SVENSKA ARALSJÖSÄLLSKAPET

Swedish Aral Sea Society

The Aral Sea Crisis and Activities in Uzbekistan to Improve Situation

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The Master of Science level academic course
Sustainable Development and Sustainability Science (SDSS)

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Implementing development of Central Asian region in the 1930-80s

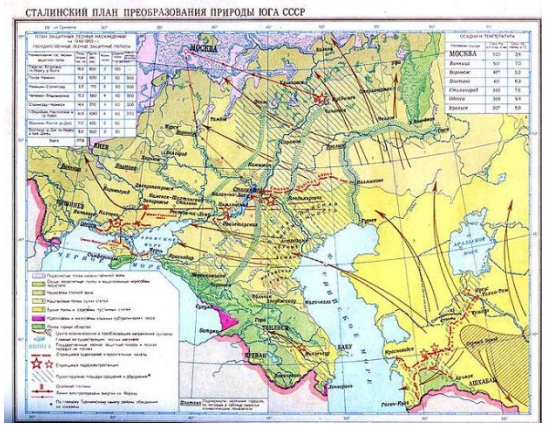


the leadership of the republics and the entire Soviet Union understood that the Aral Sea would disappear if all the waters were taken from the rivers for socio-economic needs.

The speech of the First Secretary of the Central Committee of the Communist Party of Uzbekistan **Usman Yusupov** at a meeting at the Central Committee of the Communist Party of Uzbekistan with the parliamentarians of the Uzbek SSR in Tashkent in 1939:

"We cannot look to the fact that the Amu Darya river is carrying its waters to the Aral Sea uselessly, when our lands in the Samarkand and Bukhara regions are not irrigated enough. And our task, as true Bolsheviks, is to change the existing situation, smashing all sorts of sabotage theories, to ketch the Syr Darya and Amu Darya, hold them tightly in our hands, make their waters serve the interests of socialism, the growth of the material level of the population and development of the country"

Stalin's plan for the transformation of nature (approved by the USSR Council of Ministers on October 20, 1948)



The construction of the world's largest artificial canal - the Karakum canal and the creation of huge irrigated areas throughout Central Asia - in accordance with **Stalin's plan for the transformation of nature** - was proclaimed as a victory over the desert!

However, 40 years later, nature took revenge - and instead of the conquered desert there was created a new one - **Aralkum.**

For the first time, it was loudly announced about the possible death of the Aral Sea in 1949

Full member of the Academy of Sciences of the Uzbek SSR Alexander Askochensky in the jubilee collection dedicated to the twenty-fifth anniversary of the Uzbek SSR he wrote about "the grandiose tasks of the radical redistribution of water resources in space and time":



"As a result of such redistribution of water across the Aral lowland, over time, ***the Aral Sea will disappear*** *and be replaced by huge irrigated areas. The sea mirror, which has uselessly evaporated water in the western part of the lowland, will move to the east, closer to the mountains, which should undoubtedly humidify the climate of the foothill zone.*

The regime of water sources will also be changed with the help of reservoirs, which, located in the upper and middle reaches of rivers, will have a positive effect on the climate.

As a result of those largest hydraulic engineering works, the geography of Central Asia will be changed ".

STORY of the ARAL SEA DRYING


1964


1973

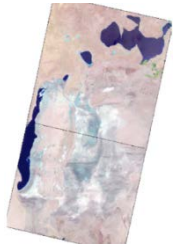

1987


1998


2002

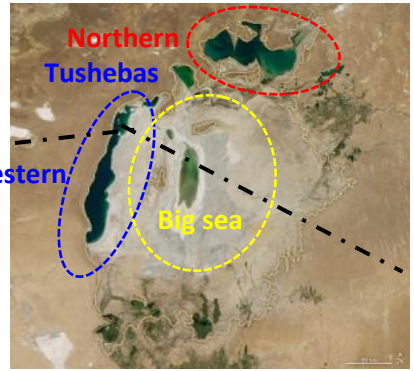

2009


2017


2023

Anthropogenic factors (the main of which are intensive industrial, irrigation and hydropower developments) **together with natural factors** (climate aridity - a combination of high air temperatures, high evaporation and significant small amount of precipitation) led to the death of the Aral Sea. The less water flowed into the sea along the Amudarya and Syrdarya rivers, its depth and volume of water became less, the faster it warmed up - evaporation was bigger, which accelerated its drying.

The Aral Sea was divided into North and South in 1989 as a result of decrease of water levels and drying up of the Berg Strait. By end of the 1990s, the Big (Southern) Aral Sea turned into a hypersaline body of water. Salinity in 1997 was 57 ‰ (ppm). In 1998 the island of Barsakelmes merged the coastal land, in 2001 - the island of Vozrozhdenie also stopped to be an island.



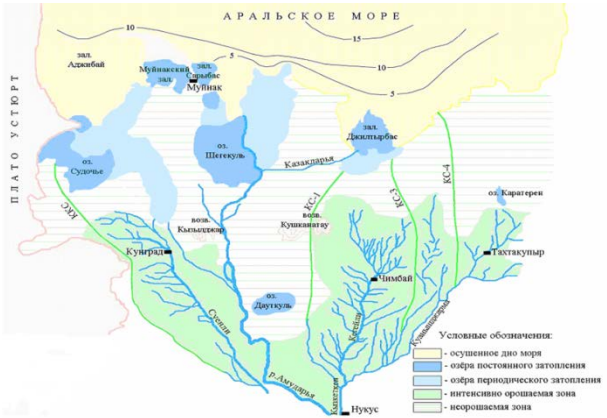
In 2003, the South Aral Sea was divided into Eastern and Western parts, which are connected by the narrow Uzun-Aral strait, located at an altitude of 29 m above sea level. This configuration does not allow water of those two bodies to mix. In 2004, a small lake Tushchibas, which was previously bay of the Aral Sea - separated from the Eastern part.

In 2005, the Small Aral Sea was cut off from the Big Sea by the Kokaral Dam - on territory of Kazakhstan. Both Sea bodies were finally separated.

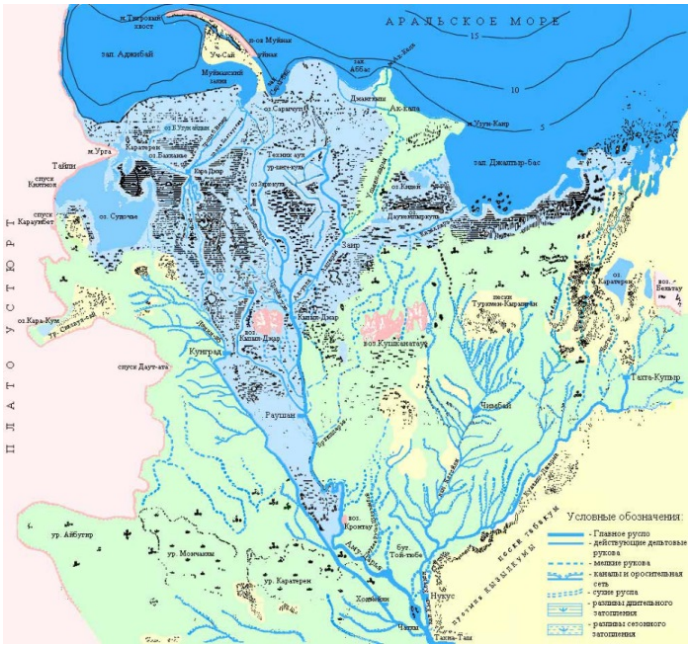
The drying up of the Aral Sea was reflected in significant changes of hydrographic situation and hydrological conditions over the whole territory of the Aral Sea zone

During period 1963 - 65 years. a noticeable decline of the Aral Sea water level started, which led to draining of vast territories - both in the north (in the delta of the Syrdarya River in Kazakhstan), but especially in the South Prearalie (in the delta of the Amudarya River). Transformation of all ecosystems began due to changes in water inflow, new hydrogeological processes, changes in soil cover, and creation of deltaic lakes instead of sea bays

In 1968 - 70 years in the Republic of Karakalpakstan, development of new lands area for rice production (about100 thousand hectares) was started, which were mainly concentrated in the northern regions. Due to digression of the Aral Sea and falling groundwater level, reclamation conditions on irrigated areas began to change dramatically.



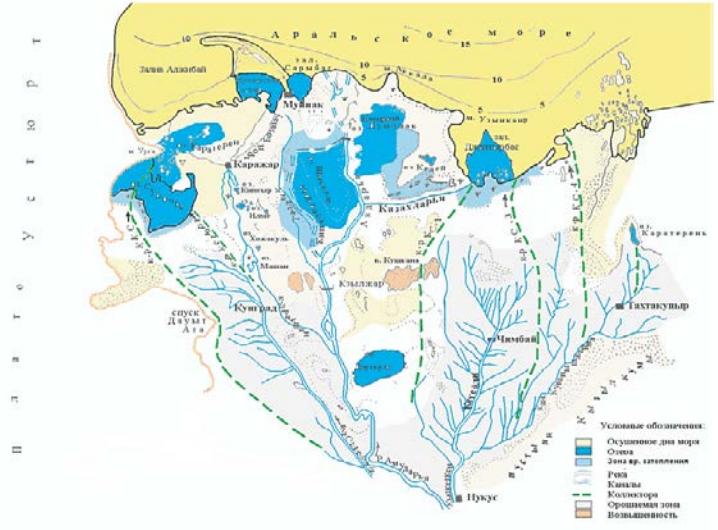
In this regard, construction of large drain collectors was started - KKS (irrigation system zone by the Suenli canal), KS - 1 (irrigation system zone by the Kegeyli canal), KS - 3 and KS - 4 (irrigation system zone by the Kuvanishzharma canal). The diverted water along these collectors enters, mainly, into the remaining water bodies in the Amudarya delta.



The diagram shows the South Aral Sea zone in 1963

http://www.cawater-info.net/library/rus/gwp/iwrm_in_amudarya_book.pdf

As a result of lowering water horizon of the Aral Sea coastline began moving out and draining of the territory increased every year. The former bays of the Aral Sea - Adjibay, Muynak, Sarbas, Zhiltyrbas by 1992 transformed into lakes cut off from the main sea.



The diagram shows the South Aral Sea in 1992
http://www.cawater-info.net/library/rus/gwp/iwrm_in_amudarya_book.pdf

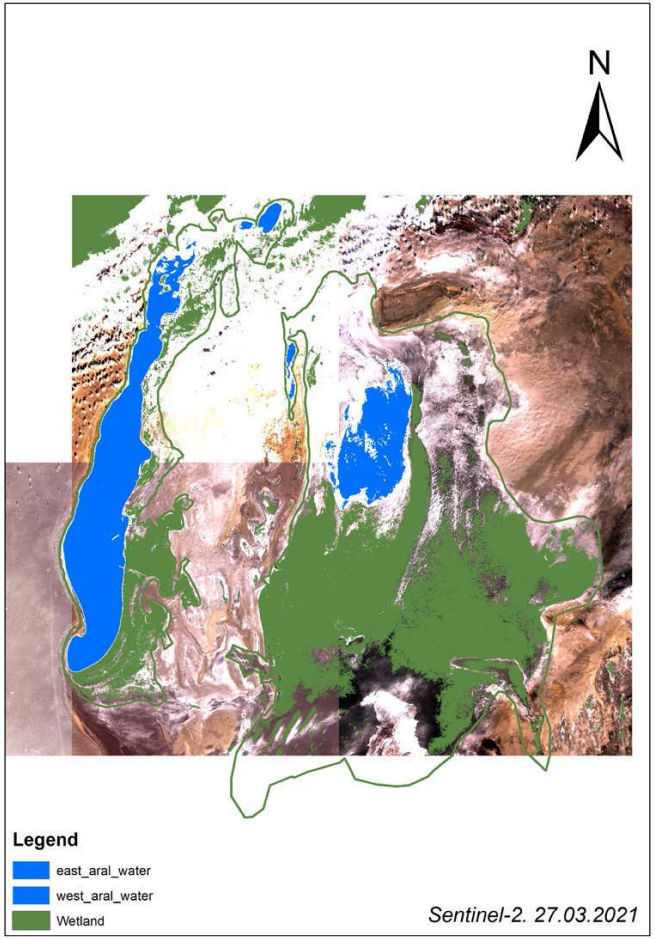
Transformation process of coastal ecosystems of the Aral Sea region has begun. While the Aral was alive, the greatest diversity of vegetation cover was along the river channels of deltas, forming huge tracts of tugai - original forests combining shrubs, grass and tree thickets, typical for floodplains, watered periodically by floods and drifted sediment layers.

After retreat of the Aral Sea, the bushes of Turanga, Oleaster, and Willow gradually began to disappear or reduced. They began to be replaced by salt-tolerant vegetation - Saxaul, etc.

Of floristic diversity of **574 plant species**, by year 2000, 422 species were actually noted, and **152 plant species disappeared forever**. Of the remaining 422 plant species, 54 species are close to disappearance.



Degradation of tugais was accompanied by their replacement by Tamarix thickets and halophyte shrubs. **The typical tugai has decreased from 42% in 1960 to 5% in 2000 over entire area of the Amudarya delta.**



Sentinel-2 L2A satellite imagesof March 27, 2021

The images were processed by SIC ICWC specialists. As you can see, water bodies are shown in blue. To determine the water surface, the formula was used

Automated Water Extraction Index	AWEI = 4 ×(Green-MIR) − (0.25×NIR + 2.75 ×SWIR)	Water has positive value

In the central part of the Aral Sea, the area of the water surface was 106382 hectares.

Areas of wetlands - swampy humid saline soils - are shown in green

RECOGNITION of SERIOUS DEGRADATION of ECOSYSTEMS and CLIMATE CHANGES LEAD to UNDERSTANDING NEED to CREATE the INTERNATIONAL FUND for SAVING the ARAL SEA

On January 4, 1993, a meeting of the Heads of Central Asian countries was held in Tashkent: President of the Republic of Kazakhstan Nursultan Nazarbayev, President of the Kyrgyz Republic Askar Akayev, Chairman of the Supreme Council of the Republic of Tajikistan Emomali Rakhmonov, President of Turkmenistan Saparmurat Niyazov, President of the Republic of Uzbekistan Islam Karimov.

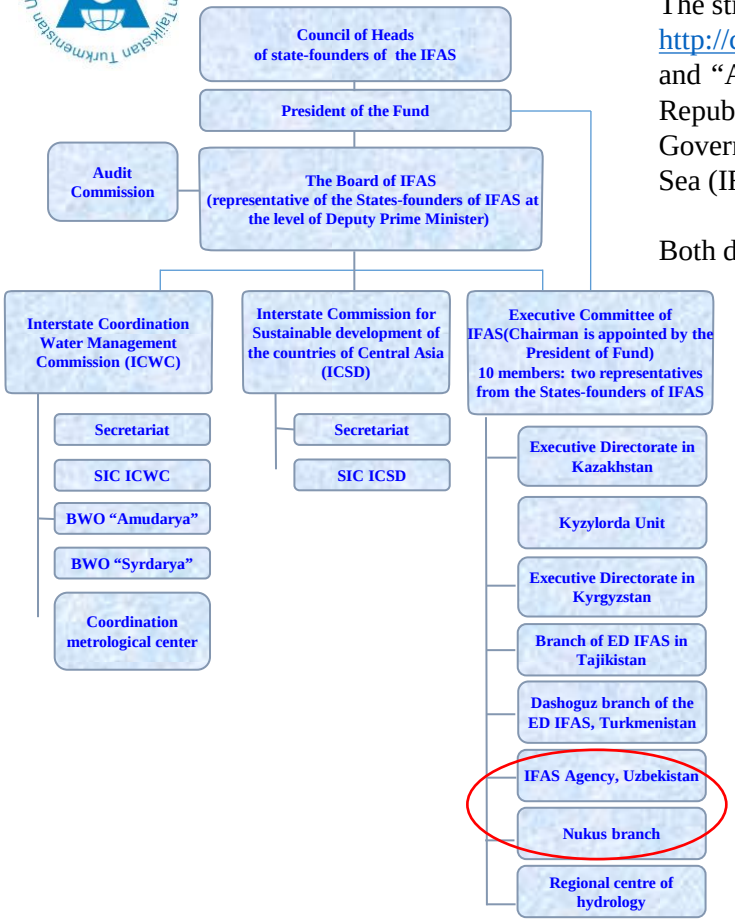


Following the meeting, a joint communiqué of the Heads of Central Asia countries was adopted with a decision to establish an International Fund for Saving the Aral Sea.



At the meeting of the Heads of Central Asian countries in Kyzylorda on March 26, 1993, there was adopted the **"Agreement on Joint Actions to Solve the Problems of the Aral Sea and the Aral Sea Region, Environmental Improvement and Ensuring the Socio-Economic Development in the Aral Region",** and the Fund for Saving the Aral Sea (IFAS) was established. **The date March 26, 1993 is considered as the day of foundation of IFAS.**

Organogram of the International Fund for Saving the Aral Sea



The structure of IFAS is determined by the "Regulations on IFAS" http://cawater-info.net/library/rus/ifas/ifas_2.pdf and "Agreement between Government of the Republic of Kazakhstan, Government of the Kyrgyz Republic, Government of the Republic of Tajikistan, Government of Turkmenistan and Government of the Republic of Uzbekistan on Status of the International Fund for Saving the Aral Sea (IFAS) and its organizations" http://cawater-info.net/library/rus/ifas/ifas_1.pdf

Both documents were signed by Presidents of the countries on April 9, 1999 in Ashgabat

IFAS is headed by the President, elected alternately among the Presidents of the Central Asian states for a period of 3 years. Over the 30-year history of the IFAS, its Presidents have been elected:

- President of the Republic of Kazakhstan N. Nazarbayev (1993-1996)
- President of the Republic of Uzbekistan I. Karimov (1997-1999)
- President of Turkmenistan S. Niyazov (1999-2001)
- President of the Republic of Tajikistan E. Rakhmonov (2002-2008 - the term was extended due to the refusal of the Kyrgyz Republic to accept the IFAS leadership)
- President of the Republic of Kazakhstan N. Nazarbayev (2009-2012)
- President of the Republic of Uzbekistan I. Karimov (2013-2016)
- President of Turkmenistan G. Berdimuhammedov (2016-2019)
- President of the Republic of Tajikistan Emomali Rahmon (2020 -2023)
- President of the Republic of Kazakhstan Kassym-Jomart Tokayev (2024-2026)

Location of the EC of IFAS



On July 13, 1993 there was held the first meeting of the Board of IFAS in Tashkent

Concept of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan on solving the problems of the Aral Sea and the Aral Sea basin, taking into account the socio-economic development of the region (Basic Provisions) was adopted

http://www.cawater-info.net/library/rus/gov8.pdf

The concept states that: *"to restore the sea to its full volume at an elevation of 53 m, it will be necessary to ensure an annual flow of 65 km3 of water into the Aral Sea, not taking into account the water demand of the delta…, and the steps taken are not sufficient to solve the problem. This is the difficulty of implementing such a proposal "*

It was also noted: *"... the preservation of the existing sea will not solve all the problems that have already caused damage to the environment, and the process of desertification continues without reducing its intensity, pushing the sea more and more away from human settlements, further complicating socio-economic development and exacerbating the already difficult conditions for life of the local population "*

Based on this, the main task was set for IFAS - to reduce harmful impact of the Aral Sea crisis on environment and livelihoods of millions of people living in the Aral Sea region, including through implementation of well-prepared, targeted and adequately funded projects.

Summits of Heads of state-founders of the IFAS

Date	Place
January 4, 1993	Tashkent, Uzbekistan
March 26, 1993	Kyzylorda, Kazakhstan
January 11, 1994	Nukus, Uzbekistan
March 3, 1995	Dashgovuz, Turkmenistan
September 26, 1995	Nukus, Uzbekistan
February 28, 1997	Almaty, Kazakhstan
April 9, 1999	Ashgabat, Turkmenistan
December 28, 2001	Tashkent, Uzbekistan
February 28, 2002	Almaty, Kazakhstan
October 6, 2002	Dushanbe, Tajikistan
September 1, 2006	Astana, Kazakhstan
April 28, 2009	Almaty, Kazakhstan
August 24, 2018	Avaza, Turkmenistan
September 15, 2023	Dushanbe, Tajikistan



Heads of states-founders of IFAS on August 24, 2018



Heads of states-founders of IFAS on September 15, 2023

Meetings of the IFAS Board. To date, 6 meetings of the ICAS have been held (in Uzbekistan -2, in Turkmenistan -2, Kazakhstan -2) and 24 meetings of the Board of the Fund (in Uzbekistan - 4 times, Kazakhstan - 3, Tajikistan - 14, Turkmenistan - 3)

The last meeting of the Board was held in Dushanbe (Tajikistan) on 14 September 2023 (the delegation of Uzbekistan was headed by Deputy Prime Minister Sh, Ganiev).



Until 2016, the IFAS was the main driver for Uzbekistan in eliminating the consequences of the Aral crisis

Legal documents constituting the legal framework of IFAS

- Agreement on cooperation in the field of joint management, use and protection of water resources of interstate sources (Alma-Ata, February 18, 1992)
- Charter of the Syrdarya Basin Water Management Organization (Ashgabat, April 6, 1992)
- Charter of the Amu Darya Basin Water Management Organization (Ashgabat, April 6, 1992)
- Decision of the Heads of state of Central Asia on the establishment of the International Fund for Saving the Aral Sea (Tashkent, January 4, 1993)
- Agreement on joint actions to resolve the problem of the Aral Sea and the Aral Sea region, ecological improvement and ensuring the socio-economic development in the Aral region (Kyzyl-Orda, March 26, 1993)
- "Concept of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan on solving the problems of the Aral Sea and the Aral Sea basin, taking into account the socio-economic development of the region (Basic Provisions)" (Tashkent, July 13, 1993)
- Schematic diagram of IFAS, in accordance with which the Interstate Council and the Executive Directorate of the Fund were transformed into EC IFAS, placed on a rotational basis in the country presiding over IFAS (approved by the Heads of States of the founders of IFAS in Almaty, February 28, 1997)
- Decision of the Heads of State of Central Asia on the approval of the "Regulations on the International Fund for Saving the Aral Sea" and "Agreement on the status of IFAS and its organizations" (Ashgabat, April 9, 1999)
- Intergovernmental agreement on the status of the International Fund for Saving the Aral Sea and its organizations (Ashgabat, April 9, 1999)
- Regulations on the International Fund for Saving the Aral Sea (Ashgabat, April 9, 1999)
- Regulations on the Scientific Information Center of the Interstate Commission for Water Coordination (Ashgabat, April 9, 1999)
- Regulations on the Interstate Commission for Sustainable Development (Almaty, February 18, 2000)

More details: http://www.cawater-info.net/water_world/index.htm

The Aral Sea Today

22 August 1964
first NASA image



April 4, 2023 Image by: Oleg Artemiev, from Int. Space Station

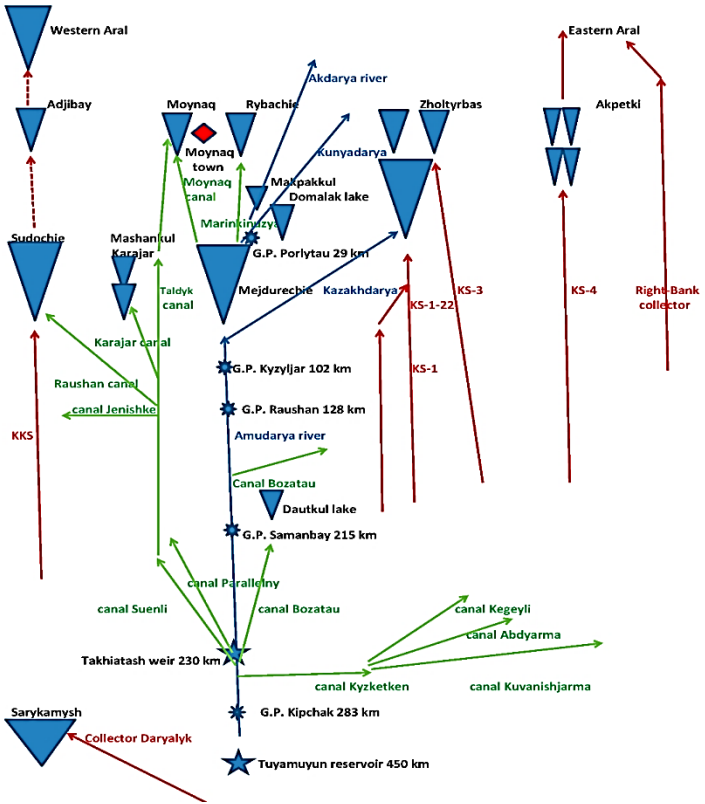


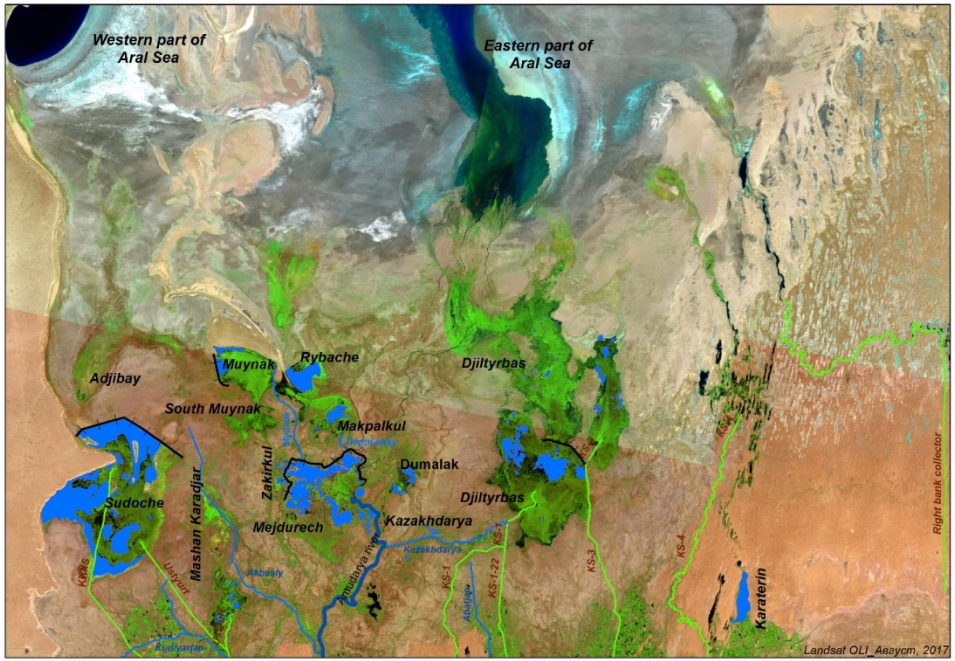
Water surface of the Sea in the 1960 was about 68 900 km²
Maximum depth 69 m, Water transparency – up to 25 m.

Data from: Committee of Water Resources of Kazakhstan, Uzbek Hydromet and SIC ICWC

TOTAL WATER INFLOW to the Southern ARAL SEA ZONE

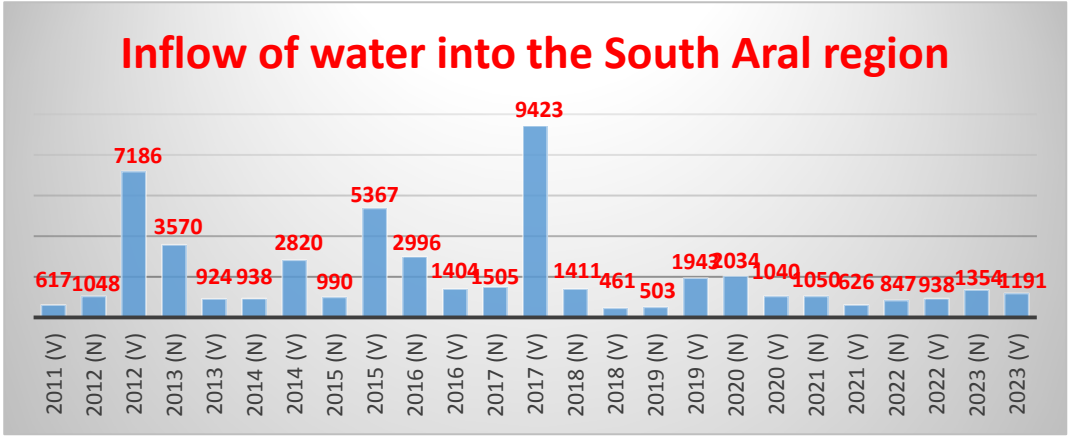
Includes the sum of the flow along the Amudarya river below Takhiatash, water intakes to the Suenli, Parallel and Kyzketken canals, flow through drainage collectors KKS (to Sudochye), KS-1, KS-1-22, KS-3 (to Dzhiltyrbas), KS-4 (to Akpetki, Eastern Sea) and Right-Bank collector to the Eastern Aral





Inflow of water into the South Aral region http://www.cawater-info.net/aral/data/index

Time period (hydrological year)	Total inflow Million m^3
April - September 2011 (V)	617
October 2011 – March 2012 (N)	1048
April - September 2012 (V)	7186
October 2012 - March 2013 (N)	3570
April - September 2013 (V)	924
October 2013 - March 2014 (N)	938
April - September 2014 (V)	2820
October 2014 - March 2015 (N)	990
April - September 2015 (V)	5367
October 2015 - March 2016 (N)	2996
April - September 2016 (V)	1404
October 2016 - March 2017 (N)	1505
April - September 2017 (V)	9423
October 2017 - March 2018 (N)	1411
April - September 2018 (V)	461
October 2018 - March 2019 (N)	503
April - September 2019 (V)	1943
October 2019 - March 2020 (N)	2034
April –September 2020 (V)	1040
October 2020- March 2021 (N)	1050
April 2021 – September 2021 (V)	538
October 2021- March 2022 (N)	847
April – September 2022 (V)	938
October 2022 – March 2023 (N)	1354
April 2023 – September 2023 (V)	1191



The total inflow of water into the South Aral Sea region for period 2011-2023 (12 hydrological years) amounted to 50.91 km^3 or an average of 4.24 km^3 per year. For individual years, the value varies from 0.96 km^3 per year (2018-19) and 1.38 km^3 per year (2021-22) to 10.75 km^3 per year (2012-13) and 10.83 km^3 per year (2017-18).

Such a large variation in annual inflow negatively affects hydrological stability of water bodies, which leads to destruction of ecology in the zone of individual water bodies, and violation of biodiversity.

Therefore, fish, fauna and flora of these water bodies are unstable due to instability of water-salt regime, which is formed without any control, under influence of random factors.

Unfortunately, still there is no regular, systematic, instrumental monitoring of both remaining water bodies of the former Aral Sea and entire zone of dried sea bottom.

Parameters of the key remaining Water Bodies in the South of Aral Sea

http://www.cawater-info.net/aral/data/monitoring_amu

Date	Western Aral	Eastern Aral	Sudochie Lake system	Rybachie Lake	Muynak Lake	Dzyltyrbas Lake system
Water surface area, hectares						
November 2011	-	-	10948,9	3082,6	**3587,9**	**7682, 3**
October 2012	**369659,2**	215986,1	12002	**5231,8**	1161,9	4646,8
October 2013	361979	139963	10327,3	2673	1014	5920
November 2014	324003	96829	9183,4	1046,7	111,4	5509,8
October 2015	300707	313037	14645,5	3794,3	1698,9	7503,1
September 2016	291583	125457	**21987,3**	3137,2	1272,5	6247,3
October 2017	270788	**251351**	17466	3588,5	1018,4	6582,9
November 2018	268399,2	128291	9860	2740,6	395	5567
June 2019	264967	34965	12977	2332,9	295,5	5233,1
July 2020	255799	166507	14672,1	2601,2	606,2	5731,7
October 2020	253406	54962	12276,3	2186,2	431,3	6332,9
April 2021	291875	78369	13411	2383,7	602,5	6021,1
August 2021	241290	31469	9634,9	1263,3	151,3	5570
September 2021	235023	18113	8822	140	108	5125
6 October 2022	211800	-	4325	0,18	5,31	213
18 January 2023	209 733	364	6906	1574	2754	451
26 May 2023	210294	2588	9473	1871	129	5300
13 July 2023	208318	406	3101	531	16	890
Water Level (Baltic system, m) **for West Aral** data from Hydromet station Aktumsuk (45,0809,8; 58,1732,4)						
2011 (31 May)	27,74	27,8				
2021 (31 May)	21,13	N/A	51,06	50,62	50,77	50,83
2022 (31 December) Delta Dept	19,57 (29.12.22)	N/A	49,85	49,0	49,9	47,8
2023 (30 June) Delta Dept	19,26	N/A	49,85	49,61	49,9	47,8
Mineralization (2021), G/L	180	60,0	7,5	10,0	10,0	15,0

As seen from this table, conditions of remaining water bodies in the Southern Aral Sea region are very unstable - due to not stable inflow of water into this zone

To Solve this Problem there was proposed the Project “Creation of the System of Local Water Lakes, Reservoirs and Wetlands in the Amudarya River Delta and Dried Part of the Aral Sea”

Project Objectives: The project will construct the system of the engineering structures in the Amu Darya delta and artificially flooded landscape ecosystems, adjacent areas of the dried bed of the Aral Sea, so that to restore the natural ecological regime in the entire South Aral Sea Region.

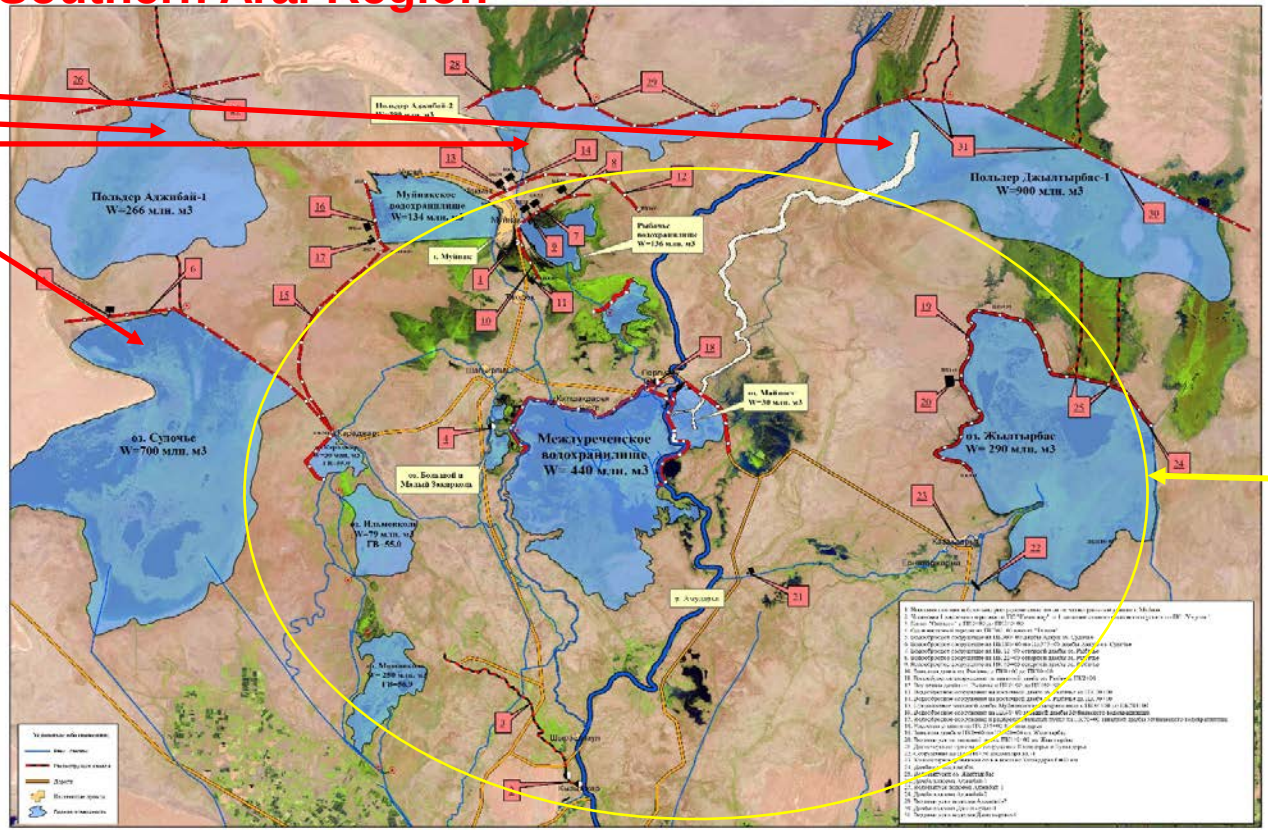
Project Structure:
The project’s objective is to revive two project zones of the Aral Sea Region on a differentiated basis:

Zone I is landscaping of the Amu Darya delta for restoration of historical ecological regime and creation of conditions for normal habitation. For this zone, water bodies of the first stage impoundment have been selected. These include Mezhdurechensk, Rybachye, Muinak and Dzhiltyrbask reservoirs, Mashankul, Ilenkul, Makpalkol and Dumalak. Lakes.

Zone II is landscaping of the dried bed of the Aral Sea to mitigate the effect of the sea reliction. For this zone, water reservoirs of the second stage have been selected, which include Adjibay - 1, Adjibay - 2, Dzhiltyrbas - 1, which will receive water according to natural water availability.

Scheme of Allocation of the Water Structures in the Southern Aral Region

Structures
In the Zone II



Structures
in the Zone I

The main objective of the works in the Zone I is the completion of construction and reconstruction of the structures, which were not financed during previous works, as well as construction of new structures in this area, which were originally included in the Feasibility Study. Completion of the works in Zone I includes the following structures:

No.	Construction activities	Estimated cost of construction (as of 1.01.2018) $US million
1	Raising the height of the existing Northern and Eastern dams of the Mezhdurechensk reservoir to the level of 59m, in order to ensure the design volume of the reservoir capacity	10,0
2	Outlets for impounding of Small and Big Zakirkol lakes and augment Taldyk canal	0.34
3	Reconstruction of “Shuak” dam	0.48
4	Completion of construction of diversion canals and reinforcing downstream reaches of Rybachye Reservoir outlets	0.19
5	Construction of protection dam on Makpalkol lake	1.46
6	Construction of outlet from Makpalkol lake	0.75
7	Reconstruction of the Darkesh canal	0.78
8	Construction of the South Dam of Muynak reservoir	6.18
9	Rehabilitation of side spillway from Mezhdurechensk reservoir to Maypost-Domal lakes system	8.24
10	Construction of the structures in the system of eleven outlets to increase the level of the water weir to the level of 57m	2,5
11	Reconstruction of Raushan canal, 42 km long and flow capacity of 150 m^3/s, Liman canal (10 km, 10 m^3/s) and Mashankul spillway (8.3 km, 60 m^3/s).	4.2
12	Reconstruction of headwork on Amu Darya River to Raushan canal with the discharge of 150 m^3/s.	0.41
13	Reconstruction of outlets from Raushan canal to Liman canals (10 m^3/s) and Mashankul spillway (60 m^3/s).	2.25
14	Clearing Big Zhansyz offset canal, 20.2 km long.	0.75
15	Outlet from Mashankol lake to Small Zhansyz offset canal with the discharge of 30 m^3/s	1.17
16	Outlet from Small Zhansyz offset canal to Ilmenkol lake with the discharge of 20 m^3/s	0.80
17	Outlet from Ilmenkol lake to Small Zhansyz offset canal with the discharge of 10 m^3/s	0.50
18	Construction of protection dam on Karadjar Lake, 10.25 km long.	4.94
19	Construction of outlet with the discharge of 10 m^3/s from Karadjar Lake	0.65
	Total for Zone I	**46,6**

Structures of the Zone II – located in the zone the dried bed of the Aral Sea to mitigate the negative impacts of the sea disappearance

No.	Construction activities	Estimated cost of construction (as of 1.01.2018) $US million
1	Construction of the Raushan pumping station, located approximately 8 km north-west of the Raushan farm at the end of the KS-3A collector and consisting of 6 pumps with an aggregate carrying capacity of 3.0 m3 / s - for water supply of the Sudochie lake system	4,1
2	Completion of construction of the structures' system at Dzhiltyrbas reservoir	9.3
3	Construction of the structures' system on Dzhiltyrbas-1 polder	22.6
4	Construction of the structures' system on Adjibai-1 polder	3.75
5	Construction of the structures' system on Adjibai-2 polder	36.2
6	Access roads and temporary construction roads	3.85
7	Design and survey work	9.2
	Total for Zone II	**89,0**

Assessment of real water demand for a stable conditions of water bodies in the Southern Aral Sea region

Name of Water Body	Water level (Baltic Sea level system), m	Area of bio-diversity zones, km^2	Volume of water, million m^3	Water supply source	Required water inflow (preliminary assessment) (million m^3 per year)
West Aral, Lake Sarykamysh and surrounding Ustyurt Plateau area					
West Aral and the adjacent Ustyurt plateau	19,4	5110 (including water surface 2083)	43600	Ground water inflow from the Ustyurt plateau, in high water years discharge from the Small (Northern Aral) via Uzun-Aral channel	2000 -3500
Lake Sarykamysh and adjacent plateau Ustyurt	8,0	959,7	70000	Collector-drainage water from irrigated systems of Khorezm and Dashoguz along collectors Daryalyk and Ozerny	2000 - 2500
Amudarya River Delta					
Left-bank (western) zone					
Wetland system of Lake Sudoch'e	52,5	464,7	884	Raushan canal system, drainage collectors KKS and GK	600 - 800
Complex of Mashankul-Karajar lakes	53,0	50,7	440	Karajar and Taldyk canals from Raushan canal	500 - 600
Central zone (Amudarya delta)					
Mezhdurechenskoye water reservoir	57,0	320	420	Amudarya River	1000 - 1500
Rybachie Lake	51,0	64,0	136	Marinkinuzyak canal from Mezhdurechensky reservoir	200 - 250
Muynak lake	51,6	97,4	163	Muynak canal (Glavmyaso) from Mezhdurechensky reservoir and Taldyk canal (Kungrad-Munak)	250 - 300
Lake Makpalkol	53,0	12,0	63,0	Marinkinuzyak canal from Mezhdurechensky reservoir	100 - 150
Right-bank (eastern) zone					
Dzhiltyrbas Lake (including left and right ducts)	52,0	297,2	477	Channel of the Kazakhdarya, drainage collectors KS-1, KS-1.22, KS-3	750 - 850
System of Lakes Akpetki	53,0	391,5	100	Drainage collector KS-4 and channel of Kokdarya	200 - 300
Total in the Amudarya Delta					**3600-4750**
Total in Sothern Aral Sea region		**1740,4**	**2730,8**		**7600-10750**

Providing irrigation water to household plots (65 hectares) residents of the city of Muynak with a pressure pipeline network of polyethylene pipes with a diameter of 250 mm

The project is being implemented on the basis of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 37 "On measures for the comprehensive socio-economic development of the Muynak region of the Republic of Karakalpakstan" dated 16.01.2019. (paragraph 99)

For the working design of the object "Construction of an irrigation pipe network in Muynak", prepared by UzGIP LLC, an expert opinion was received from the State Unitary Enterprise "Expertise of Urban Planning Documentation" No. 792-E dated October 14, 2019. The cost of work on the object is estimated at 8023.074 million soums.

For the working design of the object "Construction of a pumping station", prepared by UzGIP LLC, an expert opinion was received from the State Unitary Enterprise "Examination of urban planning documentation" No. 932-E dated December 10, 2019. The cost of work on the object is estimated at 2523.283 million soums.

Thus**, the total cost of the project is 10,546.357 million soums.**

The contractor for construction and installation works is **Guldirsinkurilish LLC**.



Pumping station building with an Avancamera in April, 2021

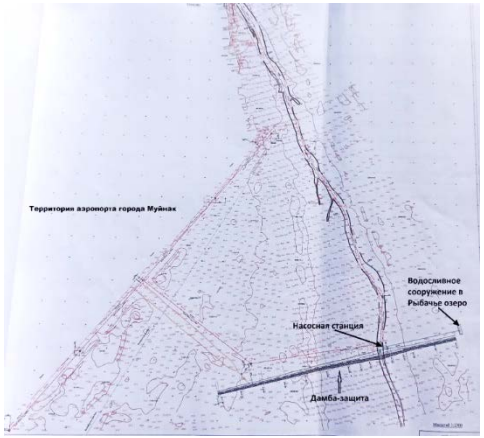


Completion of work and commissioning of facilities for operations was done in April 2021

Construction of a dam-protection of Muynak airport and closed horizontal drainage along runway

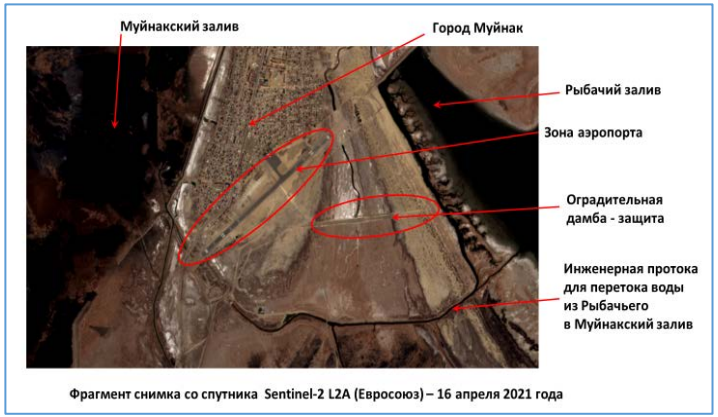
The project is being implemented on the basis of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated 01.16. 2019 No. 37 "On measures for the comprehensive socio-economic development of the Muinak region of the Republic of Karakalpakstan" (paragraph 95) and the Protocol of the Council of Ministers of the Republic of Kazakhstan dated March 7, 2019 (signed by the Deputy Prime Minister of Uzbekistan Ramatov and the Prosecutor General of Uzbekistan O. Murodov).

On the detailed design of the object "Construction of a dam for protection against flooding the territory of the airport of Muynak from the side of the Rybachie lake", prepared by UzGIP LLC, an expert opinion was received from the State Unitary Enterprise "Expertise of urban planning documentation" No. 111-E dated 10.03. 2020 year. The cost of work on the airport dam-protection facility is estimated at 14359.475 million soums.



Similarly, the detailed design of the facility “Construction of a closed horizontal drainage along the runway of the airport of Muynak” prepared by UzGIP LLC, received an expert opinion from the State Unitary Enterprise “Expertise of Urban Planning Documentation” No. 237-E dated 02.07. 2020. The cost of works on the object of closed horizontal drainage of the airport is estimated at 4497.432 million soums.

Thus, the **total cost of the work is 18856.907 million soums.** The contractor of all construction and installation works is Guldirsinkurilish LLC.

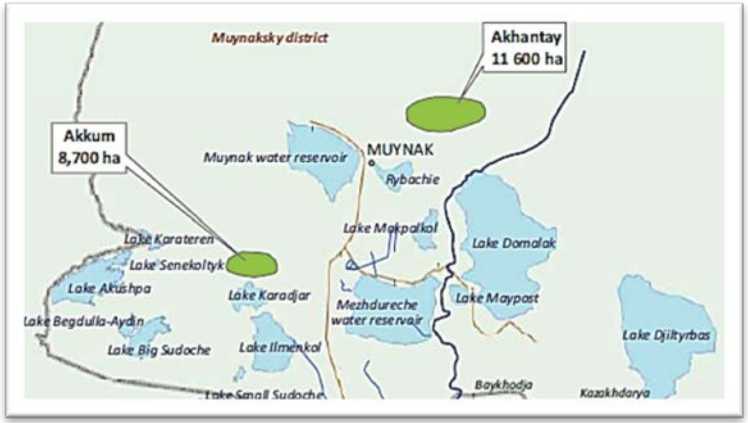


Фрагмент снимка со спутника Sentinel-2 L2A (Евросоюз) – 16 апреля 2021 года

On the basis of the order of the Council of Ministers of the Republic of Karakalpakstan No. 59-B dated March 12, 2021, the State Acceptance Commission was established for the commissioning of completed facilities.

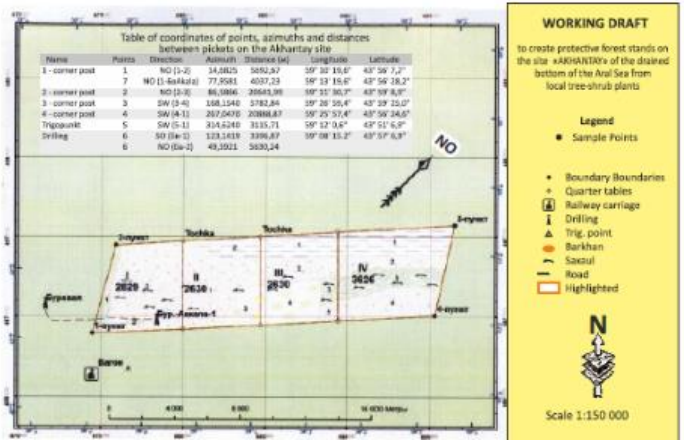
On March 15, 2021, the Deputy Chairman of the Council of Ministers of the Republic of Karakalpakstan Zh.Kazbekov approved the Act of the State Commission on the acceptance into operation of the “Protecting dam to protect the territory of the airport in Muynak from the side of the Rybachie Bay from flooding“. **The total cost of fixed assets taken into operation is 14 149.017 million soums.**

Saxaul plantations by Agency of IFAS within the framework of the Complex program for the period 2015-2018



The creation of protective bush plantations on the dried bottom of the Aral Sea and the adjacent territory in the southern Aral Sea region has been carried out since the 1990s. Due to various sources of financing, the Republic of Uzbekistan afforested an area of **350,700 hectares in the last 20 years**. Plantations at the area of 321,800 hectares was financed by the Uzbekistan Government, at 27,000 hectares – by GIZ (Germany), at 1,500 hectares - by the Kofutis NGO (France), and at 11,000 hectares by IFAS.

Project **in the Akhantay area** provides for the implementation of measures for creation of protective Saxaul plantations **on the area of11660 ha.**



The volume of financing from the state budget for the period 2017 – 2018 - 1663,4 million UZS.





Project on the **Akkum ridge** provides for the creation of protective forest plantations of local trees and shrubs on the area of 8703,6 ha. **The volume of financing** from the state budget for the period of 2017-2018 - 759,3 million UZS.



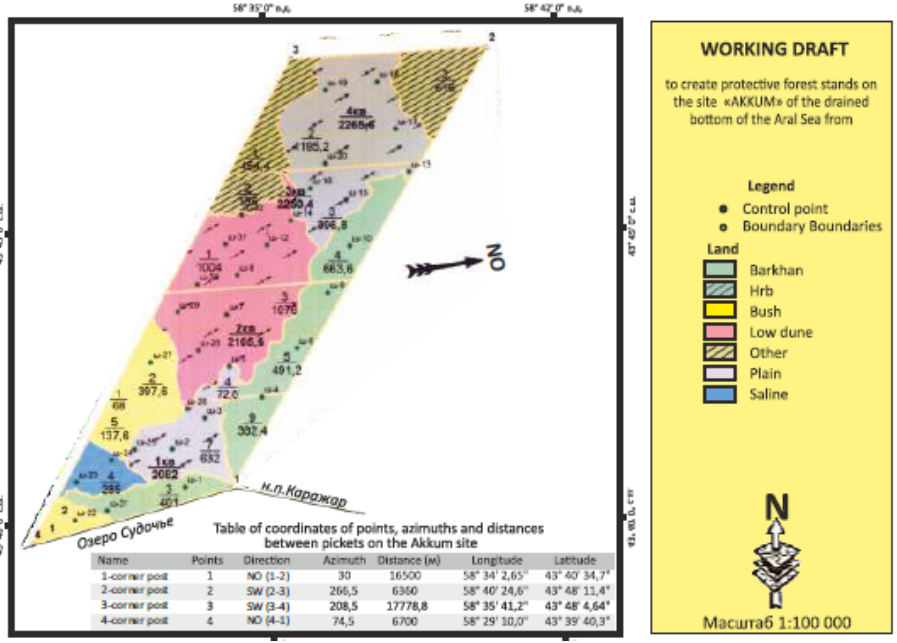


Table of coordinates of points, azimuths and distances between pickets on the Akkum site

Name	Points	Direction	Azimuth	Distance (m)	Longitude	Latitude
1-corner post	1	NO (1-2)	30	16500	58° 34' 2,65"	43° 40' 34,7"
2-corner post	2	SW (2-3)	266,5	6360	58° 40' 24,6"	43° 48' 11,4"
3-corner post	3	SW (3-4)	208,5	17778,8	58° 35' 41,2"	43° 48' 4,64"
4-corner post	4	NO (4-1)	74,5	6700	58° 29' 10,0"	43° 39' 40,3"

WORKING DRAFT

to create protective forest stands on the site «AKKUM» of the drained bottom of the Aral Sea from

Legend

- Control point
- Boundary Boundaries

Land

- Barkhan
- Hrb
- Bush
- Low dune
- Other
- Plain
- Saline

N

Масштаб 1:100 000



Seedlings sprout on the ridge «Akkum»

Sand fixation at Akhantay area in June 2017





The results of Saxaul plantations at Akhantay area in June 2017





What Government of Uzbekistan is doing

Activities are going on three parallel tracks (along with what IFAS is doing):

1. Programs initiated by Government of Uzbekistan (“State program for the development of the Aral Sea region for 2017 — 2021” https://lex.uz/docs/3099707; “Comprehensive Development Program of the Muynak District of Karakalpakstan 2019-2021” https://lex.uz/ru/docs/4164159; "Creation of a "green cover“ over the dried bottom of the Aral Sea” https://lex.uz/docs/4664693; "Measures for the comprehensive socio-economic development of the Republic of Karakalpakstan in 2020 - 2023" https://lex.uz/ru/docs/5100721; "Urgent measures for the efficient use of water resources and improvement of land reclamation in the Republic of Karakalpakstan" https://lex.uz/ru/docs/5144136; "Measures to create a free economic zone" Nukus " https://www.lex.uz/docs/4498068#undefined; "Measures to turn the Aral Sea region into a zone of environmental innovations and technologies" https://lex.uz/ru/docs/5837300)

2. Activities under the Multi-Partner Human Security Trust Fund for the Aral Sea region (https://www.aral.mptf.uz)

3. Activities with the international donor’s support (UNDP-GEF, EIB, JICA, KOIKA, GIZ, World Bank, ADB, USAID- WAVE, CAREC and many others)

National Programs of the Republic of Uzbekistan addressing to the Aral Sea Crisis

Uzbekistan, in addition to what is doing by the IFAS, has initiated a number of governmental programs to eliminate the consequences of the Aral Sea tragedy

Thus, by Resolution of Cabinet of Ministers of the Republic of Uzbekistan No. 255 from August 29, 2015 there was implemented (as a contribution to the ASBP-3): **"A complex program to mitigate impacts of the Aral disaster, to restore and social and economic development of the Aral Sea region for period 2015-2018".** The program included 235 projects with total cost of USD 1920.8 million, of which USD 736.4 million came from Uzbekistan's contribution from the state budget and USD 1,184.4 million from international financial agencies.

In February 2017, the President of Uzbekistan Shavkat Mirziyoyev approved the **"Strategy of action on five priority areas of development of the Republic of Uzbekistan in 2017-2021".** The document points to the importance of taking systemic measures to mitigate the negative impact of global climate change and the drying up of the Aral Sea on the development of agriculture and human life. For this purpose, the President of Uzbekistan approved the **State program for the development of the Aral Sea region for 2017 — 2021.** The program provides for the implementation of 67 projects by attracting and developing more than 8.4 trillion.sum at the expense of all sources of financing, including budget allocations, trust funds, grant funds and loans of the main IFIs (ADB, WB, IDA, etc.).

In December 2018, the President of Uzbekistan Shavkat Mirziyoyev visited Muynak region, and initiated additional actions to change situation to better. As result of that visit Cabinet of Ministers of the Republic of Uzbekistan released Resolution No. 37 of January 16, 2019, which approved **"Comprehensive Development Program of the Muynak District of Karakalpakstan 2019-2021".** The Program includes 75 projects for implementation during 2019-2021 with total cost of Uzb Sums 26974827 million (about 3,2 Billion USD)



RESOLUTION OF PRESIDENT OF THE REPUBLIC OF UZBEKISTAN № PP-4889 dated NOVEMBER 11, 2020 "ON MEASURES FOR INTEGRATED SOCIO-ECONOMIC DEVELOPMENT OF THE REPUBLIC OF KARAKALPAKSTAN IN 2020 - 2023"



The goal is effective use of existing socio-economic conditions, including production and investment potential of the Republic of Karakalpakstan, improvement of engineering, communication, social and production infrastructure in the region, stable development of economic sectors, provision of employment on this basis and increase living standards for population

Resolution provides following within framework of the investment projects in 2021 - 2022:

- Realization of 1,359 projects with a total value of 12.3 trillion soums, creation of 17.5 thousand new jobs, as well as development of direct foreign investments in the amount of 523 million dollars;
- Attraction funds from international financial institutions in the amount of $ 1 billion for implementation of important infrastructure projects;
- Increasing annual export volume to 347 million dollars, the number of exporting enterprises - up to 250, bringing export geography to 45 countries, increasing export-oriented types of products to 30;
- Launch of 9 projects worth $ 21.2 million in free economic zones, 81 projects worth $ 28 million - in small industrial zones

RESOLUTION OF THE PRESIDENT OF THE REPUBLIC OF UZBEKISTAN No. PP-4912 dated 05.12.2020 "On urgent measures for efficient use of water resources and improvement of land reclamation in the Republic of Karakalpakstan"

In the Republic of Karakalpakstan, water supply for **44.9 thousand hectares** of irrigated land remains at a low level, 95.2 thousand hectares of irrigated area is moderately and strongly saline, the efficiency of using available water resources is extremely unsatisfactory.

Purpose of Resolution is adoption of urgent measures for construction and reconstruction of water supply facilities, widespread introduction of water-saving irrigation technologies, improvement of land reclamation state, establishment of automated control over use of water resources and electric energy, reduction of water loss and an increase in the efficiency of canals by introducing scientific innovations into practice, as well as provide reliable water supply to irrigated land areas in the Republic of Karakalpakstan

Resolution of the President of the Republic of Uzbekistan No. PP-144 dated March 1, 2022 "On measures to further improve the introduction of water-saving technologies in agriculture"

The purpose of the document is to eliminate existing shortcomings and problems in implementation of water-saving technologies, mitigate negative impact of the observed water shortage in region, as well as further efficient use of water resources in cultivation of crops. The forecast indicators for introduction of water-saving technologies in 2022 have been approved.






Decree of President of the Republic of Uzbekistan No. UP-60 of January 28, 2022 “On Development Strategy of New Uzbekistan for 2022-2026”



This document approved:

- Development Strategy of New Uzbekistan for 2022–2026;
- State program for its implementation in the “Year of Ensuring Human Interests and Development of the Mahalla” (2022);
- Composition of the Republican Commission for implementation of Development Strategy of New Uzbekistan for 2022-2026 and its working group.

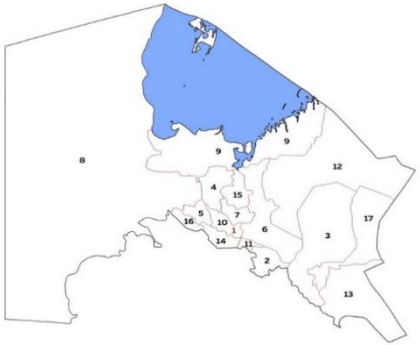


Development strategy is being implemented in five stages, each of which contains specific goals. There are 100 goals in total.



10 priorities for the development of the Republic of Karakalpakstan from the speech of the President of the Republic of Uzbekistan Shavkat Mirziyoyev at the extraordinary session of the Jogarku Kenesh (Parliament) of the Republic of Karakalpakstan on October 2, 2020

1. Accelerated development of districts and mahallas (local communities)
2. Employment and poverty reduction
3. Implementation of investment projects
4. Mitigation of negative impact of the Aral Sea disaster
5. Full use of the service sector potential
6. Support for agriculture
7. Housing construction
8. Social infrastructure development
9. Supporting youth and women
10. Crime prevention



Recommendations on the economic activities orientation of each administrative district of Karakalpakstan were given by President on 21 August 2019, taking into account their specificity and capabilities (see map):

The Karauzyak district (6) will be specialized in the production of building materials, the Beruni (3), Khojeyli (14), Nukus (10) districts - in fruit and vegetable growing; Takhtakupyr (12) - livestock, Shumanay (16) - poultry farming, Ellikkala (17) - viticulture and tourism, Muinak (9) - ceramic and wood chipboards production, fish farming and livestock, eco-turism; Kegeley (7) - livestock and paper processing industry, Qanlykul (5)- growing legumes and rice. Kungrad (8) district - for the petrochemical industry and animal husbandry, Chimbay region (15) - for the cultivation and processing of licorice, Turtkul (13)- the production of glass and food products, Amudarya district (2) - gardening, textile and silk production, the city of Nukus (1) - for pharmaceuticals and electrical engineering, as well as turning the Takhiatash region (11) into industrial zone.

NEW INITIATIVES OF UZBEKISTAN

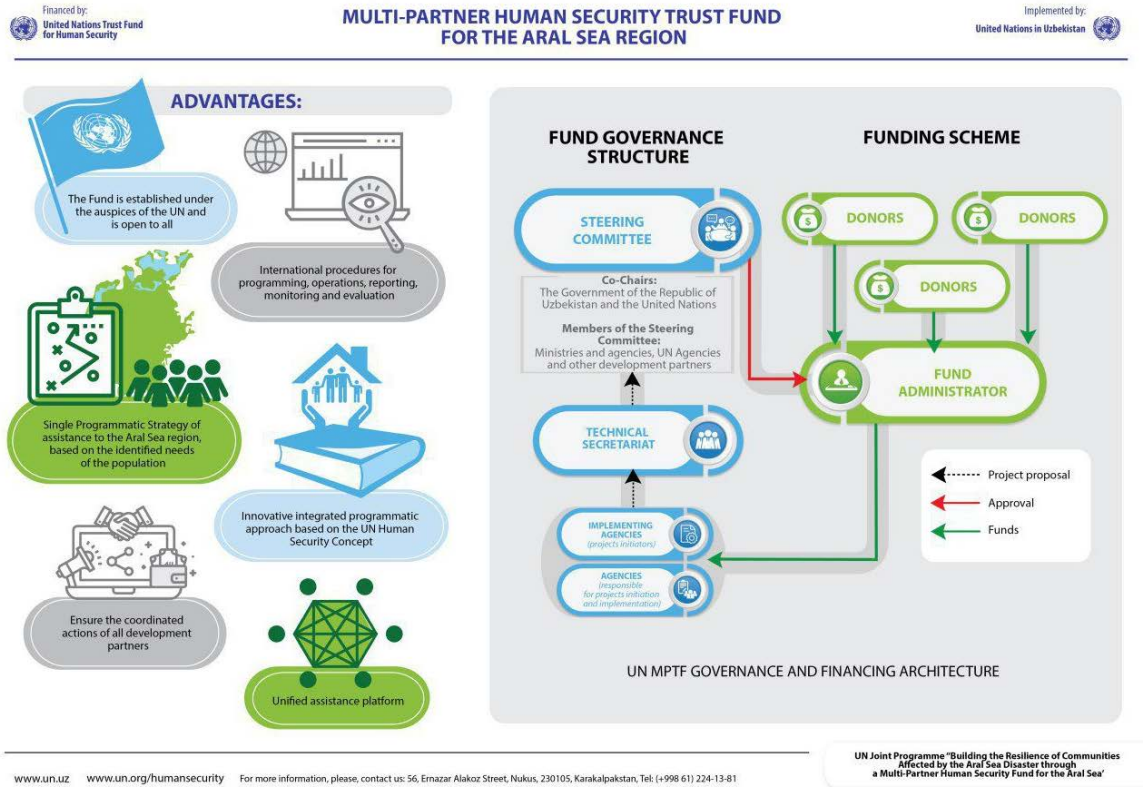
UN MULTI-PARTNER HUMAN SECURITY TRUST FUND FOR THE ARAL SEA REGION IN UZBEKISTAN

http://www.aral.mptf.uz

On November 27, 2018, a special high-level United Nations assembly was held at the UN headquarters in New York on theme “Promoting regional and international cooperation towards comprehensive strategies in support of sustainable development”. During this assembly, a presentation and launch of the **Multi-Partner Human Security Trust Fund for the Aral Sea** region was held.

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On January 8, 2019, the President of the Republic of Uzbekistan signed Decree No. 4099 "On measures to support the Multi-Partner Human Security Trust Fund for the Aral Region." On March 1, 2019, Uzbekistan contributed to the **MHSPTF** (first tranche of $ 2.0 million).





Based on the features of the region, the main directions of the MHSPTF Strategy are to ensure environmental, economic, food, social, and health securities

PUBLIC HEALTH

Measures will be taken in such key areas as improving the quality and accessibility of drinking water, providing access to medicines

ECONOMIC SECURITY

It is provided through the implementation of activities aimed primarily at increasing the employment and income of the population in remote areas of the Republic of Karakalpakstan and Khorezm region



ENSURING SOCIAL SECURITY

It is planned to implement measures to expand access to the education system, primarily the development and placement of preschool institutions

FOOD SECURITY

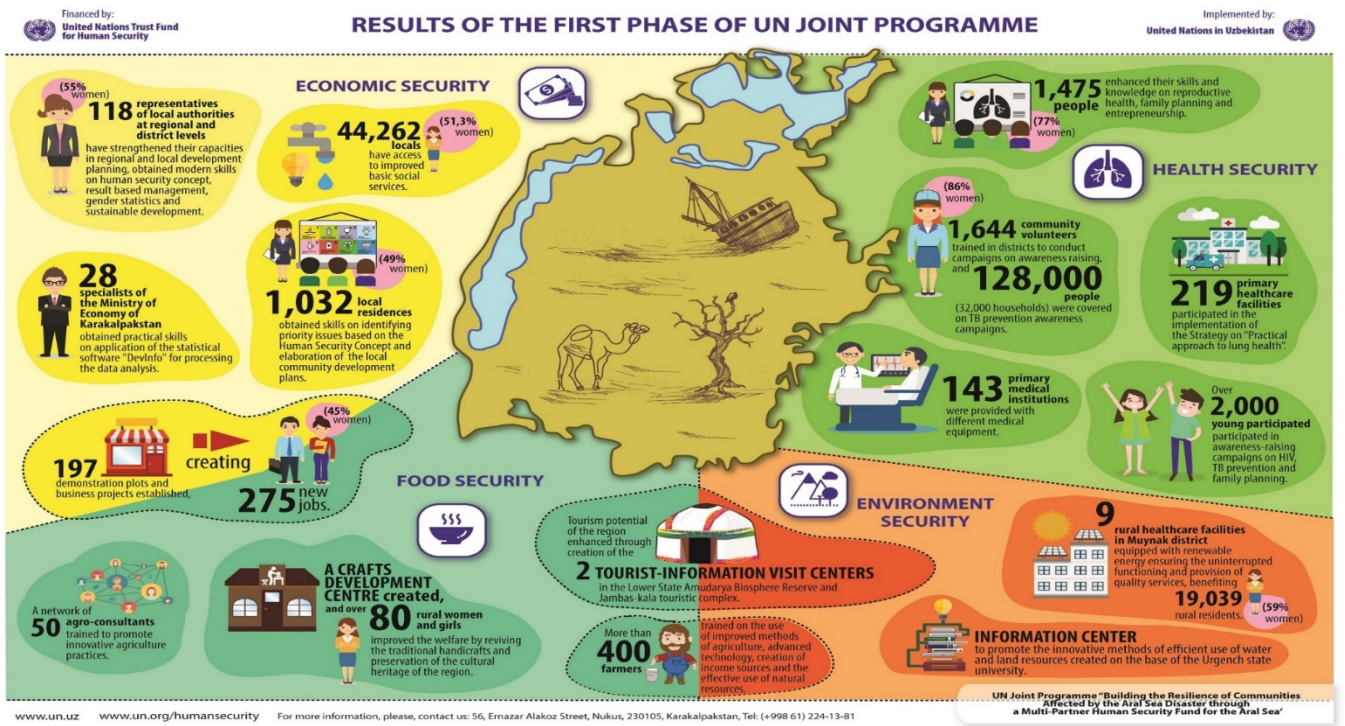
It will be supported through implementation of projects on promotion of sustainable agricultural development with expansion of production of ecologically clean food products adapted to current environmental and natural climatic conditions

ENVIRONMENTAL SECURITY

It is proposed to take measures on organization of comprehensive monitoring of the environment

Today (end of 2023), this multi-partner fund, under coordination of the Ministry of Economic Development and Poverty Reduction of the Republic of Uzbekistan, is implementing a number of projects in Karakalpakstan totaling over $16,5 million





NEW INITIATIVES OF UZBEKISTAN (2)

International Innovation Center of the Aral Sea region under the President of the Republic of Uzbekistan

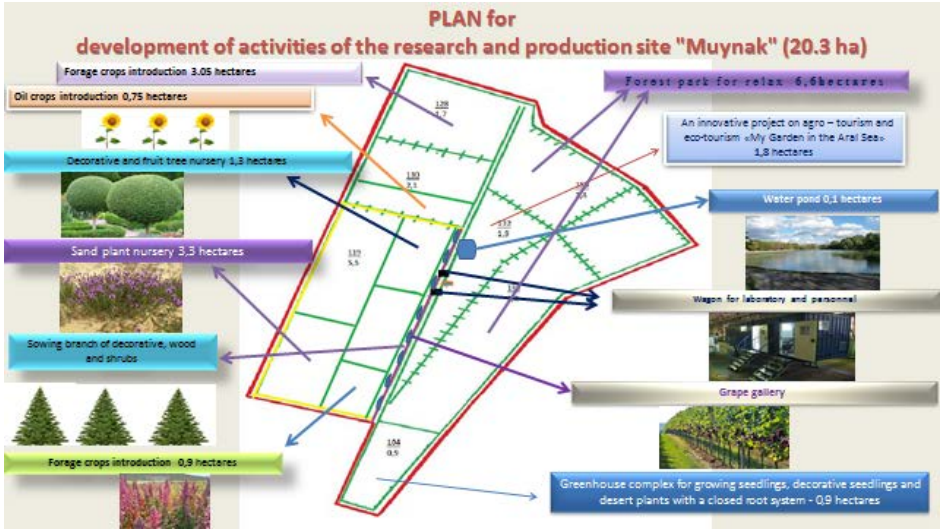
https://iic-aralsea.org

On October 16, 2018 the President of Uzbekistan signed Resolution No. PP-3975 about formation of **the International Innovation Center of the Aral Sea region under the President of the Republic of Uzbekistan**, with the scientific and technical support from the Islamic Development Bank and the International Center for Bio-farming in Saline Areas (ICBA)

This center provides scientific and methodological guidance for all activities on forest planting and restoration of biodiversity in the Aral Sea region.

An experimental field site “Muynak” with area of 20.3 hectares in the Muynak region and an experimental field site “Samanbay” with area of 20 hectares in the Nukus region of the Republic of Karakalpakstan were created. The gene pool of salt- and drought-resistant desert and ornamental plants has been formed, and 13 species of flora objects introduced into it are being tested.

On February 12, 2020, the President of Uzbekistan signed Decree No. PP-4597 on additional measures to improve the efficiency of the International Innovation Center for the Aral Sea Region under the President of the Republic of Uzbekistan. The resolution approved the implementation of the project **"My garden in the Aral Sea",** aimed at eliminating the consequences of the drying up of the Aral Sea and increasing the number of tourists.



#GreenAralSea

Мой сад в Аральском Море

In accordance with the Decree of the President of the Republic of Uzbekistan dated February 12, 2020 No. PP-4597, the International Innovation Center of the Aral Sea region under the President of the Republic of Uzbekistan is implementing the project **"My garden in the Aral Sea".** The main goal of the project is to attract foreign tourists and local residents to eliminate the consequences of the Aral Sea crisis, to contribute to the greening of the Aral Sea region, thus increasing the living standards of the population. As a result of these measures, for the first time in Uzbekistan, a landscaping project and crowdfunding platform were created.



The project is funded by the Fund for the Support of Innovative Ideas under the Ministry of Innovative Development of the Republic of Uzbekistan. 1.8 hectares of land were allocated for the project in the research and production site "Muynak", and to date, 1100 seedlings from 12 species of ornamental and fruit trees have been planted. Currently, work is underway to care for the planted trees.



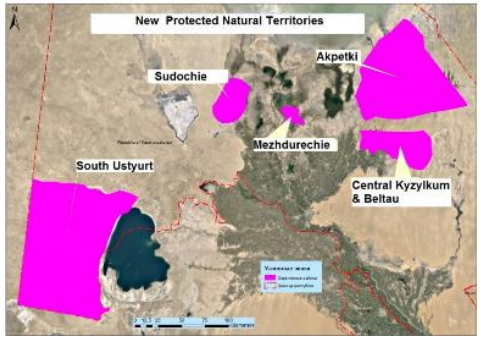
In February 2020, a special website www.aralforest.org was created and launched, equipped with a payment system for remote purchase and planting of tree seedlings.

NEW INITIATIVES OF UZBEKISTAN (3)

ESTABLISHMENT OF PROTECTED NATURAL TERRITORIES IN THE PRIARALIE ZONE

The President of Uzbekistan proposed to find a common regional approach to preserve the unique fauna of the region (endangered species of animals such as Kulan, Saiga and others) should be saved in the Aral Sea transboundary protected natural territories. **“Biodiversity conservation should be our common goal”**





The "Strategy for the Conservation of Biological Diversity in the Republic of Uzbekistan for 2019-2028" (Resolution of Cabinet of Ministers No. 484 dated 06/11/2019) envisages expanding the area of protected natural areas (PNAs) as a priority. The first stage of the Strategy implementation (2019-2023) includes the creation of 5 protected areas on the territory of the Republic of Karakalpakstan. **The creation of these new protected areas in the Aral Sea zone will increase the protected area by 3,561,490 hectares, or 8% of the total area of the country.**

By decree of Cabinet of Ministers of the Republic of Uzbekistan No. 58 “**On formation of the state reserve “Sudochye-Akpetki”** dated February 8, 2021 a new environmental zone was created in form of the Sudochye-Akpetki state reserve with a total area of 280,507 hectares (two territories).







In 2016, the **Saigachiy complex landscape reserve**, first in the country, was established with a total area of 628.3 thousand hectares and a buffer zone of 219.8 thousand hectares, which will increase the population of saiga and other rare and endangered species of animals and plants.

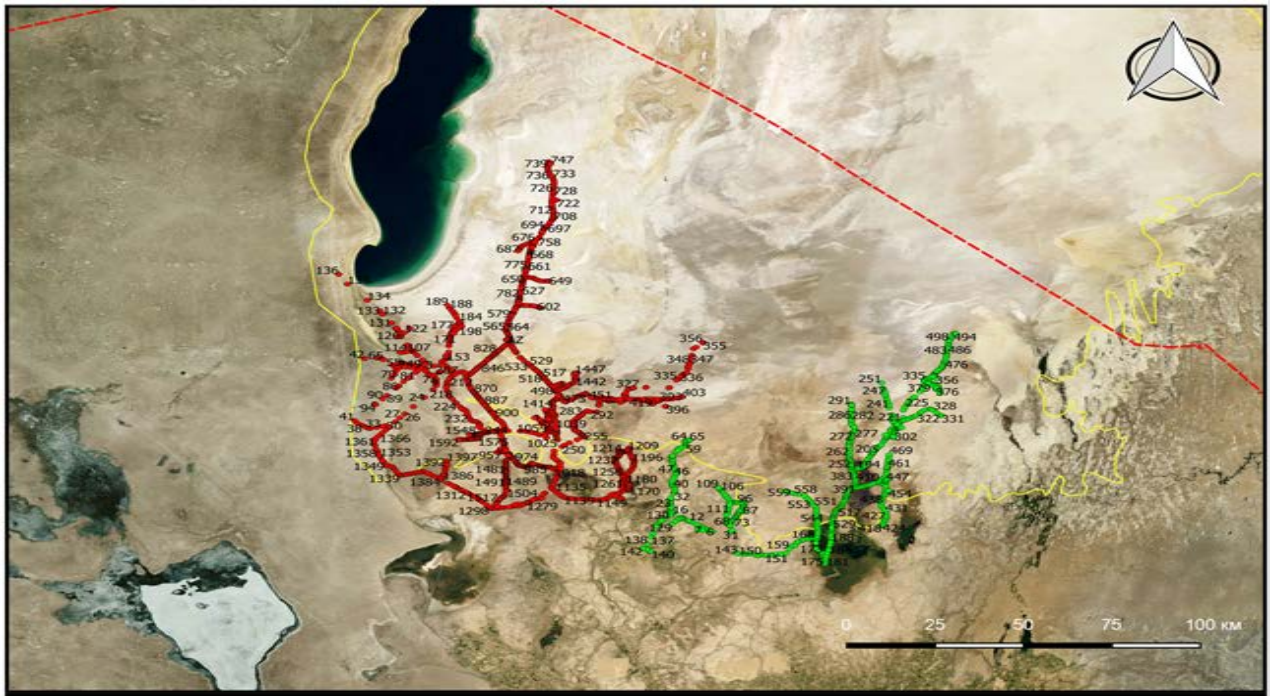
In accordance with Decree of President dated March 20, 2019 No. PP-4247 **“On measures to improve the system of state administration in the field of protected natural areas”**, a new protected natural area **“South Ustyurt”** is being created in the Kungrad region of the Republic of Karakalpakstan, the National Natural Park "South Ustyurt" with a total area of 1,447,143 hectares.



Expedition routes of the SIC ICWC supported by MHSPTF and UNDP

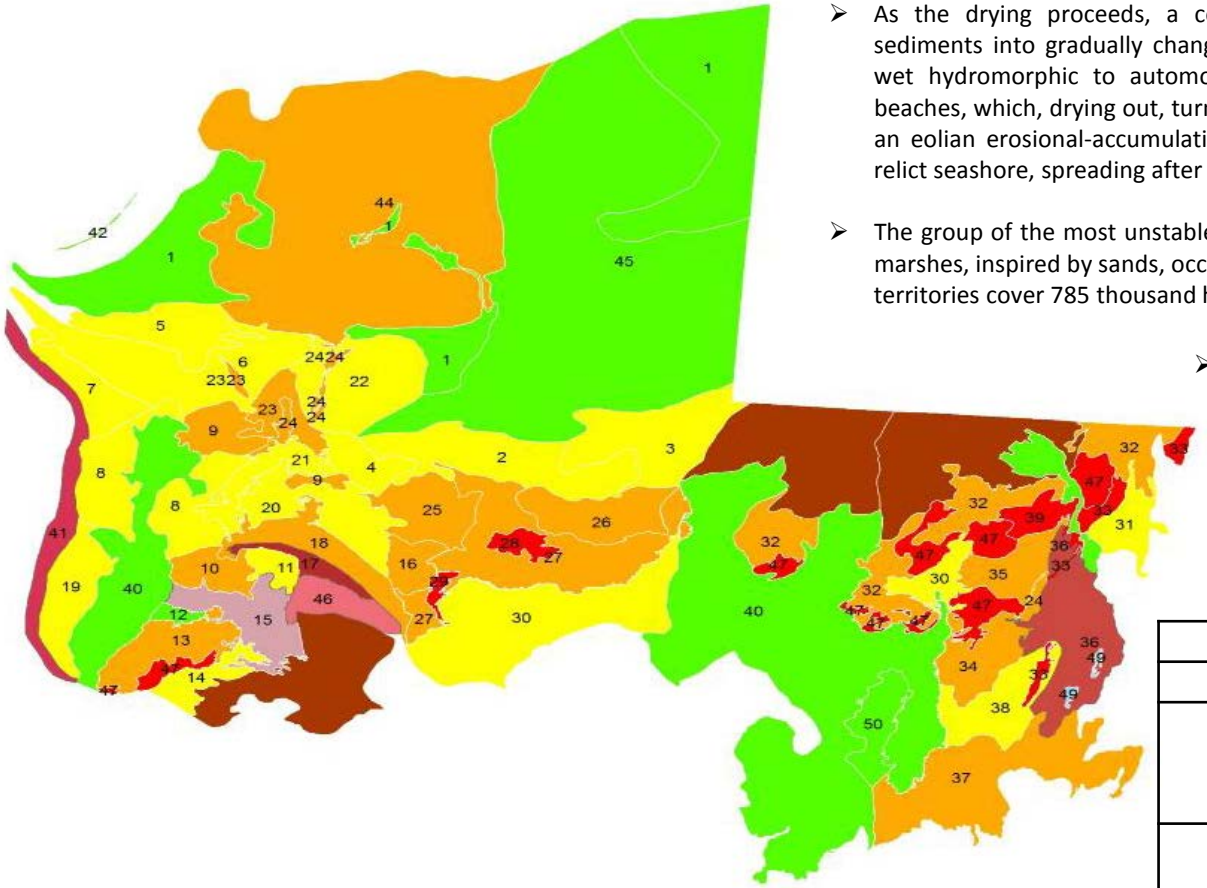
http://www.cawater-info.net/library/rus/aralsea_2021_ru.pdf





In total 5350 km 2142 points for observation

Result of the field expedition – Map of ecological risks due to soil cover of the dried bottom of the Aral Sea



Zones of risk - unstable ecological landscapes:

- As the drying proceeds, a complex process of transformation of moist bottom sediments into gradually changing salt marshes takes place. They are evolving from wet hydromorphic to automorphic analogs. In addition, the sea frees up sandy beaches, which, drying out, turn into dangerous zones of deflation, as a result of which an eolian erosional-accumulative relief is formed along the entire perimeter of the relict seashore, spreading after the drying up of the bottom

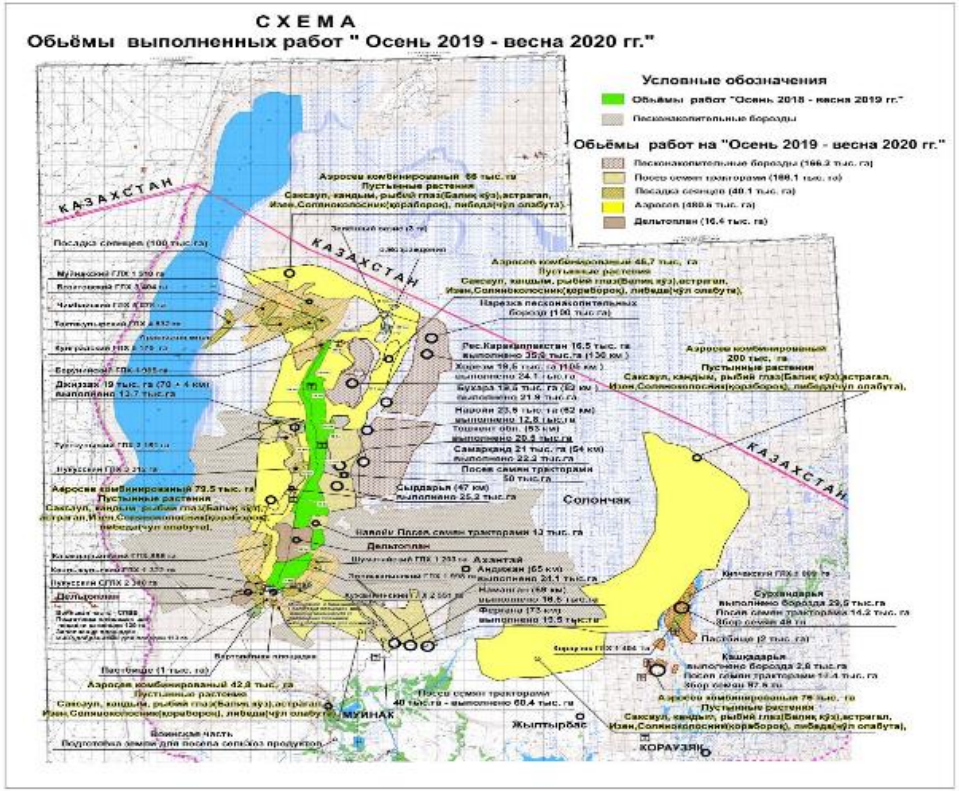
- The group of the most unstable territories, consisting of three types of sands and salt marshes, inspired by sands, occupies a large area and is 35.11%. In terms of area, these territories cover 785 thousand hectares of the dried seabed

- The area to be protected was determined at more than half a million hectares, of which there are 57.6 thousand hectares of priority protection area and, in addition, 60.0 thousand hectares, which may turn into a high-risk zone. In addition, a zone of 466 thousand hectares of severe environmental hazard has been identified.

Ecological Risk Level	Color
Not	
Low	
Moderate	
High	

NEW INITIATIVES OF UZBEKISTAN (4)

On December 24, 2019, the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 1031 "**On the creation of a" green cover " over the dried bottom of the Aral Sea"** - protective forest plantations, as well as greening of the city of Muynak was issued.



Work for creation of a green cover at the bottom of the dried Aral Sea was started immediately after the signing of this decree. In December 2019, special equipment and machinery was purchased for planting seedlings. More than 530 tractors and two An-2 airplanes were mobilized. Also, seedlings were planted by hand, and aviation helped in hard-to-reach places.





In April 2020, the Head of the Press Service of the Ministry of Emergency Situations Murad Sadykov reported to all Mass-media that **plantings during 2019-2020 were carried out on an area of 1,167 thousand hectares**





Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 745 of November 25, 2020

"On additional measures to create forests in the regions of the republic," green cover "in the regions of the Aral Sea and the Aral Sea region"

To approve the volume of forest planting in the Republic of Karakalpakstan and regions **in 2021**, as well as "green covers" on the dryed bottom of the Aral Sea and in the Aral Sea region - **375 thousand hectares** in the Republic of Karakalpakstan, and **172 thousand hectares** - in Khorezm, Bukhara and Navoi regions

	Saxaul planting (*Haloxylon ammodendron)* Its roots fix sand dunes and improve soil fertility		Tamarix planting (Támarix) Adapted to salty soils. Good for honey production
	Development of pastures for livestock raising	**3,4 million hectares**	Uzbek part of the drained bottom of the Aral Sea
2,5 million hectares	Suitable for tree planting and mechanical sand fixation	**84**	Involved forestry institutions and organizations
2018-2019 501300 hectares	2019-2020 703400 hectares	2020-2021 4584000 hectares	In total 1663100 hectares
By seeds: Saxaul 436000 ha Karaburak 33000 ha By seedlings: Saxaul/Tamarix 32200 ha	By seeds: Saxaul 329800 ha Kandym 133300 ha Karaburak 200000 ha By seedlings Saxaul/Tamarix 40300 ha	By seeds: Saxaul 173400 ha Kandym 95800 ha Karaburak 176600 ha By seedlings Saxaul/Tamarix 12600ha	
Implementation of the Governmental Program:			
Creation of "Green cover"		 Development of pastures	
Terms of realization 5-7 years			

As it was stated by the State Committee of the Republic of Uzbekistan for Forestry, there are about 2.5 million hectares suitable for forest plantations and fixation of movable sand dunes (of total area of Aralkum on the Uzbek territory – 3.34 million hectares)

Due to common efforts in this direction in the past (total area covered about 350 thousand hectares) and last three years huge works (**in 2019-2022 – total area covered about 1,730,000 hectares**) there could be stated that full coverage area on the Uzbek territory of dried bottom of the Aral Sea is over 2 million hectares (or 85% of suitable area for such activity).



Field monitoring of those territories shows that in reality (due to low level of survival of planted material) actual area covered by bush plantations and mechanical fixation of sands on the dried bottom of the Aral Sea is about 1,250,000 hectares (or 50% of total suitable area).

That is why on January 18, 2022 there was adopted resolution of Cabinet of Ministers No. 31 **“On additional measures to create a “green cover” - protective forests on the dried bottom of the Aral Sea and the Aral Sea region.”**

The document was developed in accordance with the Concept for the Development of the Forestry System in the Republic of Uzbekistan until 2030 (approved by Presidential Decree No. PP-4850 dated 06.10.2020). Approved:

- areas of protective forests being created to cover bottom of the Aral Sea and territory of the Aral Sea region in 2022–2026;
- volumes of preparation of seeds of desert plants for creation of protective forests to cover bottom of the Aral Sea and territory of the Aral Sea in 2022-2026

TREND OF FURTHER WORK BY GOVERNMENT OF UZBEKISTAN AND OTHER DONORS FOR NEAR 5-10 YEARS



At the Summit of the Heads of the Founding States of IFAS on August 24, 2018 in Turkmenistan, the President of Republic of Uzbekistan, Shavkat Mirziyoyev, suggested a number of important initiatives that, when implemented, will be allove to "*radically improve the unfavorable environmental situation in our region.*" This requires *"decisive and non-standard measures."*



The main initiative is to declare the Aral Sea region a zone of environmental innovations and technologies

Objectives of the Aral Sea Concept - a zone of Environmental Innovations and Technologies

https://aral.uz/doc/2_5391283257654381004w.pdf

Creation of conditions for joint actions by the countries of the Aral Sea basin aimed at transforming the zone of ecological crisis associated with the drying up of the Aral Sea into a zone of socio-economic development via introduction of environmental innovations and technologies.

It proposes fundamental changes in the practice and scope of policy development and implementation of actions for the restoration and functional integrity of ecosystems, which are the basis for the socio-economic development in the region.

Social and economic development

Environmental Innovation

Green economy

Technological innovation

Resolution 75/278 adopted by the UN General Assembly on May 18, 2021"Declaration of the Aral Sea region as a zone of environmental innovations and technologies"

1. *Supports* the initiative to transform the Aral Sea region from a zone of ecological crisis into a zone of ecological innovations and technologies;
2. *Expresses its support* for the ongoing regional efforts and initiatives to strengthen the environmental, social, economic and demographic situation of the Aral Sea region;
3. *Encourages* research and scientific advisory activities to further recover and improve the environment, preserve natural resources and enhance the quality of life of the population of the Aral Sea region;
4. *Reaffirms* that the **International Fund for Saving the Aral Sea remains the main international agency that aims to solve international problems of an economic, social or humanitarian nature in the Aral Sea region**, and the whole Aral Sea basin, taking into account the interests of all countries of the region;
5. *Invites* Member States, the funds, programmes and agencies of the United Nations system, international financial institutions and other relevant stakeholders to conduct joint collaborative interdisciplinary research and scientific and innovative cooperation in the Aral Sea region with the International Fund for Saving the Aral Sea, as well as with national initiatives such as the International Innovation Center for the Aral Sea Basin under the President of the Republic of Uzbekistan, and to establish protective forest plantations on the drained bottom of the Aral Sea;
6. *Emphasizes* the importance of strengthening regional cooperation in the implementation of joint actions to overcome the consequences of the Aral Sea crisis and stabilize the ecological situation in the Aral Sea region, prevent further desertification and mitigate the negative environmental and socioeconomic consequences by stabilizing the methods of forest amelioration of sand formations on the drained bottom of the Aral Sea, which is subject to ash, salt and dust transfer, and promoting socioeconomic development and adaptation to climate change, the development of ecotourism and the implementation of other measures;
7. ***Declares* the Aral Sea region a zone of ecological innovations and technologies**, and in this context calls upon Member States, the funds, programmes and agencies of the United Nations system, international financial institutions and other relevant stakeholders to develop and implement in the Aral Sea region environmentally sound technologies, sustained, inclusive and sustainable economic growth, and energy- and water-saving technologies**, in line with goal 17.7 of the 2030 Agenda for Sustainable Development.**

The UN Resolution coverage area is the whole Central Asia, taking into account common regional approach to implementing measures in the Aral Sea basin, with priority results aimed to improving socio-economic and environmental situation in the Priaralye.



Resolution of the President of the Republic of Uzbekistan No. PP-5202 dated July 29, 2021 "On measures to implement a special resolution of the United Nations General Assembly dated May 18, 2021 On declaring the Aral Sea region a zone of environmental innovations and technologies "

In order to implement the tasks defined in a special resolution, as well as transform the Aral Sea region into a zone of environmental innovations and technologies, approve the proposals from Ministry of Investment and Foreign Trade, Ministry of Innovative Development and the Council of Ministers of the Republic of Karakalpakstan, providing for the following:

a) Creating a favorable atmosphere and developing an institutional framework for structural transformations in the Aral Sea region through political and legal innovations
b) Ensuring environmental sustainability, digitalization and implementation of innovative approaches to the rational use of natural resources in the Aral Sea region;
c) Introduction of innovative technologies and mechanisms for development of the social sphere and support population in the Aral Sea region;
d) Widespread use in the Aral Sea region of economic and financial innovation mechanisms, large-scale implementation of resource-saving, "green" and circular (waste-free, regenerative and efficient) modern innovative technologies in the sectors of economy;
e) Development of science, conducting scientific research, providing legal protection for creation of intellectual property objects, as well as supporting local and international cooperation in implementation of scientific and innovative developments in the Aral Sea region;
f) Development of international cooperation and attraction of foreign investments for implementation of tasks defined in a special resolution of the UN and this resolution;
g) Formation and coordination of internal sources of financing for innovative projects in the Aral Sea region.

Resolution of the Cabinet of Ministers No. 41 of January 25, 2022 "On additional measures to turn the Aral Sea region into a zone of environmental innovations and technologies"

This document was developed as part of the implementation of Presidential Decree No. PP-5202 of July 29, 2021 “On measures to implement the special resolution of the United Nations General Assembly of May 18, 2021 “On declaring the Aral Sea region a zone of environmental innovation and technology.” http://aral.uz/doc/PP-5202w.pdf Approved:

- The concept of transformation of the Aral Sea region into a zone of ecological innovations and technologies;
- Multilateral "Roadmap" on the priorities of attracting foreign investment in the Aral Sea region for 2022-2026.

The concept includes the following areas:

- creation of "driver" clusters for technological innovations, including introduction of effective methods of ecosystem management, in particular, new technologies that save natural resources;
- development and implementation of economic and financial innovations, formation of market and price mechanisms necessary to stimulate technological innovation and create "green" jobs;
- implementation of innovative policies and legal innovations, including reducing risks associated with climate change, implementing agricultural and green economic strategies, and implementing land reforms that stimulate investment by landowners.

The multilateral "road map" for attracting foreign investment in the Aral Sea region for 2022-2026 includes:

- priorities for implementation of measures for integrated development of the Aral Sea region in 2022-2026;
- measures to expand international cooperation for sustainable development of the Aral Sea region and monitoring of programs and projects implementation;
- list of projects aimed at sustainable development of the Aral Sea region.



On September 11, 2023, Decree of President of the Republic of Uzbekistan was issued, which approved National Strategy “Uzbekistan 2030”

It is important to keep in mind that National Strategy for the first time in history of Uzbekistan includes a special section dedicated to water and environmental problems - section iii. “Conservation of water resources and environmental protection.”

Among target areas on environmental issues are following:

- Drastic improvement of environmental situation in the country, elimination of environmental problems affecting human life
- Expansion of nationwide project “Yashil Makon” (green covering), aimed at stabilizing environmental situation
- Expansion of forest area
- Stabilization of environmental situation in the Aral Sea region, mitigating negative impact of environmental problems resulting from drying up of the Aral Sea
- Preventing negative impacts of climate change
- Ensuring sustainable conservation of biodiversity
- Improving quality of services for collection and removal of solid waste
- Preventing air pollution, taking decisive measures to preserve its natural composition.

Thank you for attention!
We are looking for productive cooperation



«Viam supervadet vadens cunctim»

Walk together and you shall reach

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