of personal gain in post-Soviet countries. However, in the former republics of Central Asia and the Caucasus, including Turkmenistan, there have still survived a way of life of the tribal structure of society among indigenous peoples. It softened the social antagonism between different local groups, which were linked together by kinship ties. While the poorest families had their relatives in the highest echelons of power from the new political environment, and, not without reason, they were hoping for their help in improving their well-being. The main stumbling block on the path to a brighter future for them were the foreigners. Against them, with the connivance of the inspirational first President of Turkmenistan Niyazov, who received the title of Turkmenbashi - the Lord and head of all Turkmens of the world - had unleashed an undeclared war on the infringement of the rights and freedoms of national minorities, which brings together almost all of the titular nation.

For this reason, the social tensions between the wealthy elite of those in power and a major part of ordinary citizens were not politically irreconcilable colored. In the wake of the growing "national identity" in government and administrative structures, the number of representatives of the titular nation was rapidly increasing. As a rule, they were immigrants from the rural hinterland, combined by the simplistically understood idea of the nation state, allowing them to do whatever is not prohibited by law, and even more. At the same time the idea of the possibility of rapid enrichment of all has developed in the mass consciousness. The vast majority of the population, as if struck by a mass psychosis, were addicted to this purpose in those years. Therefore, once people were beckoned to section of the collective farm property, fishing kolkhozes collapsed like a house of cards. Established new unions of fishermen eked out a miserable existence, unable to compete with illegal outlaws, who, in the years of primitive accumulation of capital, were of spectacular dimensions. People had free money, and with them the opportunities for acquisition of modern motor boats with powerful engines and efficient fishing gear in their private property, including prohibited by law kalads and akhans.

Disappointed in the collective forms of labour, enterprising young fishers have joined the ranks of unregulated fishing, that were taken "under the wing" by law enforcement and security agencies. In the period 1995-2005 "red" fish (sturgeon, stellate sturgeon, beluga), that was not available in state stores, flooded the markets in all coastal cities (Turkmenbashi, Khazar, Garabogaz, Balkanabat) and the capital. Rising in price every year, black caviar was sold openly on the shelves of markets and most of all stimulated illegal fishing, bringing enormous profits to poachers and their patrons.

Impunity in the second half of 1990-ies - early 2000-s was depressing. In the daytime, from the decommissioned and sold to poachers on the price of scrap metal small seiners, that were docked at the city wharves, entrails and other waste in the cutting of a sturgeon were openly thrown overboard. Dozens of cut 20 kilograms Beluga heads often floated on the sea surface: poachers get rid of them as unnecessary cargo. In the bazaars, openly, and in large quantities there were sold the entire 10-15-kilograms stellate sturgeons, 20-40-kilograms sturgeons and belugas carcasses weighing from 100 to 200 kilograms or more. Black caviar was for sale on the open market. Even then, rapidly elevating, one kilogram of it was worth \$500-\$700, or 10 to 15 times more expensive than in the 80-ies of the last century. Moreover, caviar is sold for hard currency, and not for the manats of the National Bank of Turkmenistan.

Year 1998 was uncommonly rainy. Heavy rains have caused high floods in the lower reaches of the river Etrek, connecting it with the Caspian sea. In the passage formed, millions of the shoals of the Caspian carp gushed to spawn, triggering an unprecedented scale predatory fishing. In cities and inhabited localities of Primorsky Krai the fish from Esenguly and Etrek was brought first by residents of these areas on their personal cars. Then they were joined by heavy trucks from industrial and oil and gas companies. People did not have time to snap up fish in the many makeshift bazaars. The price for it was low, it did not justify transportation costs, and then tons of fish were dumped in landfills. The damage inflicted on the environment was enormous. Suffice to say, that the population of Caspian carp, who came in 1998 to spawn in the lower reaches of the Etrek, almost not returned to the sea. Now the carp has become a scarce fish, its market price is only slightly inferior to the sturgeon fish<sup>25</sup>. An equally barbaric way the mullet was extracted in the periods of the seasonal cycle. Especially egregious were the cases on the protected waters of the Khazar state reserve<sup>26</sup>.

In the pursuit of profit in Balkansky, North-Cheleken and other bays and the internal bays in the Turkmen sector of the Caspian sea, the fishers, hurrying to put the nets, then to empty them and leave with their catch, "flew" on outboard motorboats over the fish, sailing close to the sea surface, and raked it with screws.

Blatant acts of vandalism against nature occurred with the acquiescence and participation of the local bodies of transport militia (police), prosecutors, fishery, society of hunters and fishermen, and other environmental state bodies and public organizations for the protection of nature of Turkmenistan. The plundering of fish resources was actively attended by representatives of fishing communities, leading to both individual and organized under the roof of law enforcement illegal fishing. This happened in Garabogaz, Esenguly, Okareme, Kyzylsuv, Kiyarly, Avaz, Khazar (Cheleken) Karagal and other fishing villages. People have forgotten how to respect nature - greedy enrichment became a priority for them.

<sup>25</sup> In April 2015, 1 kg of frozen kilka was worth 7 manats; mullet was worth 9-15 manats; walleye - 24-30 manats, carp - 20-35 manats; sturgeon - 45 to 50 manats; balyk of sturgeon - 100 manats, black caviar - 2.3-2.5 thousand US dollars. Thus, 1 kg of imported canned red salmon caviar was worth 360-386 manats.

<sup>26</sup> In the 90-ies the reserve had its own marine vessels for scientific research in Turkmenbashi and Turkmen bays, coastal waters of the Khazar (Cheleken), Garabogaz (Bekdash) and Esenguly etrap. Crews led by the captains were random people, many of them were drug addicts, but they were properly harvesting sturgeon and black caviar.

The government has taken certain measures to deter poaching tyranny in the context of legislative and legal acts. However, they took on a bizarre and ugly form in practice, replacing one system of easy income to another, generally more rigid and immoral.

Good purpose to maintain the cost of fish industry of Turkmenistan in the framework of joint projects and programmes for the development of fuel and energy complex and chemical industry<sup>27</sup> has brought some positive results for pond farms in Akhal velayat, Murghab valley, on the Amu Darya, the Sarykamysh lake, Khauzkhansky, Saryyazinsky, Tyuyamuyunsky and other reservoirs, but gave different results in the marine fisheries of Western Turkmenistan. Managers with diplomas of oil workers, who came to the management of the State enterprise "Balkanbalyk", began to restore order on its own, putting at the forefront the purpose of meeting the personal needs and interests of their patrons.

Massive layoffs began, and with them, the outflow of experienced personnel from the fleet and the manufacturing sector. The most vulnerable and less skilled workers remained, who obediently accepted the arbitrariness of the authorities. In this atmosphere combination of positions and professions were widely practiced, a distraction of workers to other sites, not related to the production of work. Salary delayed for three or four or more months. Instead of money, the worker were paid in kind, mainly of frozen and salted anchovies, which were hard to sell in terms of rationing.

In addition to the layoffs at the initiative of administration of the enterprise, the wave cuts, especially for employees from minority groups, were sanctioned from above for 1990-2005, and soon "Balkanbalyk" has faced personnel problems, which painfully hit it on a complete set of crews for vessels and fishing boats. Despite unemployment, people were reluctant to work on ships that survived many times their depreciation time. They represented a real danger to the crews. The engines on the ships broke down, rusted plating was torn, like paper, not withstanding the impact of waves. Coast residents are accustomed to the seiners, which got stuck on the rocks or proceeded under tow from the fishing areas. However, fish production on these vessels, despite the criminal violations of safety rules, is continued<sup>28</sup>.

To patch up the staff holes, the company's management (of course, with the consent of the Committee of fisheries and the approval of the Ministry of petroleum and mineral resources of Turkmenistan), performed in the late 90-ies the not widely advertised leasing of small fishing seiners. The crews, that were recruited mainly from outcasts, were led by the adventurous people<sup>29</sup>. They were selected on a rigorous basis of personal loyalty and unquestioning obedience to employers. The tenants in turn built the same relationship with the "captains", often with a background of only the skills of steering and motor mechanics.

<sup>27</sup> The program of oil and gas, chemical industry and fishery development in Turkmenistan for 2012-2016 and the joint international tenders of oil and gas complex and fishery of Turkmenistan.

<sup>28</sup> So far, and it's already 2015, four seiners from this generation (PTS and RS) are working in the fishing fleets PA "Balkanbalyk". This emphasizes the profound indifference of the National center of trade unions, trade Union Committee, the State Committee of fisheries and the government of Turkmenistan as a whole to the fate and the lives of seafarers.

<sup>29</sup> Some of them participated in maritime drug trafficking and were brought to criminal responsibility. Deep undercover drug trafficking could not exist without strong patronage. This is evidenced by a paramilitary regime of the food industry, personnel reshuffle and criminal cases against the leaders of the "Balkanbalyk".

The tenant-captain joint made a good profit, and a lot of unanswered crews corrupted petty handouts and opportunity away from the authorities to grab extra money on banned fishing of sturgeon and other fisheries crime.

Meanwhile, the catches of kilkas, including for objective reasons, continuously decreased. In the period 2005-2010, marked by a sharp fall in the fishery, catches have stabilized at the level of 1,500 tons per year. In the reports of "Balkanbalyk" almost always their growth was pictured at 1-5 percent, or by 15-75 tons more, as a sign of prosperity in the sea fisheries sector.

In fact, the production of kilkas was significantly lower. A small fleet of seiners had been focused on the production of sturgeon and other valuable fish species. A significant portion of this fish have been sold by individuals on the market, the other was transferred to the patrons of state poaching. Some of it was left at the warehouse of the enterprise as a metered supply for emergency and check in as a consumable for producing tiny batches of fish products for advertising on the ostentatious presentations of various kinds. The shortfall of kilka's catches replenished in a fraudulent scheme in a virtual manner. In the state stores, for a bribe to the agreeable sellers, fake invoices and cash documents were made for receiving and paying the bills of "Balkanbalyk" for non-existent parties of fresh, frozen, salted and other commodity kilkas. Thus, in the statistical statements of the company, the desired level of fishing and processing was reflected. Accessing of undesirable persons to the company with the opportunity to lift the veil from the machinations, was tightly closed to military guards stationed by the costs of the enterprise.

Since 2005 kilka was harvested in continuously shrinking volumes by fragmenting large fishery processing vessels. Small seiners also caught it in their spare time from sturgeon fishing. Kilka was needed to create the illusion of presence of the enterprise "Balkanbalyk" in the market and justify the content of subsidized fishing transportation and related onshore infrastructure. A certain part of the kilka caught were distributed to canned food production, in limited quantities, but confirming the so-called uninterrupted work of the fish-canning plant. In fact, the canning plant of the company "Balkanbalyk" worked on imported raw materials. To save canning production of "Balkanbalyk", which was suffocating without raw materials due to low catches from the sea, silver carp, bream, carp, perch, Rudd, carp and other freshwater fish were brought in the city of Turkmenbashi from pond and river fish farms of the Eastern regions of the country.

At the end of December 2005, the collapse of the enterprise became apparent, and the government took an attempt to strengthen the fishing fleet with six small-tonnage vessels equipped with refrigerated holds and quick freezing equipment. The selected type of vessels were backed up by the experience of Turkmen fishermen, showing that small ships were the most effective in kilka fishery. They were good vessels, but they quickly became forgotten.

However, since the summer of 2007, the talks were made about the proposed acquisition of 20 whale boats with capacity of 500-600 kilograms. It was explained that mini speed boats will be equipped with outboard motors "Yamaha", allowing to reach the speed of 70 km/h. At the same time, the fishermen of Esenguly etrap received 20 brand boats "Kazanka" for the



Fig. 6. "Balkanbalyk" whale boats.

formation the new fishing teams in the system "Balkanbalyk", as reported in the media. In fact, all boats were in the hands of poachers in Karabogaz, Esenguly, Chekishlyar, Kiyarly, Kyzylsuv and even Karatengir in the territory of the Khazar State reserve. Some of the boats on the conditions "you to me – I to you" was distributed to private use of individuals that fished alone.

The reversal from the acquisition of specialized on high seas fisheries fish freezing vessels to

aluminum boats, that are not quite practical for coastal fisheries, are not accidental. Purchasing them at inflated prices associated with setbacks, enriching the crooks who reached the power. Insatiable greed has pushed managers of "Balkanbalyk" and their patrons to new devastating initiatives.

The sturgeon fishing with seiners, not to mention RDOS, RDOMS and RMS, was coupled with the technical inconvenience and the risk of falling into the hands of foreign fisheries surveillance, which monitors the catch of sturgeon and other valuable fish species in accordance with quotas agreed upon by the countries of the Caspian basin. Unlike remote sea fishing, coastal fishing by members of fishing associations and independent fishermen is conducted in their native shores and, in addition to local supervisors, with whom it is easy to negotiate, there is no one to deal with. Therefore, the fishery, which was preserved by the hereditary fishermen, gradually began to flourish.

The activity of coastal fishermen who were once farmers, caused "Balkanbalyk" and their patrons to envy, fueled their appetites. A final blow by the combined forces of bigwigs of oil and gas complex and the Ministry of fishery, of course, was bashed upon them, with the help of law enforcement and environmental authorities, acting as always under the guise of protecting marine resources and their conservation for future generations. The autonomy of fishing for many fishermen cost their freedom, and the rest were demoralized, part of them accepted the terms of the winners. Those, who renounced from bonded loop, switched to licensed fishing, but it does not justify the costs and the associated anxiety and persecution. Essentially, it was the end of freedom of fishing communities that have existed for thousands of years on the shore of the Caspian sea.

In June 2008, "Balkanbalyk" received the first batch of 12 promised whale boats. At the end of the year, there were 8 more. Most of the whale boats was distributed among newly organized teams, who made coastal fishing from Garabogaz to Esenguly. But the thing with

them went wrong. The boats were unstable on the waves, difficult for fishermen and unnecessary in the conditions of coastal fishing digital navigation and search equipment was broken and not economical engines "Yamaha" was taking on fuel for a fair share of earnings of fishermen, which was entirely dependent on the authorities. The brigades quickly disintegrated, and in 2011-2012 they disappeared. As the memory of a failed experiment, four unpacked whale boats are still laying on-site of "Balkanbalyk". Under any pretext they were unable to be imposed on fishermen. The fate of the other boats shrouded in mystery.

Now in coastal fisheries, although not at this scale, both at the stage of initial accumulation of the capital, dominated by fishermen, leading fishing of sturgeon and ordinary fish alone or under the guise of various "gangs". They provide a flow of fresh fish and sturgeon on the markets of major cities in marine region and in the capital. However, law-abiding fishermen who do not have strong defenders from the power structures, experience oppression from <sup>30</sup>border posts created everywhere, giving the nod to an exit in the sea, transport police and other agencies, including fisheries surveillance and enterprise "Balkanbalyk", who require fishermen to obtain a licence to fish and to pass them harvested fish.

Fixated on selfish interests to enrich themselves, leaders of "Balkanbalyk" and their ilk led the company in impassable dead end. Corruption, intrigues, denunciations, criminal cases, frequent change of directors have become commonplace in the enterprise. During the years of independence more than thirty Directors General have changed, but it did not change the situation in marine fisheries for the better. Over the last 10 years of the independence of



Fig. 7. New ships from China.

Turkmenistan, the management of "Balkanbalyk" lost the confidence of the team, showing themselves from all sides as not professionally competent and morally unscrupulous<sup>31</sup>. The criminal activities of crooks at the posts of managers of "Balkanbalyk" led the marine fisheries of Turkmenistan and, first of all, its commercial-production industry, to the outrageous situation. For the first time in the history of its existence, the enterprise had to purchase the imported Iranian

<sup>30</sup> The border post was organized in the city of Turkmenbashi in the parking lot reserved for small boats in the area of the intake channel of TPP. Now on, to get out on a boat trip requires grant of license to fish. This idiocy like nothing else conveys the complete lack of rights, not only of fishermen, but also of residents of the seaside town, completely removed from the sea.

<sup>31</sup> Among them Murad Chapanov, Mered Bailiev, Altmurad Geldymamedov, Serdar Khodzhiev, Amanmurad Sakhatov, Tagan Nazarov, Kuvanchmura Shukurov and other "luminaries" of sea fishing - pets from oil and gas complex of the Ministry of nature protection of Turkmenistan.

sardines. At the end of the 2014, the fishing fleet of "Balkanbalyk" harvested only 25 (twenty five!) tons of sardines. In other words, the death of marine enterprise fishery in Turkmenistan has become a fait accompli.

In November 2014, the fishing fleet of the State enterprise "Balkanbalyk" joined the three fish freezing ships, arrived from China, with refrigerated holds up to 100 tons each.

By the time of their arrival, the management of "Balkanbalyk", having exhausted human resources, appealed for help to retired pensioners and veterans and appointed them as the sea fishing captains, execs and the main mechanics for newcomer autonomous long range cruising vessels. But the crews of vessels, due to the lack of specialists, gathered mainly by the principle of tribal proximity to the industry management.

In early 2015, RMS went out to sea and returned after a six weeks voyage with holds filled with fish only by one third. The fishery has shown that crews of RMS were generally not prepared for the handling of vessels of this class. At the same time four small seiners participated in the winter expedition<sup>32</sup>. Despite its emergency status, they remained afloat and continued to fish.

In the first quarter of 2015, the fishermen of the state enterprise "Balkanbalyk" produced by the joint efforts of about 125 (one hundred and twenty five!) tons of fish. It is 28-30 times less than was harvested during the same time by the fishing fleet of "Balkanbalyk" in 2004/05, and 60-70 times less than in the 70-90-ies of the last century.

## NATURAL AND ANTHROPOGENIC PROBLEMS OF THE CASPIAN SEA

Destructive processes in "Balkanbalyk" that led, in fact, to the disappearance of marine industrial fishery in Turkmenistan, occurred and are occurring against the background of steadily worsening ecology of the Caspian sea. It is complicated by both natural factors and an excessive increased pressure, causing the depletion of the biological resources of the sea. In turn, the diversity and numbers of fish in the Caspian sea cause the accelerated development or extinction of the fishery.

A feature of the Caspian sea is the alternate rising and falling of sea level, which changes the hydrological regime of the Caspian sea. During flooding of contaminated land the toxic compounds drains into the sea, poisoning whole populations of marine animals. The retreat of the sea leads to equally serious consequences, especially on the plains of South-East of the Caspian sea. On the exposing shallow waters dies plenty of biocenoses and primarily juvenile fish. A blockage of the mouth of the only river Etrek, which serves as a passing channel for spawning of sturgeon and ordinary fish, became a natural disaster.

To the natural factors that negatively impact the fish fauna of the sea and fish pastures are the stable increase in temperature in arid climate, the increased activity of gas-mud volcanoes

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<sup>32</sup> Two RS and two PTS

and seaquakes. Currently, the wetlands in the Turkmenbashi Gulf, included in the Ramsar Convention 2009, are in a critical condition. The lakes Big and Small Delili, which are important links in the path of migrating fish and birds, dried up. Endangered marine ecosystems in the Turkmen Gulf in the South and in the Bay of Muraviev in the middle part of the Turkmen coast.

Таблица 1. Численность осетровых на обследуемой акватории Каспийского моря (млн. экземпляров)

Годы	Осетр	Севрюга	Белуга	Всего
1968–1970	93,7	69,9	н/д	179
1972–1978	69,2	69,9	12,1	151,2
1983–1988	43,8	46,6	14,1	104,5
1991–1999	27,9	19,6	9,2	56,7
2001–2005	32,2	10,5	7,5	50,3

Fig. 8. The number of sturgeon in the Caspian sea.

Huge damage to fish stocks were caused by the ctenophore *mnemiopsis leidyi*, introduced in the early 2000-ies in the Caspian in ballast waters of ships. Invader, catastrophically breeding in the warm waters of the South Caspian, turned it into jelly and reduced the biomass of zooplankton, which is the basic food of sardines, to ten times. Accordingly, it decreased the stocks of sprat fisheries, massive loss of which was recorded in 2000-2001. The depletion of the food chain

resulted in a drastic reduction of the sturgeon and other valuable fish species. Therefore, catches of sturgeon are falling continuously for a long time due to the reduction of sturgeon population and it is in visual form reflects the negative trend of reduction of the biological resources of the Caspian sea (On materials by CaspNIORKh):

The intensification of human industrial activity also puts a dark mark on the future of fisheries in the Caspian sea, turning it into a cesspool of industrial and urban waste. Annually from the rivers of the Caspian basin thousands of tons of waste erupt in the sea: heavy metals, nutrient pollution and surface-active substances, which led to aggressive impact on biological resources and fish fauna of the sea. The ships ballast waters, the washings from oil tankers and jetties, consumables, chemical reagents and materials used on offshore drilling rigs and oil and gas platforms are added. A serious danger for the flora and fauna of the sea is the oil wells, that are now abandoned and flooded<sup>33</sup>. Uncontrolled release of crude oil, associated gases, oil emulsions, groundwater can cause irreversible consequences on the waters of biological habitats of commercial fish and other animals. Such releases have already taken place in the territorial waters of Kazakhstan, which caused in 90-ies of the XX century - early XXI century a huge die-off of seals in the Northern Caspian.

Natural and anthropogenic factors were the main cause of the ongoing degradation of marine ecosystems and decline in stocks of marine fisheries, primarily sardines. They adversely affected the catches of fishermen, who fishes at their own risk or on the acquired patents, and the performance of the State enterprise "Balkanbalyk". Together with corruption and crime that has infected state-owned enterprise, these factors combined effect contributed to the negative dynamics and the approaching end of the industrial complex of marine fisheries sector in Turkmenistan.

## PROSPECTS OF MARINE FISHERY IN TURKMENISTAN

<sup>33</sup> Including the Turkmen sector of the Caspian sea.

In 2006, the marine fishery was still the basic industry and one of the priority directions in the development of the economy of Western Turkmenistan. According to official data, there were caught about 90 percent of all fish produced in the country. In accordance with the Program "Strategy of economic, political and cultural development of Turkmenistan for the period till 2020" in front of the fisheries complex the task was set to increase the volume of fish production to 30 thousand tons by 2010, and up to 80 thousand tons by 2020. This gave hope for the employment of thousands of indigenous Caspian Turkmen in traditional industry.

On the basis of the stated proportions of marine and river-lake fishery, the share of marine fishery would have at least 27 thousand tons in 2010. In 2005/06 the company "Balkanbalyk" harvested 14-15 thousand tons of fish. Given the active support from the state, the goal, that was set for the Caspian fishermen, was very real, but it was not carried out for the reasons stated above. In 2010, the fishery didn't even reach a thousand tons, or was 20 times less than the stated figures. Taking into account the critical situation that has prevailed in the enterprise "Balkanbalyk" by 2015, the task to raise the country's volume of fish production in 2020 up to 80 thousand tons, of which more than 70 thousand would have had the share of marine fishery of the state, now looks as absurd of ashgabat dreamers.

In order to save marine fishery in Turkmenistan, you need to remain sober economic calculation and public will. First of all, you must abandon outdated models of smallholder management of this industry. Based on mutual responsibility and criminal income, it turned once powerful fishing enterprise in the farm gate of oil and gas industry<sup>34</sup>.

You need to regain economic independence for both the enterprise "Balkanbalyk" and the Committee for fisheries of Turkmenistan. In a difficult period for sea fishing, co-financing of projects in the fishing industry should not occur in strict tandem with the oil and gas industry, but at the expense of investments from the state budget and mutually beneficial investment in the fishing industry from other industries of economic complex. The development of the allocated funds should be transparent and under control not only by the state but also by society, including non-biased media.

Today the company "Balkanbalyk" is in need of radical reconstruction and modernization of not only fishing fleets, but coastal production facilities. All the shops and cargo areas, including wharves and piers, do not meet the basic requirements of operation. Mooring line of the enterprise is cluttered by the overaged vessels put into storage<sup>35</sup>. Thousands of tons of metal of the same origin rusts along the banks, spoiling the appearance and polluting the waters of the Gulf of Turkmenbashi. The status of the resort city and international environmental standards urge to get rid of this junk.

Since 2005, for the purpose of improvement of ecological situation in the city of Turkmenbashi, there were made unsuccessful attempts to relocate the company "Balkanbalyk" in Kiyarly, where in 2007 it began the construction of a complex on artificial

<sup>34</sup> The desire of oil majors to subdue the fishermen has a long history. In 1988, the management of NGDU "Kamyshdjaneft" tried to turn fishing farms of Gasan-Kuli in their farms.

<sup>35</sup> Some of them are still listed in the ship's schedule as fully-featured boats. The funds are provided by the cost estimates for their maintenance.

breeding of sturgeons and production of caviar. The construction of the object of industrial fish culture with a production infrastructure for marine fishing industry has become protracted and is still at the stage of a zero cycle. Therefore, the construction of modern coastal marine fishing is the primary cause. Otherwise, there will have nowhere to stick a new addition of fishing boats that are purchased without taking into account the needs and support in the enterprise.

To restore full-fledged work on "Balkanbalyk" you have to deal with staffing issues. For many years it was managed by incompetent appointees of departmental structures of oil and gas industry. Knowledgeable specialists should work in marine fisheries. This requirement is equally important for senior and middle managers and ordinary workers, and especially to the crews of vessels. Their training should be systematic and should start as early as possible - better with school career counseling. We believe it is absolutely necessary to send the talented young people wishing to work at sea, in the specialized maritime educational institutions of the CIS countries and Baltic States.

It is required to perform the personnel reorganization in the ranks of the current team, especially in its management core. By slavish obedience, subservience and compromise, these pseudo-managers largely contributed to the collapse of production. There is a reason for the rotation. The company lives on donations and at the current negative rate of production, to hold a whole tribe of incompetent managers is unprofitable and immoral. Given their mentality, which formed in terms of criminal business, it is difficult to expect that they will take an active part in positive reform of the enterprise.

In circumstances of urgency, it would be right to seek the assistance of foreign managers and charge them for a certain time with the management of enterprise "Balkanbalyk" or completely new in the marine fisheries of Turkmenistan structure, that was created to replace it. The remuneration of foreign experts, and they may be professionals from Scandinavia and the Baltic countries, with which the Committee of fish industry of Turkmenistan has good relations, has to pay off by an exemplary organization of production, labour productivity and enhancing labour discipline based on respect for the rights and dignity of workers. Only professionals will be able to intelligently form a rational composition of the fishing fleet of Turkmenistan in the conditions of reduction of the biological resources of the Caspian sea. Competent leadership will create basic elements for economic growth, it will return trust to the authorities, which will be a cornerstone in the revival of the Turkmen sea fishing and the return of the fishermen - Turkmen Caspian sea traditional fishery.

Serious concern for marine fisheries dictates the rejection of the emptiness of verbal policies in promoting entrepreneurship among the fishermen in the coastal zone of Turkmenistan, demands from the government concrete and decisive measures to support fishermen, preserved, fortunately, to this day, both natural and legally organized private fishing. Today, they are, due to the critical status of the state fishery in the Caspian sea, the main suppliers of marine fish to the markets of the country<sup>36</sup>. You must return the self-respect natural to the

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<sup>36</sup> Today the enterprises of lake and river fishery, including the State enterprise "Altyn balyk" and all the regional production of aquaculture cultivation, do not satisfy consumer demand. The products of these companies is primarily

fishermen to release them for a reasonable period from taxes and annoying selfish guards of all stripes, with impunity, a parasite on the workers of the sea. You need to help them with extremely preferential loans for purchase of fishing gear and small safe vessels.

A clear and predictable future of marine fisheries in Turkmenistan also depends on what kind of geo-ecological and political-economic situation will be in the world and the Caspian region.

The predictions in this area is extremely disappointing, but the development of events through the gloomy scenarios shoots in the near future all the question of the existence of not only fisheries, but the fish in the Caspian sea. Local fisheries has been steadily declining. Almost lost commercial value anchovy sprat and big-eye kilka, ten times reduced the reproduction of carp, herring, roach, bream and other small fish<sup>37</sup>. From the latter still remains, though not in the previous volumes, the mullet<sup>38</sup>. Caspian salmon is out of sight; the stellate sturgeon, Beluga and ship are critically endangered<sup>39</sup>.

Repeated, like a mantra, from all the high departments, the assertion that the unique Caspian sea is a natural repository for 90% of the sturgeon – the most valuable fish in the world - is a long time not true. High amount of unreported harvesting and the lack of regional normative-legal base in the mechanism of protection of unauthorized fishing has done its dirty work. In recent years there is a decrease of all studied in the framework of intergovernmental cooperation of the Caspian countries and independent experts indicators of the status of the natural stock of sturgeon.

Still remaining the largest supplier of environmentally friendly sturgeon and black caviar, the Caspian sea in the volume of catches begins to rapidly give way to aquaculture production of sturgeon, produced mainly at the enterprises of the Russian Federation and the Islamic Republic of Iran. At the same time, aquaculture, being a powerful source of market saturation by products of protein and a donor of juvenile fish for restocking the sea, have a negative impact on natural population of sturgeon, causing the irreversible mutation. Even now, according to international experts and departmental monitoring of the Caspian sea, the modern population of sturgeon is half made up of fish of artificial generation. In the apparent decline in the natural flavor and other organoleptic qualities, their only advantage over aquaculture is a natural gain and, as a consequence, more weight.

The most menacing cloud that covers the optimistic horizons of marine fishery in the Caspian sea, is the development of its shelf. The extraction of minerals and, primarily, hydrocarbon resources, associated with the well-being of the Caspian countries, is gaining momentum and

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sold in Ashgabat and in places of the production of freshwater fish. It does not come in the retail network of the coastal cities.

<sup>37</sup> The slow recovery of herds of anchovy sprat in the process of competition for forage resources with the ctenophore *mnemiopsis* is far from complete, and does not affect the stable trend of impoverishment of biological resources of the Caspian sea.

<sup>38</sup> Herring-carnosine, kutum and perch, that were disappeared from the fishery, appeared to a limited extent in the coastal fishing. It is a favorable sign, but the unexpected nature of the return of these fish is unknown. Currently, a special "hunt" on them is not conducted, they are caught at random, while their flocks enters the nets for mullet. Perch is mostly caught by the nets and trap nets near the rocky shores, where it mainly inhabits.

<sup>39</sup> From the speeches of the participants of the Caspian environment forum-12 in Avaza.

will grow every year, as oil reserves amount of the sea is proven to be of 10 billion tons, 3 billion of them belongs to the Azerbaijani sector of the Caspian sea. In accordance with this it will increase risks and environmental problems in the region.

In the present state of things, when the Caspian littoral countries was not fully resolved many of the issues of environmental management in the Caspian sea, there is no guarantee that man-made cataclysm, that occurred in the Gulf of Mexico in April 2010, will not happen here. But the Caspian sea is not comparable with the oceanic expanse of the Gulf. If such a disaster will happen to him, it quickly turns into an oil lake with unpredictable consequences for the entire Eurasian subcontinent.

The prerequisites for this are present. First of all, they lie in the desire of the majority of the elites of the Caspian States to delimit the expanse of the Caspian sea and to convert their inherited land in the patrimony of the national oil and gas corporations for which protection of biodiversity of the Caspian sea and issues of marine fisheries are a matter of secondary importance. For example, the scale of hatchery reproduction of sturgeons in the whole Caspian sea recently reduced. This is not caused by concern about the purity of the natural lines in the fish populations, but by more profitable investment in the oil business on the Caspian shelf. The showy buys of fishing vessels by Turkmenistan speaks on the slave position of the fishing, when there is real lack of professional ships crews and the total collapse of the coastal infrastructure of the enterprise "Balkanbalyk". This may also include artificially frozen long-term construction of marine fishing industry in Kiyanly, Esenguly, Turkmenbashi etrap and other examples. Of the same series is advertising of fish products of "Balkanbalyk" at the international exhibitions, where a company, that is not having a sufficient range and volume of its products in the trading network, referred to as the flagship of the domestic fishing industry. All this is rhetorical garbage that prevents constructive reform of marine fisheries.

In this situation, professionals who have worked in sea fishery for decades, see a way out of the situation in the joint possession of the sea states in the Caspian region. They propose to create, with the participation of authoritative international organizations, the independent institutions for the protection of the Caspian ecology, rational use of its diverse natural resources, including fish stocks.

This idea gradually hit the road in life. Today it is supported even by the top management of Turkmenistan in close in terms interpretation. Speaking at the meeting on UN conference held on 14 March 2015 in the Japanese city of Sendai<sup>40</sup>, the President of Turkmenistan Gurbanguly Berdimuhammedov called the Caspian sea a zone of high risk and proposed to establish in Ashgabat the UN Regional centre for cooperation in the field of environmental protection in vulnerable regions of Central Asia. Implementation of this proposal can play a decisive role in the revival of a comprehensive and careful use of natural resources of the Caspian sea at the macro level. But the implementation of such projects is impossible without the engagement of an active civil society not only in Turkmenistan, but also in other countries of the Caspian region. But, in this case, in Turkmenistan, we need political decision on the

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<sup>40</sup> III world conference of the UN "Disaster risk reduction".

creation of favorable conditions for free registration and functioning of public organizations and associations of civil society, but only the state resource and the government shouts will not solve the problem. In this case, you can build a positive prognosis on the increase of fish resources of the Caspian sea and, accordingly, the recovery on the basis of innovation marine fisheries in Turkmenistan and the Caspian countries.

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