

Interstate Commission for Water Coordination of Central Asia	BULLETIN № 3 (96)	May 2023
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Meeting of the Working Group on institutional and legal improvement of IFAS¹

On 5-6 April 2023, the Working Group on institutional and legal improvement of IFAS gathered for its tenth meeting. The meeting was held in Vientiane, Laos as part of a study tour to the Mekong River Basin Commission with the financial support of the World Bank.

The meeting was chaired by the Chairman of the Executive Committee of IFAS, Mr. Sulton Rahimzoda. Members of the Working Group from IFAS member-states, representatives of the Executive Committee of IFAS and its structural divisions, as well as representatives of the World Bank, took part in the meeting.



¹ Source: EC IFAS, <https://www.facebook.com/ec.ifas>



On the first day, the Chairman of the Executive Committee of IFAS, Mr. Sulton Rahimzoda, made a presentation on the results of the UN 2023 Water Conference, which was held from 22 to 24 March in New York. Special emphasis was placed on the success of the high-level side event organized by the Executive Committee of IFAS on "Central Asia: Commitments for Water Action Agenda" on 23 March.

Then, members of the Working Group reported on participation in the study tour to the MRC, the International Conference of the 4th MRC Summit and their visit to the Nam Ngum dam. They also discussed options for more active interaction between IFAS and its institutions with stakeholders.

On the second day, presentations by national delegations on pros and cons of formation of two or four commissions were heard, and the next steps towards the Summit of Heads of States, including the Conference dedicated to the 30th anniversary of IFAS and the organization of 11th meeting of the Working Group were discussed.

Finally, the participants agreed on the outcome document of the meeting.

Study tour to the Mekong River Commission²

On 1-7 April 2023, a study tour to Laos was organized for members of the Working Group on institutional and legal improvement of IFAS and representatives of structural divisions of IFAS to familiarize them with the activities and organizational structure of the Mekong River Commission. The trip was organized by the Executive Committee of IFAS with the financial support of the CAWEP, World Bank.

The Mekong River Commission (MRC) is a basin organization, which operates in the region for over fifty years. The Commission has its roots in the Mekong River Committee established by the United Nations in 1957. The Mekong River Basin includes Cambodia, Laos, Thailand, and Vietnam. The MRC in its current form was formed in April 1995, when the countries signed the Agreement on Cooperation for Sustainable Development of the Mekong River Basin.

The study tour to MRC provided an opportunity for the members of the Working Group to get acquainted with the organizational structure of the MRC, the rules for monitoring and planning methods for the development of the Mekong basin, the role of the People's Republic of China and the Union of Myanmar in the MRC as dialogue partners, and also visit the Nam Ngum dam.

The participants also have got the necessary knowledge and information on cross-border cooperation between the member countries of the Commission and have been familiarized with the history and experience of the MRC that may be useful for discussions and can contribute to consensus among the members of the Working Group at stages 3 and 4 of institutional and legal improvement of IFAS.

During the trip, on 2 and 3 April, representatives of the Executive Committee of IFAS and its sub-divisions and members of the Working Group also took part in the International Conference of the 4th Summit of the Mekong River Commission dedicated to innovation and cooperation for water security and sustainability in the Mekong.

² Source: EC IFAS, <https://www.facebook.com/ec.ifas>





Second meeting of the Joint Kyrgyz-Uzbek Water Commission³

The second meeting of the Joint Kyrgyz-Uzbek Water Commission was held in Tashkent on 11 April 2023.

The Director of the Water Resources Service, Mr. Sokeyev headed the Kyrgyz delegation, while the Minister of Water Management, Mr. Khamraev was at the head of the Uzbek delegation.

³ Source (in Russian):

https://www.water.gov.kg/index.php?option=com_k2&view=item&id=2353:delegatsiya-kyrgyzskoj-respubliki-prinyala-uchastie-v-vtorom-zasedanii-sovmestnoj-vodokhozyajstvennoj-komissii-mezhdu-služboj-vodnykh-resursov-pri-mskh-kr-i-ministerstvom-vodnogo-khozyajstva-ruz&Itemid=1437&lang=ru



In the course of the meeting, the parties signed the mutually agreed schedules of diversion of water from interstate canals, discussed the issues related to the mobilization of grants for repair of dam face and automation of the Orto-Tokoi (Kasansai) reservoir and the sharing of water resources of the Kempirabad (Andizhan) reservoir.

The meeting was held in a friendly atmosphere and, finally, the parties signed the minutes.

Declaration on Allied Cooperation between the Republic of Kazakhstan and the Republic of Tajikistan⁴ (extract)



President of the Republic of Kazakhstan Kassym-Jomart Tokayev and President of the Republic of Tajikistan Emomali Rahmon,

guided by the provisions of the Treaty on the fundamentals of relations between the Republic of Tajikistan and the Republic of Kazakhstan dated January 13, 1993 and the Treaty on strategic partnership between the Republic of Tajikistan and the Republic of Kazakhstan dated September 14, 2015,

reaffirming their commitment to the purposes and principles of the Charter of the United Nations, as well as the universally recognized norms of international law,

⁴ Source: <https://akorda.kz/ru/deklaraciya-o-soyuznicheskom-vzaimodeystvii-mezhdu-respublikoy-kazahstan-i-respublikoy-tadzhikistan-445549>

based on the historical, spiritual and cultural community of the peoples of the two countries, based on the unshakable principles of friendship and mutual respect,

noting the importance of the 30th anniversary of the establishment of diplomatic relations between the Republic of Kazakhstan and the Republic of Tajikistan, the high level of interstate dialogue achieved over the years of independent development, as well as the positive dynamics in development of diverse cooperation,

confirming the constant course for the long-term and allround deepening of bilateral relations based on the principles of mutual respect, trust and support,

convinced that the mutual desire to bring bilateral cooperation to a qualitatively new level fully meets the fundamental interests of the peoples of Kazakhstan and Tajikistan and will also contribute to implementation of the full potential of bilateral cooperation in order to further the economic prosperity of the two states and strengthen regional stability,

adopt this Declaration

and also declare the following:

[...]

10. The Parties will contribute to enhancement of bilateral relations and exchanges in agro-industry, including in part of mutual supplies of agricultural goods, application of advanced technologies in production, processing and storage of agricultural products.

[...]

15. The Parties emphasize that one of the key factors for prosperity and sustainable development in Central Asia is the integrated and sustainable use of water and energy resources, taking into account the interests of all states in the region.

16. The Republic of Kazakhstan and the Republic of Tajikistan confirm the important role of the International Fund for Saving the Aral Sea as the only regional institutional platform in solving the water and environmental problems of Central Asia, deepening cooperation of the countries in the region in implementation of joint initiatives and programs aimed at overcoming the environmental crisis and improving the socio-economic situation in the Aral Sea basin.

17. The Parties will continue maintaining cooperation in the field of environmental protection, prevention and elimination of natural and man-made disasters.

Joint Statement of President of the Russian Federation, V. Putin and President of the Kyrgyz Republic, S. Japarov on deepening strategic partnership and alliance⁵ (extract)

President of the Kyrgyz Republic Sadyr Japarov visited the Russian Federation upon an invitation of President of the Russian Federation on 7–9 May 2023. In the course of talks held in open, friendly and constructive climate, the heads of state addressed the key matters of bilateral cooperation and interaction as part of Eurasian integration groups and the topical regional and international challenges of mutual interest.

While stating rapid and deep character of changes in the world, accelerated formation of more equitable, multipolar world order, expressing concerns of the attempts by some states to prevent such world order and the negative consequences of such steps for all areas of international relations,

confirming readiness to coordinated measures of protection from unfair business practices and other extra-market risks under the current crises and barriers in the world economy,

noting positive development of cooperation between the two countries in political, trade-economic, cultural-humanitarian, military and techno-military areas,

reaffirming a continued commitment to the fundamental principles and obligations laid down in the Treaty on Friendship, Cooperation and Mutual Assistance between the Russian Federation and the Republic of Kyrgyzstan of June 10, 1992, the Declaration on Eternal Friendship, Alliance and Partnership between the Russian Federation and the Kyrgyz Republic of July 27, 2000, and the Declaration on Strengthening Alliance and Strategic Partnership between the Russian Federation and the Kyrgyz Republic of June 20, 2017,

guided by the interests of maintaining the cultural and historical heritage and values of the peoples of the Russian Federation and the Kyrgyz Republic,

noting a commitment to the principles of mutual respect for State sovereignty and territorial integrity, equality and non-interference in each other's internal affairs,

driven by the desire to achieve a qualitatively new level of integration,

⁵ Source (in Russian): <http://www.kremlin.ru/supplement/5933>

the heads of state declare the following.

[...]

8. Russia and Kyrgyzstan will expand cooperation in the field of environmental protection in bilateral and multilateral formats. The Kyrgyz side highly appreciates the implementation by the State Atomic Energy Corporation "Rosatom" of the interstate target program "Reclamation of the territories of states affected by uranium mining". The Parties shall continue cooperation in this area both bilaterally and in cooperation with the International Atomic Energy Agency and other international organizations.

9. The heads of state emphasize their readiness for further coordination of joint actions to prevent and eliminate consequences of natural and man-made disasters. The Kyrgyz side expresses its gratitude for provision by the Russian side of fire-fighting equipment to the Ministry of Emergency Situations of the Kyrgyz Republic.

10. The heads of state stand for mutually beneficial cooperation on integrated water and energy resources use, further development of energy cooperation, including within the forthcoming special project on assistance to the Central Asian states for overcoming the consequences of the environmental crisis in the Aral Sea region, achieving high-tech development of the water sector, adopting advanced water-saving technologies and supporting the International Fund for saving the Aral Sea over 2023-2032.

[...]

Minutes of the 84th Meeting of the Interstate Commission for Water Coordination (ICWC) of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan

10 May 2023

Dushanbe

Chairman of the meeting:

Shoimzoda Jamshed Shodi First Deputy Minister of Energy and Water Resources, Republic of Tajikistan

ICWC members:

Azidullin Galidulla Vice Minister of Ecology, Geology and
Azidollaevich Natural Resources, Republic of Kazakhstan

Genjiyev Durdi Meymanovich Chairman of the State Committee for Water Resources, Turkmenistan

Khamraev Shavkat Minister of Water Management, Republic of
Rakhimovich Uzbekistan

EC IFAS

Rakhimzoda Sulton Chairman of the IFAS Executive Committee
Nurmakhmadpur

Abdullaev Rustam Head of International communications
Abdumanonovich division, EC IFAS

ICWC executive bodies:

Nazarov Umar Head, ICWC Secretariat
Abdusalomovich

Makhramov Makhmud Head, BWO Amu Darya
Yakhshibaevich

Kholhujaev Odil Akhmedovich	BWO Syr Darya
Imangaliev Mereke Yerkanatovich	Deputy head of BWO Syr Darya, Representative of Kazakhstan
Ziganshina Dinara Ravilievna	Director, Scientific-Information Center (SIC) of ICWC
Tabarov Faiziddin	Director, Tajik branch of SIC ICWC

Invited:**Republic of Kazakhstan**

Jakanbaev Arsen Armanovich	Director of Transboundary Rivers Department, Ministry of Ecology, Geology and Natural Resources
Nurymbetov Seilbek Sergazyuly	Deputy Chairman, Committee for Water resources, Ministry of Ecology, Geology and Natural Resources
Beristenov Aset Atigaevich	Advisor to Chairman of the Committee for Water resources, Ministry of Ecology, Geology and Natural Resources
Pernekhan Erbolat Mukhtaruli	Chief Expert of Transboundary Rivers Division, Transboundary Rivers Department, Ministry of Ecology, Geology and Natural Resources
Auezbekov Yerlan Kabyzbekovich	Advisor, Transboundary Rivers Regulation Unit, International Legal Department, Ministry for Foreign Affairs
Bekmaganbetov Serik Abdrakhmanovich	Representative of Kazakhstan for the IFAS Executive Committee

Republic of Tajikistan

Safarzoda Olim	Deputy Director, Agency for Land Reclamation and Irrigation at the Government of Tajikistan
Abdurazokzoda Daler Abdukhalok	Head of Water and Energy Policy, Science and Technology Development Department, Ministry of Energy and Water Resources
Kholikzoda Muslikhiddin	Head of Water Resources Department, Ministry of Energy and Water Resources
Mulloev Ma'ruf	Senior expert, Water and Energy Policy, Science and Technology Development Department, Ministry of Energy and Water Resources
Magomedov Sirojiddin	Expert, Water and Energy Policy, Science and Technology Development Department, Ministry of Energy and Water Resources
Nazifov Shafolat Gadoevich	Head of Basin department for land reclamation and irrigation, Agency for Land Reclamation and Irrigation at the Government of Tajikistan

Turkmenistan

Paschiev Yanov Durdievich	Head of Water Use Department, State Committee for Water Resources
Nurgeldiev Tirkesh Yollievich	Head of Water Use Department, State Committee for Water Resources
Chariev Dovran Mashadovich	Head of Energy and Pump Structure Department, State Committee for Water Resources
Chariev Saparmurat Kurbandurdievich	Chief Specialist of Digital Technology and Information Security Department, State Committee for Water Resources

Republic of Uzbekistan

Madiboev Nodirbek
Jamolidinovich

Chief Specialist of Water Use Department,
Ministry of Water Management

Juraev Ilkhov Usmanovich

Representative of Uzbekistan for the IFAS
Executive Committee

Agenda

1. Results of the use of allocated quotas on water withdrawal and operation of the reservoir cascades in the Syr Darya and Amu Darya River basins during the non-growing season 2022-2023.

2. Approval of the country water quotas and forecast operation regimes of the reservoir cascades in the Syr Darya and Amu Darya River basins for the growing season 2023.

3. Progress on proposals and initiatives put forward at the Summit of the Heads of IFAS founder-states in the city of Turkmenbashi (August 2018) and tasks before ICWC in relation to the IFAS summit in Dushanbe (September 2023).

4. Agenda and venue of the regular 85th ICWC meeting.

Decision on the first item:

1. Take into consideration the reports by BWO Amu Darya and BWO Syr Darya on the results of the use of water quotas and operation regimes of reservoir cascade in the Syr Darya and Amu Darya basins during the non-growing season 2022-2023.

2. The Kazakh and Uzbek sides:

– shall continue working to have the actual data on inflow to the Shardara reservoir in order to avoid discrepancies between the data of hydrometeorological services;

– shall request hydrometeorological services of the both sides to submit a monthly progress report;

– shall submit to BWO Syr Darya the actual data on water withdrawals for the Karadarya and the Chirchik rivers and downstream of the Shardara reservoir. BWO Syr Darya shall include this data in its report on results of the growing season 2023.

Decision on the second item:

1. Approve country water quotas for the Amu Darya and Syr Darya River basins for the growing season 2023 (Appendix 1, 2).

2. Take into consideration the forecast operation regimes of the reservoir cascade in the Amu Darya (Appendix 3) and Syr Darya (Appendix 4) basins proposed by BWO Amu Darya and BWO Syr Darya for the growing season 2023.

3. The Uzbek side requests the Tajik and Kazakh sides to speed up consideration of reaching agreement on operation regime of the Bakhri Tojik reservoir for June-August 2023.

Decision on the third item:

1. Acknowledge the good work done by ICWC executive bodies on implementation of proposals and initiatives put forward by the state-founders of IFAS at the Summit in Turkmenbashi on 24 August 2018.

2. ICWC members shall assist SIC ICWC in summarizing the results of implementation of the initiatives put forward at the Summit of the Heads of IFAS founder-states in the city of Turkmenbashi (August 2018) and the tasks before ICWC in relation to the IFAS summit in Dushanbe (September 2023).

Decision on the fourth item:

1. Hold the regular 85th ICWC meeting in the Republic of Uzbekistan. The date of the regular ICWC meeting shall be agreed in working order.

2. Propose the following agenda for the 85th ICWC meeting:

1) Results of use of allocated water quotas and operation regimes of reservoirs in the Syr Darya and Amu Darya River basins in the growing season 2023.

2) Approval of country water quotas and forecast operation regime of the reservoirs in the Syr Darya and Amu Darya River basins for the non-growing season 2023-2024.

3) Progress in implementation of proposals and initiatives raised at the Summit of Heads of IFAS founder-states in the city of Turkmenbashi.

4) Any other business.

5) Agenda and venue of regular 86th ICWC meeting.

Republic of Kazakhstan

G.A. Azidullin

Kyrgyz Republic

Republic of Tajikistan

D.Sh. Shoimzoda

Turkmenistan

D.M. Gendjiev

Republic of Uzbekistan

Sh.R. Khamraev

Appendix 1

Quotas/limits of water withdrawal from the Amy Darya River and water delivery to the river delta and the Aral Sea during the growing season 2023

River basin, state	Quotas/limits on water withdrawal, Mm ³	
	Total annual (from 1.10.22 to 1.10 .23)	Incl. growing season (from 1.04.23 to 1.10.23)
Total withdrawal from the Amu Darya River	55385	39678
of which:		
Republic of Tajikistan	9815	6958
From the Amu Darya River to the nominal Kerki gauging station	44000	31520
Turkmenistan	22000	15500
Republic of Uzbekistan	22000	16020
In addition:		
- water delivery to the river delta and the Aral Sea, including irrigation water releases and CDW	4200	2100
- delivery of sanitary and environmental flow to irrigation systems	800	
Dashoguz province	150	
Khorezm province	150	
Republic of Karakalpakstan	500	

Country quotas/limits of water withdrawal from the Syr Darya River

Water-user state	Requested Mm³
Republic of Kazakhstan (Dustlik canal)	920
Kyrgyz Republic	270
Republic of Tajikistan	1905
Republic of Uzbekistan	8800
Total:	11895

**Forecast schedule of operation of the Naryn-SyrDarya reservoir cascade
from 1 April to 30 September 2023**

		April	May	June	July	August	September	Total Mm ³
Toktogul reservoir (data of CDC "Energy")								
Inflow to reservoir	m3/s	311	643	985	853	582	340	9806
	Mm3	806	1722	2553	2285	1559	881	
Volume: beginning of the season	Mm3	7939	8129	9085	10540	11598	12131	12444
	Mm3	8129	9085	10540	11598	12131	12444	
Water releases from the reservoir	m3/s	237	286	424	458	383	219	5300
	Mm3	614	766	1099	1227	1026	568	
Water discharge from Uchkurgan HPP (according to the protocol of 15 March 2023)	m3/s	340	380	460	470	390	190	5888
	Mm3	881	1018	1192	1259	1045	492	
Bakhri Tojik reservoir								
Inflow to the reservoir (Akdjar gauging station)	m3/s	383	408	319	300	300	270	5218
	Mm3	993	1092	828	803	803	699	
Volume: beginning of the season	Mm3	3448	3539	3575	3016	2121	1581	1628
	Mm3	3539	3575	3016	2121	1581	1628	
Water releases from the reservoir	m3/s	340	350	460	550	440	203	6191
	Mm3	881	937	1193	1473	1179	527	
Shardara reservoir								

		April	May	June	July	August	September	Total
Inflow to reservoir	m3/s	300	300	250	300	250	200	4221
	mcm	778	804	648	804	670	518	
Volume: beginning of the season	mcm	4994	4846	4118	3208	2260	1368	
	mcm	4846	4118	3208	2260	1368	1018	
Water releases from the reservoir	m3/s	300	500	500	500	500	300	6869
	mcm	778	1339	1296	1339	1339	778	
Water releases to Kyzylkum canal	m3/s	50	50	60	110	50	10	874
	mcm	130	134	156	295	134	26	
Water delivery to the Aral Sea	m3/s	150	70	50	30	30	50	996
	mcm	388	187	130	80	80	130	
Charvak reservoir								
Inflow to reservoir (sum of 4 rivers)	m3/s	270	412	509	372	209	125	5003
	mcm	699	1104	1319	996	561	324	
Volume: beginning of the season	mcm	652	895	1393	1908	1963	1796	
	mcm	895	1393	1908	1963	1796	1666	
Water releases from the reservoir (Water discharge from Gazalkent HPP)	m3/s	182	226	310	351	272	175	4003
	mcm	471	606	804	941	728	454	
Andijan reservoir								
Inflow to reservoir	m3/s	181	319	338	185	75	52	3029
	mcm	469	854	877	495	200	134	
Volume: beginning of the season	mcm	896	1105	1493	1566	1389	1000	
	mcm	1105	1493	1566	1389	1000	950	
Water releases from the reservoir	m3/s	100	174	310	250	219	70	2964
	mcm	259	465	804	670	586	181	

**Forecast operation regimes of Nurek and Tuyamuyun reservoirs
(April – September 2023)**

Nurek reservoir	unit	actual	Forecast					total
		April	May	June	July	August	September	
Volume: beginning of the season	mcm	6380	6403	7254	8568	9827	10353	6380
Inflow to the reservoir	m ³ /s	499	847	1150	1500	1190	790	
	mcm	1294	2268	2981	4018	3186	2048	15794
Water releases from the reservoir	m ³ /s	496	574	683	1103	1004	707	
	mcm	1286	1538	1771	2955	2689	1832	12070
Volume: end of the season	mcm	6403	7254	8568	9827	10353	10569	10569
Accumulation(+),drawdown (-)	mcm	23	851	1314	1259	526	216	4189

Tuyamuyun reservoir	unit	ф а к т	Forecast					total
		April	May	June	July	August	September	
Volume: beginning of the season	mcm	2701	2601	3672	4128	4627	4026	2701
Inflow to the reservoir	m ³ /s	318	1249	1539	1905	1301	714	
	mcm	824	3346	3990	5102	3485	1850	18597
Water releases from the reservoir	m ³ /s	357	849	1363	1719	1525	903	
	mcm	924	2275	3534	4603	4086	2341	17763
Volume: end of the season	mcm	2601	3672	4128	4627	4026	3535	3535
Accumulation(+),drawdown (-)	mcm	-100	1071	456	499	-601	-491	834

Results of the use of allocated water limits/quotas and operation regimes of the reservoirs in the Amu Darya and Syr Darya River basins for the non-growing season 2022-2023⁶

1. Amu Darya River basin

Actual water availability in the Amu Darya River basin at the nominal Kerki gauging station (upstream of Garagumdarya) was 83.2% of the norm in the non-growing season 2022-2023.

The actual use of allocated water limits/quotas was as follows (breakdown by states) over the reporting growing season:

Under the current water conditions, 14 318.4 mcm or 91.2% were used of the total allocated water limits/quotas of 15 707.7 mcm, including:

Republic of Tajikistan: actually used 2493.5 mcm or 87.3% of the total limit;

Turkmenistan: actually used 6018.8 mcm or 92.6% of the total limit;

Republic of Uzbekistan: actually used 5806.1 mcm or 91.4% of the total limit.

Water user state	Limits/quotas of water withdrawal for non-growing season 2022-2023	Actual mcm	% % of use
Republic of Tajikistan	2857.7	2493.5	87.3
Turkmenistan	6500.0	6018.8	92.6
Republic of Uzbekistan	6350.0	5806.1	91.4
Total	15707.7	14318.4	91.2

92.4% of total allocated water limits/quotas was used downstream of the nominal Kerki gauging station (upstream of Garagumdarya), including:

⁶ Information on the first item of the 84th ICWC meeting’s agenda

Republic of Uzbekistan: actually used 5507.3 mcm or 91.1% of the total limit.

Turkmenistan: actually used 6018.8 mcm or 92.6% of the total limit.

Water user state	Limits/quotas of water withdrawal for non-growing season 2022-2023	Actual mcm	% of use
Downstream of the nominal Kerki GS	12480	11526.1	92.4
Turkmenistan	6500	6018.8	92.6
Republic of Uzbekistan	5980	5507.3	92.1

The actual use of the allocated limits by river reach was as follows:

Water user state	Limits/quotas of water withdrawal for non-growing season 2022-2023	Actual mcm	% of use
Upper reaches	3227.7	2792.3	86.5
Republic of Tajikistan	2857.7	2493.5	87.3
Republic of Uzbekistan	370.0	298.8	80.8
Middle reaches	8345.0	7706.7	92.4
Turkmenistan	5100.0	4660.8	91.4
Republic of Uzbekistan	3245.0	3045.9	93.9
Lower reaches	4135.0	3819.4	92.4
Turkmenistan	1400.0	1358.0	97.0
Republic of Uzbekistan	2735.0	2461.4	90.0

It was planned to supply 2100 mcm to the river delta and the Aral Sea during the non-growing season. However, the actual supply was 1354 mcm or 64.5%.

Forecast operation regimes of the Nurek and Tuyamuyun reservoirs were drafted based on normal water availability.

Inflow to the Nurek reservoir was expected to be 3659 mcm during the non-growing season; the actual inflow was 4565 mcm or 123.7%. Water releases from the reservoir were planned in the volume of 7515 mcm, and the actual water releases amounted to 8131 mcm or 108.2%.

Volume of water in the reservoir was expected to reach 6337 mcm by the end of the non-growing season 2022-2023; the actual volume amounted to 6380 mcm or 100.7%.

For the non-growing season, inflow to the Tuyamuyun reservoir was expected to be 5430.2 mcm, and actually 6502.1 mcm of water or 119.7% flowed to the reservoir. Water releases from the reservoir were planned in the amount of 5151 mcm, while actually 6116 mcm of water or 118.7% was discharged from the reservoir.

Volume of water in the reservoir was expected to reach 2594 mcm by the end of the non-growing season 2022-2023; the actual volume amounted to 2701 mcm or 104.1%.

		unit	Nurek reservoir	Tuyamuyun reservoir
Volume: beginning of the season		mcm	10569	2315
Inflow to the reservoir	forecast	mcm	3659	5430.2
	actual	mcm	4565	6502.1
		%%	123.7	119.7
Water releases from the reservoir	forecast	mcm	7515	5151
	actual	mcm	8131	6116
		%%	108.2	118.7
Volume: end of the season	forecast	mcm	6337	2594
	actual	mcm	6380	2701
		%%	100.7	104.1
Accumulation (+), drawdown (-)	forecast	mcm	-4232	279
	actual	mcm	-4189	386
		%%	99.0	138.3

More detailed information is provided in Tables below.

**Analysis of the use of water limits/quotas in the Amu Darya River basin
over the non-growing season 2022-2023**

	Limits/quotas of water withdrawal for the non-growing season 2022-2023, mcm	Actual mcm	% %
Upper Darya Division	3227.7	2792.3	86.5
(Upper reaches), including:			
Tajikistan	2857.7	2493.5	87.3
Uzbekistan	370.0	298.8	80.8
Water withdrawal from the Amu Darya River at nominal Kerki GS	12480	11526.1	92.4
including:			
Turkmenistan	6500.0	6018.8	92.6
Uzbekistan	5980.0	5507.3	92.1
Middle Darya Division	8345	7706.69	92.4
(Middle reaches), including			
Turkmenistan	5100	4660.8	91.4
Uzbekistan	3245	3045.9	93.9
Lower reaches:	4135	3819.4	92.4
including:			
Turkmenistan	1400.0	1358.0	97.0
Uzbekistan	2735.0	2461.4	90.0
Sanitary flow, total	800	746.7	93.3
incl. Karakalpakstan	500	500.0	100.0
Dashoguz province	150	150.0	100.0
Khorezm province	150	96.7	64.5
Total in the basin:	15707.7	14318.4	91.2
including:			
Tajikistan	2857.7	2493.5	87.3
Turkmenistan	6500.0	6018.8	92.6
Uzbekistan	6350.0	5806.1	91.4

**Water supply to the Amu Darya river delta and the Aral Sea
in the non-growing season 2022-2023, mcm**

	October	November	December	January	February	March	Water supply from 01.10.22 to 31.03.23 Actual
From the Amu Darya river to Samanbay GS	62	159	227	92	32	85	657
Total water discharge from Dustlik and Suenli canal system	55	27	98	8	98	50	336
Drainage flow	72	46	36	40	45	122	361
TOTAL:	189	232	361	140	175	257	1354
Cummulative mcm	189	421	782	922	1097	1354	

**Actual operation regime of Nurek and Tuyamuyun reservoirs
(from October 2022 to March 2023)**

Nurek reservoir	unit	actual						Total
		October	November	December	January	February	March	
Volume: beginning of the season	mcm	10569	10540	10218	9098	7581	6711	10569
Inflow to the reservoir	m ³ /s	347	333	260	222	232	343	
	mcm	930	862	696	595	562	920	4565
Water releases from the reservoir	m ³ /s	358	443	623	724	521	432	
	mcm	958	1147	1669	1940	1260	1158	8131
Volume: end of the season	mcm	10540	10218	9098	7581	6711	6380	6380
Accumulation(+),drawdown(-)	mcm	-29	-322	-1120	-1517	-869	-332	-4189

Tuyamuyun reservoir	unit	actual						Total
		October	November	December	January	February	March	
Volume: beginning of the season	mcm	2315	2239	3048	3726	4375	4155	2315
Inflow to the reservoir	m ³ /s	242	445	424	412	643	337	
	mcm	649	1154	1137	1103	1556	903	6502
Water releases from the reservoir	m ³ /s	271	133	171	170	734	880	
	mcm	725	345	459	455	1776	2356	6116
Volume: end of the season	mcm	2239	3048	3726	4375	4155	2701	2701
Accumulation(+),drawdown(-)	mcm	-76	809	678	649	-220	-1454	386

2. Syr Darya River basin

Forecast of inflow

A forecast for the non-growing season 2022-2023 was received from UzHydromet on 27 September 2022, while the information on expected operation regime of the Toktogul reservoir was provided by the Coordination Dispatching Center (CDC) “Energy” on 5 October 2022. The forecast operation regime of the Andizhan reservoir was received from the Uzbek Ministry of Water Management after consultation with the JSC “UzbekHydroenergy”. The forecast of operation of the Charvak reservoir was drafted based on forecast inflow to the reservoir from UzHydromet’s data and expected water releases derived from average long-term data. The forecast operation schedule of the Shardara reservoir was agreed with the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

According to the forecast data, inflow to upper reservoirs was expected to be as follows:

- Toktogul reservoir – 100%;
- Andizhan reservoir – 84%;
- Charvak reservoir (4 rivers in total) – 89% of the norm.

The total lateral inflow was expected to be 90% of the norm.

Overall, water availability was expected at the level of 91% of the norm in the Syr Darya River basin.

The forecast operation schedule of the Narin–Syr Darya reservoir cascade for the non-growing season was taken into consideration at the 83rd ICWC meeting and country water limits/quotas for the Syr Darya River basin were approved.

Actual water conditions from October 1, 2022 to March 31, 2023 is characterized as follows:

Total inflow (Table 2.1)

According to the norm, the total inflow to the Syr Darya River basin is 16 363 mcm for the non-growing season.

According to Uzhydromet forecast, the total inflow (available water supply) was expected to be 14 906 mcm or 91% of the norm.

In fact, the total inflow 15 849 reached mcm, which is 943 mcm more or 106% of the forecast (97% of the norm).

Inflow to upstream reservoirs (Table 2.1)

The norm of inflow to the upstream reservoirs of the Naryn-Syr Darya cascade is 5233 mcm over the non-growing season.

Inflow was expected to be 4925 mcm or 94% of the norm.

In fact, 5093 mcm flowed to upstream reservoirs; this is 168 mcm more or 103% of the forecast (*97% of the norm*):

- inflow to the Toktogul reservoir:

norm - 2882 mcm;

forecast - 2882 mcm;

actual - 2882 mcm³.

- inflow to the Andizhan reservoir:

norm - 929 mcm;

forecast - 782 mcm;

actual - 676 mcm.

- inflow to the Andizhan reservoir (4 rivers in total):

norm - 1422 mcm;

forecast - 1261 mcm;

actual - 1535 mcm.

Lateral inflow (Table 2.1)

Lateral inflow to the Syr Darya River up to the Shardara reservoir is as follows:

norm - 11 130 м³.

Uzhydromet's forecast - 9981 mcm or 90% of the norm.

Actual - 10 756 mcm, which is 775 mcm more or 108% of the forecast (97% of the norm).

1. Toktogul – Uchkurgan reach:

norm - 398 mcm;

forecast - 398 mcm;

actual - 386 mcm.

2. Andizhan – Uchtepa reach:

norm - 2533 mcm;

forecast - 2202 mcm;

actual - 2229 mcm.

3. Uchkurgan, Uchtepe – Bakhri Tojik reach:

norm - 4397 mcm;

forecast - 3925 mcm;

actual - 4213 mcm.

4. Bakhri Tojik – Shardara reach:

norm - 2969 mcm;

forecast - 2670 mcm;

actual - 3138 mcm.

5. Gazalkent – Chinaz – Chirchik (excluding Ugam) reach:

norm - 833 mcm;

forecast - 786 mcm;

actual - 790 mcm.

Table 2.1

	Non-growing season, mcm												
	From October 1, 2022 to March 31, 2023						From October 1, 2021 to March 31, 2022						
	norm	forecast	forecast/ norm (%)	actual	actual/ forecast (%)	actual/ norm (%)		norm	forecast	forecast/ norm (%)	actual	actual/ forecast (%)	actual/ norm (%)
Inflow to upstream reservoirs													
Toktogul	2882	2882	100	2882	100	100		2945	2798	95	2824	101	96
Andizhan	929	782	84	676	86	73		929	852	92	977	115	105
Charvak (4 rivers in total)	1422	1261	89	1535	122	108		1422	1158	81	1176	102	83
Total	5233	4925	94	5093	103	97		5296	4808	91	4977	103	94
Lateral inflow													
Toktogul – Uchkurgan	398	398	100	386	97	97		398	382	96	348	91	87
Andizhan – Uchtepa	2533	2202	87	2229	101	88		2533	2045	81	2306	113	91
Uchkurgan, Uchtepa – Bakhri Tojik	4397	3925	89	4213	107	96		4397	3611	82	3636	101	83
Bakhri Tojik – Shardara	2969	2670	90	3138	118	106		2969	2513	85	2387	95	80
Gazalkent- Chinaz (excluding Ugam)	833	786	94	790	101	95		833	786	94	774	98	93
Total	11130	9981	90	10756	108	97		11130	9337	84	9451	101	85
Total inflow	16363	14906	91	15849	106	97		16426	14145	86	14428	102	88

Table 2.2

	Non-growing season, mcm From October 1, 2022 to March 31, 2023				Non-growing season, mcm From October 1, 20221 to March 31, 2022			
	schedule	actual	actual/ schedule (%)	deviation (actual "_" schedule)	schedule	actual	actual/ schedule (%)	deviation (actual "_" schedule)
Inflow to in-stream reservoirs								
Inflow to the Bakhri Tojik reservoir	9840	12471	127	2631	11228	9812	87	-1417
Inflow to the Shardara reservoir	10779	14255	132	3476	10341	8272	80	-2069
Water supply to the Aral Sea								
Water supply to the Aral Sea	1585	1671	105	86	1115	235	21	-880

Table 2.3

Reservoir	Water releases, mcm					
	From October 1, 2022 to March 31, 2023			From October 1, 2021 to March 31, 2022		
	Operation schedule NSRC	Actual	Actual / schedule %	Operation schedule NSRC	Actual	Actual / schedule %
Upstream reservoirs						
Toktogul	6639	8560	129	8745	7265	83
Andizhan	681	676	99	383	399	104
Charvak (discharge of Gazalkent HPP)	2097	2392	114	1670	1773	106
TOTAL:	9417	11628	123	10798	9437	87
In-stream reservoirs						
Bakhri Tojik	8386	12637	151	9765	9693	99
Shardara	6916	8707	126	5653	3521	62
TOTAL:	15302	21344	139	15418	13214	86
GRAND TOTAL:	24719	32972	133	26216	22651	86

Inflow to in-stream reservoirs and water supply to the Aral Sea
(Table 2.2).

Inflow to the Bakhri Tojik reservoir was expected to be 9840 mcm according to the forecast schedule for the non-growing season.

The actual inflow to the reservoir was 12 471 mcm, which is 2631 mcm more than the forecast schedule or 127% of the forecast schedule.

Inflow to the Shardara reservoir was expected to be 10 779 mcm.

In fact, 14 255 mcm flowed to the reservoir according to UzHydromet's data; this is more by 3476 mcm more than in the forecast schedule or 132% of the forecast schedule.

According to RSE "KazHydromet", 13 011 mcm flowed to the reservoir; which is 2232 mcm more than the forecast schedule or 121% of the forecast schedule.

Inflow to the Aral Sea and the Aral Sea region was expected to be 1585 mcm according to the forecast schedule, and the actual inflow to Karateren gauging station was 1671 mcm.

VI. Water releases from reservoirs (Table 2.3)

According to forecast operation schedule of the Narin-Syr Darya reservoir cascade, 24 719 mcm were to be released from reservoirs over the non-growing season.

The actual water releases were 32 972 mcm, which is 8253 mcm more than the forecast schedule or 133% of the forecast schedule.

- planned water releases from the Toktogul reservoir were 6639 mcm, while actually 8560 mcm of water were discharged.

- planned water releases from the Andizhan reservoir were 681 mcm, while actually 676 mcm of water were discharged.

- planned water releases from the Charvak reservoir were 2097 mcm, while actually 2392 mcm of water were discharged.

- planned water releases from the Bakhri Tojik reservoir were 8386 mcm, while actually 12 637 mcm of water were discharged.

- planned water releases from the Shardara reservoir were 6916 mcm, while actually 8707 mcm of water were discharged.

VII. Water storage in reservoirs (Table 2.4)

The actual water storage in the Naryn-Syr Darya reservoir cascade was 19 151 mcm by the beginning of the non-growing season (as of October 1, 2022).

The water storage was expected to be 20 216mcm by the end of the non-growing season according to the forecast schedule. In fact, 17 929 mcm of water were accumulated; this is 2287 mcm less than the forecast schedule.

For upstream reservoirs, 11 569 mcm were expected to be accumulated by the end of the non-growing season. The actual accumulation was 9487 mcm, which is 2082 mcm lower than in the forecast schedule.

The accumulation of water by reservoir was as follows

Toktogul reservoir: forecast - 9862 mcm; actual - 7939 mcm, which is 1923 mcm lower than forecast;

Andizhan reservoir: forecast –1012 mcm; actual - 896 mcm, which is 116 mcm lower than forecast;

Charvak reservoir: forecast – 695 mcm, actual - 652 mcm, which is 43 mcm lower than forecast.

By the end of the non-growing season, water storage was expected to be 8647 mcm by the forecast schedule in the in-stream reservoirs, while the actual storage was 8442 mcm, which is 205 mcm lower than the forecast.

Breakdown by reservoirs is as follows

Bakhri Tojik reservoir: forecast – 3487 mcm; actual - 3448 mcm, which is 39 mcm lower than forecast;

Shardara reservoir: forecast – 5160 mcm; actual - 4994 mcm, which is 166 mcm lower than forecast.

Table 2.4

Reservoir	Water volume in reservoir, mcm					
	Actual by 1.10.2022.	Scheduled by 1.04.2023	Actual by 1.04.2023	Difference (actual "-" schedule)	Actual by 1.04.2023	Difference (actual 2023 "-" actual 2022)
Upstream reservoirs						
Toktogul	13620	9862	7939	-1923	7851	88
Andizhan	911	1012	896	-116	1062	-166
Charvak (4 rivers in total)	1573	695	652	-43	643	9
TOTAL:	16104	11569	9487	-2082	9556	-69
In-stream reservoirs						
Bakhri Tojik	1710	3487	3448	-39	3320	128
Shardara	1337	5160	4994	-166	5002	-8
TOTAL:	3047	8647	8442	-205	8322	120
GRAND TOTAL:	19151	20216	17929	-2287	17878	50

VIII. Water supply to countries (Table 2.5).

According to the approved limits and submitted operational requests of water consumers, water was supplied to the following countries in the following amounts during the non-growing season:

- Republic of Kazakhstan - 319 mcm;
- Kyrgyz Republic - 31 mcm;
- Republic of Tajikistan - 74 mcm;
- Republic of Uzbekistan - 3116 mcm.

The actual total water withdrawal by water user countries amounted to 3540 mcm.

Table 2.5

Water user country	Water withdrawal, mcm From October 1, 2022 to March 31, 2023	
	Limit	Actual
Republic of Kazakhstan (Dustlik canal)	452	319
Kyrgyz Republic	47	31
Republic ofTajikistan	365	74
Republic of Uzbekistan	3347	3116
Total	4211	3540

Table 2.6 shows the forecast operation schedule of the Naryn-Syr Darya reservoir cascade for the non-growing season 2022-2023 (taken into consideration at 83rd ICWC meeting), while Table 2.7 gives the information on actual operation of the cascade during this season.

Table 2.6

**Forecast operation schedule
of the Naryn-Syr Darya reservoir cascade
from October 1, 2022 to March 31, 2023**

		Oct	Nov	Dec	Jan	Feb	Mar	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m ³ /s	237	202	168	159	160	172	2882
	mcm	635	524	450	426	387	461	
Volume: beginning of the season	mcm	13620	13639	13027	11878	10836	9970	
end of the season	mcm	13639	13027	11878	10836	9970	9862	
Water releases from the reservoir	m ³ /s	230	438	597	548	518	212	6639
	mcm	616	1135	1599	1468	1253	568	
Bakhri Tojik reservoir								
Inflow to the reservoir	m ³ /s	403	673	843	742	746	361	9840
(Akjar g/s)	mcm	1079	1745	2257	1987	1804	968	
Volume: beginning of the season	mcm	1710	2410	3008	3375	3328	3411	
end of the season	mcm	2410	3008	3375	3328	3411	3487	
Water releases from the reservoir	m ³ /s	196	450	720	780	730	340	8386
	mcm	526	1166	1928	2089	1766	911	
Shardara reservoir								
Inflow to the reservoir	m ³ /s	195	590	880	925	835	700	10779
	mcm	522	1529	2356	2477	2020	1875	

		Oct	Nov	Dec	Jan	Feb	Mar	Total,
Volume: beginning of the season	mcm	1337	1651	1975	2992	4130	4892	6916
end of the season	mcm	1651	1975	2992	4130	4892	5160	
Water releases from the reservoir	m ³ /s	77	450	500	500	520	600	
	mcm	206	1166	1339	1339	1258	1607	
Water supply to the Aral Sea	m ³ /s	8.0	50	100	120	150	180	1585
	mcm	21	130	268	321	363	482	
Charvak reservoir								
Inflow to the reservoir	m ³ /s	96	86	74	65	65	94	1261
(4 rivers in total)	mcm	256	224	198	175	156	252	
Volume: beginning of the season	mcm	1573	1444	1276	1099	897	738	
end of the season	mcm	1444	1276	1099	897	738	695	
Water releases from the reservoir	m ³ /s	130	150	140	140	130	110	2097
(Discharge from Gazalkent HPP)	mcm	349	389	375	375	314	295	
Andizhan reservoir								
Inflow to the reservoir	m ³ /s	40	47	55	47	48	62	782
	mcm	107	121	147	125	117	166	
Volume: beginning of the season	mcm	911	750	677	808	916	985	681
end of the season	mcm	750	677	808	916	985	1012	
Water releases from the reservoir	m ³ /s	100	75	6	6	20	52	
	mcm	268	194	16	16	48	140	

Table 2.7

**Actual operation regime
of the Naryn-Syr Darya reservoir cascade
from October 1, 2022 to March 31, 2023**

		Oct	Nov	Dec	Jan	Feb	Mar	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m ³ /s	234	191	160	142	158	211	2882
	mcm	627	496	429	381	382	566	
Volume: beginning of the season	mcm	13620	13504	12674	11063	9336	8103	7939
end of the season	mcm	13504	12674	11063	9336	8103	7939	
Water releases from the reservoir	m ³ /s	273	510	762	786	671	275	8560
	mcm	731	1321	2042	2105	1624	737	
Bakhri Tojik reservoir								
Inflow to the reservoir	m ³ /s	403	796	1071	1051	987	469	12471
(Akjar g/s)	mcm	1079	2063	2869	2816	2388	1256	
Volume: beginning of the season	mcm	1710	2410	3355	3325	3399	3414	3448
end of the season	mcm	2410	3355	3325	3399	3414	3448	
Water releases from the reservoir	m ³ /s	196	522	1249	1162	1160	557	12637
	mcm	526	1354	3346	3111	2806	1493	
Shardara reservoir								
Inflow to the reservoir	m ³ /s	240	680	1533	1265	1251	496	14255
	mcm	643	1763	4107	3388	3026	1328	

		Oct	Nov	Dec	Jan	Feb	Mar	Total, mcm
Volume: beginning of the season	mcm	1337	1651	2279	3925	4452	5146	
end of the season	mcm	1651	2279	3925	4452	5146	4994	
Water releases from the reservoir	m ³ /s	78	345	703	884	892	448	8707
	mcm	208	893	1882	2366	2159	1199	
Water supply to the Aral Sea	m ³ /s	8	41	68	142	184	199	1671
	mcm	22	106	183	380	446	534	
Charvak reservoir								
Inflow to the reservoir (4 rivers in total)	m ³ /s	93	93	84	76	79	159	1535
	mcm	250	241	225	202	192	425	
Volume: beginning of the season	mcm	1573	1444	1296	997	695	553	
end of the season	mcm	1444	1296	997	695	553	652	
Water releases from the reservoir (Discharge from Gazalkent HPP)	m ³ /s	130	146	183	173	130	148	2392
	mcm	349	378	491	462	314	397	
Andizhan reservoir								
Inflow to the reservoir	m ³ /s	41	56	25	21	42	72	676
	mcm	111	146	66	57	103	194	
Volume: beginning of the season	mcm	911	798	867	824	784	822	
end of the season	mcm	798	867	824	784	822	896	
Water releases from the reservoir	m ³ /s	85	30	36	35	25	44	676
	mcm	229	78	97	93	60	119	

Approval of country limits/quotas on water withdrawal and forecast operation regime of reservoir cascades for growing season 2023 for the Amu Darya and Syr Darya River Basin⁷

1. Amu Darya River Basin

Limits/quotas on water withdrawal from the Amu Darya River and water supply to the river delta and the Aral Sea for the growing season 2023

River basin, state	Limits/quotas on water withdrawal, mcm	
	Total annual (from 1.10.22 to 1.10.23)	incl. growing season (from 1.04.23 to 1.10.23)
Total withdrawal from the Amu Darya River	55385	39678
including:		
Republic of Tajikistan	9815	6958
From the Amu Darya River at the nominal Kerki gauging station	44000	31520
Turkmenistan	22000	15500
Republic of Uzbekistan	22000	16020
Additionally:		
- water supply to the river delta and the Aral Sea, including irrigation water releases and CDW	4200	2100
- sanitary and environmental flow to irrigation systems	800	
Dashoguz province	150	
Khorezm province	150	
Republic of Karakalpakstan	500	

⁷ Information on the second agenda item of the 84th ICWC meeting

**Forecast operation regime of the Nurek and Tuyamuyun reservoirs
(from April 2023 to September 2023)**

Nurek reservoir	unit	actual	Forecast					total
		Apr	May	Jun	Jul	Aug	Sep	
Volume: beginning of the season	mcm	6380	6403	7254	8568	9827	10353	6380
Inflow to the reservoir	m ³ /s	499	847	1150	1500	1190	790	
	mcm	1294	2268	2981	4018	3186	2048	15794
Water releases from the reservoir	m ³ /s	496	574	683	1103	1004	707	
	mcm	1286	1538	1771	2955	2689	1832	12070
Volume: end of the season	mcm	6403	7254	8568	9827	10353	10569	10569
Accumulation(+), drawdown(-)	mcm	23	851	1314	1259	526	216	4189

Tuyamuyun reservoir	unit	actual	Forecast					total
		Apr	May	Jun	Jul	Aug	Sep	
Volume: beginning of the season	mcm	2701	2601	3672	4128	4627	4026	2701
Inflow to the reservoir	m ³ /s	318	1249	1539	1905	1301	714	
	mcm	824	3346	3990	5102	3485	1850	18597
Water releases from the reservoir	m ³ /s	357	849	1363	1719	1525	903	
	mcm	924	2275	3534	4603	4086	2341	17763
Volume: end of the season	mcm	2601	3672	4128	4627	4026	3535	3535
Accumulation (+), drawdown(-)	mcm	-100	1071	456	499	-601	-491	834

2. Syr Darya River basin

I. Forecast of inflow

On April 5, 2023, UzHydromet provided the forecast for the growing season 2023. According to this forecast, the following water availability is expected for the growing season 2023: 100-110% (105%) of the norm in river basins in the South Fergana Valley and in the Naryn River Basin; 90-100% (95%) in the Karadarya River Basin and river basins in the North Fergana Valley; 85-95% (90%) in the Chirchik River Basin; and, 80-90% (85%) in the Akhangaran River Basin.

On April 5, 2023, expected operation regime of the Toktogul reservoir was provided by the Coordination Dispatch Center (CDC) “Energy”.

The Ministry of Water Management of the Republic of Uzbekistan, upon consultation with the Ministry of Energy of Uzbekistan and UzHydromet, provided forecast operation schedule of the Charvak reservoir.

The forecast operation schedule of the Andizhan reservoir was provided by the Ministry of Water Management of the Republic of Uzbekistan and agreed with JSC “Uzbekhydroenergy”.

The forecast operation schedule of the Shardara reservoir was provided by the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

According to the received data, inflow to upstream reservoirs is expected to be as follows:

- 100% to the Toktogul reservoir;
- 104% to the Andizhan reservoir;
- 87% of the norm to the Charvak reservoir (4 rivers in total).

The total lateral inflow is expected to be 95% of the norm.

In general, water availability in the Syr Darya River basin is expected to be 96% of the norm.

II. Total inflow (Table 2.1)

The norm of the total inflow in Syr Darya basin for the growing season is 29 469 mcm.

As forecasted, the total inflow is expected to be 28 215 mcm (96% of the norm).

III. Inflow to upstream reservoirs (Table 2.1)

The norm of inflow to upstream reservoirs of the Naryn-Syrdarya cascade is 18 506 mcm for the growing season.

According to the forecast, inflow is expected in the amount of 17 838 mcm (96% of the norm).

The norm of inflow to the Toktogul reservoir is 9802 mcm.

The forecast is 9806 mcm (100% of the norm).

The norm of inflow to the Andizhan reservoir is 2927 mcm.

The forecast is 3029 mcm (104% of the norm).

The norm of inflow to the Charvak reservoir (4 rivers in total) is 5777 mcm.

The forecast is 5003 mcm (87% of the norm).

IV. Lateral inflow (Table 2.1)

The norm of the lateral inflow is 10 963 mcm.

According to the forecast, the lateral inflow is expected to be 10 377 mcm (95% of the norm).

Table 2.1

	Growing season, mcm								
	2023			2022					
	norm	forecast	forecast/ norm (%)	norm	forecast	forecast/ norm (%)	actual	actual/ forecast (%)	actual/ norm (%)
Inflow to upstream reservoirs									
Toktogul	9802	9806	100	9802	9406	96	10429	111	106
Andijan	2927	3029	104	2927	2133	73	3014	141	103
Charvak (4 rivers in total)	5777	5003	87	5777	4557	79	4572	100	79
Total:	18506	17838	96	18506	16096	87	18015	112	97
Lateral inflow									
Toktogul – Uchkurgan	1216	1216	100	1216	1110	91	1120	101	92
Andizhan – Uchtepe	2511	2369	94	2511	2063	82	1783	86	71
Uchkurgan - Uchtepe – Bakhri Tojik	3349	2843	85	3349	2907	87	2616	90	78
Bakhri Tojik – Shardara	2985	3001	101	2985	2412	81	2595	108	87
Gazalkent- Chinaz - Chirchik (excluding Ugam)	902	948	105	902	741	82	799	108	88
Total:	10963	10377	95	10963	9233	84	8913	97	81
Grand total (total inflow):	29469	28215	96	29469	25329	86	26928	106	91

V. Water storage in reservoirs (Table 2.2)

As of April 1, 2023, the total water storage is 17 929 mcm in the reservoirs (including 7963 mcm of dead storage). Water storage in the reservoirs excluding dead storage is 9966 mcm.

Available water resources of the Naryn-Syr Darya reservoir cascade are 38 181 mcm (total inflow plus water storage in the reservoirs excluding dead storage) for the growing season 2023.

$$(28\ 215\ \text{mcm} + 9966\ \text{mcm} = 38\ 181\ \text{mcm})$$

Table 2.2

Reservoir	Water volume in reservoir, mcm		
	Actual by 1 April 2023	Actual by 1 April 2022	Dead storage
Upstream reservoirs			
Toktogul	7939	7851	5500
Andijan	896	1062	150
Charvak	652	643	426
TOTAL:	9487	9556	6076
In-stream reservoirs			
Bakhri Tojik	3448	3320	917
Shardara	4994	5002	970
TOTAL:	8442	8322	1887
GRAND TOTAL:	17929	17878	7963

VI. Water releases from reservoirs (Table 2.3)

According to the forecast operation schedule of the Naryn-Syr Darya reservoir cascade, 25 327 mcm are planned to be released from the reservoirs in the growing season 2023.

Table 2.3

Reservoir	Water releases, mcm		
	forecast schedule 2023	forecast schedule 2022	actual 2022
Upstream reservoirs			
Toktogul	5300	5153	4677
Andijan	2964	2393	3151
Charvak (discharge of the Gazalkent HPP)	4003	3806	4284
TOTAL:	12267	11352	12112
In-stream reservoirs			
Bakhri Tojik	6191	5969	6859
Shardara	6869	6574	5692
TOTAL:	13060	12543	12551
GRAND TOTAL:	25327	23895	24663

VII. *Limits/quotas on water withdrawal* (Table 2.4)

Based on requests of water user states, the following limits/quotas on water withdrawal are proposed for the growing season.

The total country limit/quota on water withdrawal is 11 895 mcm during the growing season.

Requests

Republic of Kazakhstan (Dustlik canal)	920 mcm,
Kyrgyz Republic	270 mcm,
Republic of Tajikistan	1905 mcm,
Republic of Uzbekistan	8800 mcm,
Total:	11 895 mcm.

Table 2.4

Water user state	Proposed limits, mcm
Republic of Kazakhstan (Dustlik canal)	920
Kyrgyz Republic	270
Republic of Tajikistan	1905
Republic of Uzbekistan	8800
Total:	11895

According to the data from the Ministry of Ecology and Natural Resources of Kazakhstan, water supply to the Aral Sea and the Aral Sea region is expected in the amount of 996 mcm in the growing season.

A forecast operation schedule of the Naryn-Syr Darya reservoir cascade was drafted for the growing season 2023, taking into account the expected water availability based on UzHydromet's forecast, the water storage in reservoirs, the protocols on energy exchange between Uzbek ministries of energy and water management, Kazakh ministries of energy, ecology and natural resources and Kyrgyz ministry of energy, as well as the planned tri- and bilateral protocols between Kazakhstan, Uzbekistan and Tajikistan on additional water releases from the Bakhri Tojik reservoir (Table 2.5).

Table 2.5

**Forecast operation schedule of the Naryn – Syr Darya reservoir cascade
(1 April to 30 September 2023)**

		Apr	May	Jun	Jul	Aug	Sep	Total mcm
Toktogul reservoir (data of CDC “Energy”)								
Inflow to the reservoir	m ³ /s	311	643	985	853	582	340	9806
	mcm	806	1722	2553	2285	1559	881	
Volume: beginning of the season	mcm	7939	8129	9085	10540	11598	12131	12444
	mcm	8129	9085	10540	11598	12131	12444	
end of the season	m ³ /s	237	286	424	458	383	219	5300
	mcm	614	766	1099	1227	1026	568	
Water releases from the reservoir	m ³ /s	340	380	460	470	390	190	5888
	mcm	881	1018	1192	1259	1045	492	
Bakhri Tojik reservoir								
Inflow to the reservoir (Akdjar GS)	m ³ /s	383	408	319	300	300	270	5218
	mcm	993	1092	828	803	803	699	
Volume: beginning of the season	mcm	3448	3539	3575	3016	2121	1581	1628
	mcm	3539	3575	3016	2121	1581	1628	
end of the season	m ³ /s	340	350	460	550	440	203	6191
	mcm	881	937	1193	1473	1179	527	
Shardara reservoir								

		Apr	May	Jun	Jul	Aug	Sep	Total
Inflow to the reservoir	m ³ /s	300	300	250	300	250	200	4221
	mcm	778	804	648	804	670	518	
Volume: beginning of the season	mcm	4994	4846	4118	3208	2260	1368	
	mcm	4846	4118	3208	2260	1368	1018	
Water releases from the reservoir	m ³ /s	300	500	500	500	500	300	6869
	mcm	778	1339	1296	1339	1339	778	
Water releases to the Kyzylkum Canal	m ³ /s	50	50	60	110	50	10	874
	mcm	130	134	156	295	134	26	
Water supply to the Aral Sea	m ³ /s	150	70	50	30	30	50	996
	mcm	388	187	130	80	80	130	
Charvak reservoir								
Inflow to the reservoir (4 rivers in total)	m ³ /s	270	412	509	372	209	125	5003
	mcm	699	1104	1319	996	561	324	
Volume: beginning of the season	mcm	652	895	1393	1908	1963	1796	
	mcm	895	1393	1908	1963	1796	1666	
Water releases from the reservoir (Discharge from the Gazalkent HPP)	m ³ /s	182	226	310	351	272	175	4003
	mcm	471	606	804	941	728	454	
Andizhan reservoir								
Inflow to the reservoir	m ³ /s	181	319	338	185	75	52	3029
	mcm	469	854	877	495	200	134	
Volume: beginning of the season	mcm	896	1105	1493	1566	1389	1000	
	mcm	1105	1493	1566	1389	1000	950	
Water releases from the reservoir	m ³ /s	100	174	310	250	219	70	2964
	mcm	259	465	804	670	586	181	

Progress on initiatives of the Heads of IFAS Founder-States raised at the Summit in Turkmenbashi (August 2018) and tasks before ICWC in relation to the IFAS summit in Dushanbe (September 2023)⁸

SIC ICWC work on implementation of initiatives of the Heads of IFAS founder-states raised at the Summit in the city of Turkmenbashi

(from 22 November 2022 to 26 April 2023)

General information

The XII Summit of the Council of Heads of IFAS founder-states was held on August 24, 2018 in the city of Turkmenbashi. The heads of states put forward a number of initiatives. Since the 77th ICWC meeting (November 5-6, 2019), ICWC members have regularly addressed follow-up activities on the initiatives at their meetings. Relevant decision of the 83rd ICWC meeting speaks: “1. Take into consideration the information of SIC ICWC on implementation of proposals and initiatives raised at the Summit of the Heads of IFAS founder-states (Turkmenbashi city, August 24, 2018). 2. ICWC members and ICWC executive bodies shall intensify efforts in implementation of the initiatives raised by the IFAS founder-states and report at regular ICWC meetings.”

1. Automation of gauging stations in the Amu Darya and Syr Darya River basins

Draft terms of reference for the development of feasibility study for the project of automation of gauging stations along the Syr Darya River, including small rivers in the basin (pursuant to the decision of the 80th ICWC meeting of May 11, videoconference), prepared by SIC ICWC, has been agreed by Kazakhstan (letter No. 05-09/9283 of 01.06.2022), Tajikistan (letter No. 7-1122 of 08.06.2022) and Uzbekistan (Letter No. 01/17-1363 of 17.06.2022).

⁸ Information on the third agenda item of the 84th ICWC meeting

As part of the project “Regional mechanisms for the low-carbon, climate resilient transformation of the energy-water-land use nexus in Central Asia”⁹ (hereinafter the OECD project "Regional mechanisms for transformation"), it is planned to study conditions of gauging stations and assess needs for automation of selected waterworks facilities in the Syr Darya River basin.

2. Water and energy regulation

Based on the agreement with OECD, a Discussion Paper “Possible Ways of Refreshing Institutional and Financial Mechanisms of Cooperation on Water and Energy in Central Asia” was drafted. The Discussion Paper offers: (1) analysis of existing mechanisms of interactions on water and energy in Central Asia and chronology of country efforts in strengthening coordination of water and energy sectors; (2) survey of world practices concerning institutional and financial mechanisms of water and energy coordination at the interstate level; (3) potential options for the improved coordination using public-private partnership and other mechanisms. Online consultations with key ministries and agencies are planned for late May. The work us to be continued within the framework of the future project “Regional mechanisms for transformation”.

3. Implementation of IWRM, water conservation and rational use of water resources

In line with proposals of the President of Uzbekistan to adopt a Regional program for rational water use in Central Asia, the work is underway with national and international partners. Particularly, coordination of possible regional actions on rational water use in CA is stipulated in the OECD project “Regional mechanisms for transformation”. Proposals on development of a Regional strategy for ration use of transboundary waters were drafted also.

4. Water accounting

Monitoring of water balance in the Amu Darya and Syr Darya River basins is conducted jointly with BWO Amu Darya and BWO Syr Darya **each ten days**. Operational analytical reports on situation in the basin for each ten days are published on the SIC ICWC website in the sections “Water management situation in the Syr Darya River basin”, including weekly newsletter "Water management, irrigation and ecology in Eastern Europe, Caucasus and Central Asia” which is distributed among more than 70 recipients. Updated analysis of water-related situation in the basins for each ten-day period

⁹ Government of Germany, International Climate Initiative 2020, partners - OECD, EBRD, UNECE, SIC ICWC. The work is to be started in June 2023

is posted on the SIC' website and in weekly newsletter "Water sector, irrigation, and ecology in Eastern Europe, Caucasus and Central Asia", which is disseminated among more than 70 recipients.

SIC ICWC in cooperation with the Institute of Geographic Sciences and Natural Resources Research of the Chinese Academy of Sciences and participation of BWO Amu Darya and its territorial divisions has completed the Project "**The e-rules development of flow regulation in the Amu Darya River basin**". A package of computable models was developed and together with the database and web-interface formed the E-rules software package. Recommendations for drafting river water balances and flow regulation rules were formulated. Also, the E-rules software package as a decision support tool was tested and applied by BWO Amu Darya. Acceptance report of the decision support tool (Urgench, 24.02.2023) was submitted to the Agency of Innovative Development of the Republic of Uzbekistan (letter No. 47 of 29.03.2023).

5. Mitigation of the Aral Sea disaster

SIC experts conduct monthly RS-based **monitoring** of the Southern Aral region and parts of the Large Aral Sea.

The project "Adaptation of a modern system for water and land resources monitoring and water balance (water requirement) modeling in the conditions of the Aral Sea region with a view of combating salinization and increasing land productivity"¹⁰ (May 2022 – May 2025) is continued and the following progress has been achieved so far: developed research version of REQWAT model for calculation of crop water requirements and started its approbation in selected pilot sites - "Karabuga" in Karauzyak district, "Tik-Uzyak" in Muynak district, and "Chashma Bulogi" in Ellikkala district.

SIC jointly with the International Innovation Center for the Aral Sea Region at the President of Uzbekistan continued monitoring of 1.5 Mha of the dried bed of the Aral Sea under a contract with UNDP Uzbekistan¹¹. Relevant expedition started on April 24 and lasted 25 days.

6. Water diplomacy and scientific cooperation

As part of development of the initiative on joint multidisciplinary research

¹⁰ Implemented within the framework of the SATREPS-2020 program of the Japanese Government and financed by the Ministry of Innovative Development of the Republic of Uzbekistan

¹¹ As part of the project "Empowering youth towards a brighter future through green and innovative development of the Aral Sea Region" (MPHSTF for the Aral Sea Region, UNDP, UNICEF, FAO), Component 3.1 "Making data repository on science evidence based monitoring of the dried bed of the Aral Sea" (UNDP)

on the platforms of SIC ICWC and SIC ICSD, the work on development of the Expert Platform on water security, sustainable development and future studies is continued. Some aspects of this work were also included in the OECD project “Regional mechanisms for transformation”.

Upon invitation of the H.E. Mr. Csaba Kőrösi, President of the 77 UN General Assembly, Director of SIC ICWC reported at informal plenary meeting during the 77th UNGA session on 7 February 2023. The meeting was convened to hear briefings from eminent scientists and academics focused on science-based evidence in support of sustainable solutions. The briefings were held in three sessions on Economics of Water; Shared Waters: Climate, Conflict and Cooperation; and Early Warning for Pandemic Preparedness.

SIC ICWC took active part in the UN Water Conference in New York in March 2023:

- made a voluntary commitment to cooperate closely with the Central Asian countries and other partners for science evidence based cooperation on transboundary water.

- D.R. Ziganshina took part in a number of *pre-conference events*: 1) Water and Heritage: Connecting Past, Present and Future (20-21 March), 2) Water diplomacy symposium¹² (21 March), and 3) roundtable Water Security and Hydro-diplomacy: Turning the Spotlight on Knowledge-Sharing, Accelerating Cooperative Action, and Role of Multilateral Forums¹³.

- D.R. Ziganshina was a reporter in the Interactive dialogue: *Water for sustainable development: valuing water, water-energy-food nexus and sustainable economic and urban development* (22 March) and at the high-level session *Integrated Water Resources Management at basin level: benefits of this nexus approach to accelerate the achievement of the Sustainable Development Goals* (22 March).

- issued a publication on the Conference.

7. ASBP-4

Currently, SIC ICWC does not implement projects included directly in ASBP-4 but priority areas of the Program guide its activities and future projects. In particular:

(1) surveying gauging stations and development of a feasibility study for

¹² organized by the Women in Water Diplomacy Network in partnership with the Environmental Law Institute, the Stockholm International Water Institute, the International Joint Commission, the Lincoln Institute of Land Policy and the University of Arizona

¹³ organized by the Konrad-Adenauer-Stiftung (KAS) and the Stimson Center

the automation of gauging stations in the Syr Darya River basin, including small rivers in the basin, and improvement of the regional information system (*project 1.6, ASPB-4*) are included in the regional OECD project “Regional mechanisms for transformation”;

(2) the issues related to improvement of water accounting and monitoring in the Amu Darya and Syr Darya River basins (*project 1.7, ASPB-4*) have been addressed jointly with Institute of Geographic Sciences and Natural Resources Research of the Chinese Academy of Sciences and BWO “Amu Darya” as a part of the project “The e-rules development of flow regulation in the Amu Darya River basin”;

(3) development of a system of environmental and water monitoring in the Aral Sea region and on the dried bed of the Aral Sea (*project 1.7, ASPB-4*) has been continued as part of the project “Adaptation of a modern system for water and land resources monitoring and water balance (water requirement) modeling in the conditions of the Aral Sea region with a view of combating salinization and increasing land productivity” and the expedition to the dried bed of the Aral Sea organized jointly with UNDP Uzbekistan on 24 April.

Information on the contribution of SIC to implementation of ASBP-4 was submitted to the Ministry of Water Management of the Republic of Uzbekistan (letters No. 2 of 08.01.22 and No. 81 of 20.07.22) in response to its inquiries (letters No. 02/17-8 of 06.01.2022. and No. 15/24653 of 08.07.2022).

SIC ICWC issues the Water Yearbook: Central Asia and around the Globe as part of its contribution to coordination of water activities of the countries and development partners (<http://cawater-info.net/yearbook/index.htm>).

8. Improvement of IFAS activities

The working group on institutional and legal improvement of IFAS has completed the 2nd stage of its work under the leadership of IFAS Executive Committee. This work focused on identification of gaps/shortcomings in fulfilling functions by structural divisions of IFAS. The work is underway on the 3rd stage focused on functions of existing and newly created organizations and coordination of IFAS goals, objectives and tasks and on the 4th stage aimed to develop and agree upon proposals on the improvement of financing of IFAS management structure.

The working group had two meetings over the reporting period.

At the 9th meeting (17-19 January, online), international experts were requested to start drafting proposals on the improvement of the legal framework to form effective and sustainable institutional mechanism of cooperation.

At the 10th hybrid-format meeting held on 5-6 April in Laos as part of the study tour to the Mecong River Commission, members of the working group

continued discussions on the 3rd stage. They discussion options on establishment of two to four commissions for the improvement of IFAS structure. Consensus was not reached on this issue and the members were suggested to share their visions on updated institutional framework of IFAS by 20 April. SIC ICWC submitted its proposals on the updated structure on 20 April 2023.

The *11th meetings* is to be held in June 2023.

Analysis of hydrological conditions in the Syr Darya and Amu Darya River Basins in the non-growing season 2022-2023

1. Syr Darya River Basin

In the non-growing season (October 2022 – March 2023), the actual inflow to the upstream reservoirs (Toktogul, Andizhan, Charvak) in the Syr Darya River Basin was 5.09 km^3 or 97% of the norm.

Inflow to the Toktogul reservoir amounted to 2.88 km^3 or 100% of forecast. Inflow to the Andizhan reservoir was 14% lower than expected, while inflow to the Charvak reservoir was 22% higher.

Total water releases from the reservoirs amounted to 11.63 km^3 or by 23% more than the forecast schedule of BWO Syr Darya.

Total lateral inflow amounted to 11.12 km^3 in the reach from the Toktogul reservoir to the Shardara reservoir, including discharge from the Karadarya and Chirchik rivers. This is 2.2. times more than the total inflow to upstream reservoirs but 4% lower than the total water releases from these reservoirs.

By the end of the non-growing season, the upstream reservoirs accumulated 9.49 km^3 of water, including: Toktogul reservoir – 7.94 km^3 or 80% of the plan; Andizhan reservoir – 0.9 km^3 (88% of the plan); Charvak reservoir – 0.65 km^3 (94 %). The Toktogul reservoir was drawnd down by 5.68 km^3 ; the Charvak reservoir, by 0.92 km^3 ; and, the Andizhan reservoir, by 0.02 km^3 .

Inflow to the “Bakhri Tojik” reservoir was 12.47 km^3 . This is by 2.63 km^3 more than in the forecast schedule accepted for reference at the 83rd ICWC meeting. 12.64 km^3 of water were discharged into the river. This is by 4.25 km^3 more than in BWO’s schedule. The reservoir accumulated 3.45 km^3 of water.

Total water withdrawal from the Naryn and Syr Darya Rivers made up 3.54 km^3 , of which: For the growing season 2022, the water withdrawal was less by 1.68 km^3 than planned according to established limits by ICWC. Суммарный водозабор из рек Нарын и Сырдарья составил km^3 , в том числе: 0.03 km^3 for the Kyrgyz Republic; 0.07 km^3 for the Republic of Tajikistan; 0.32 km^3 for the Republic of Kazakhstan (through Dustlik Canal); and, 3.11 km^3 for the Republic of Uzbekistan (Table 1.1).

Inflow to the Shardara reservoir amounted to 14.26 km^3 during the non-growing season 2022-2023. This is by 3.48 km^3 more than in the schedule of BWO Syr Darya. By the end of the season, the reservoir was filled with water to

5.0 km³ (97% of the plan), and 9.68 km³ (138%) were discharged from the reservoir.

Inflow to the Aral Sea was 1.54 km³ by the data of KazHydromet and 1.67 km³ (105% of expected amount) by the data of the Committee for Water Resources of Kazakhstan.

Table 1.2 shows the river water balance, while Table 1.3 gives the reservoir water balance.

Table 1.1

**Water use by riparian countries of the Syr Darya River Nasin
(in the reach up to Shardara reservoir), non-growing season 2022-2023**

#	Water user	Water quantity, km ³		Water availability, %
		Limit/ schedule	Actual	Season
1	Total water withdrawal	4.21	3.54	84
2	by country:			
	Kyrgyz Republic	0.047	0.03	66
	Republic of Uzbekistan	3.35	3.11	93
	Republic of Tajikistan	0.37	0.07	20
	Republic of Kazakhstan	0.45	0.32	71
3	by river reach			
3.1	Toktogul reservoir – Uchkurgan hydroscheme	1.38	1.28	93
	including:			
	Kyrgyz Republic	0.04	0.03	74
	Republic of Tajikistan	0.08	0.03	31
	Republic of Uzbekistan	1.25	1.22	98
3.2	Uchkurgan hydroscheme – Bakhri Tojik reservoir	0.25	0.20	80
	including:			
	Kyrgyz Republic	0.01	0.001	19
	Republic of Tajikistan	0.07	0.02	27
	Republic of Uzbekistan	0.17	0.18	103
3.3	Bakhri Tojik – Shardara reservoir	2.59	2.07	80
	including:			
	Republic of Kazakhstan	0.45	0.32	71

#	Water user	Water quantity, km ³		Water availability, %
		Limit/ schedule	Actual	Season
	Republic of Tajikistan	0.212	0.030	14
	Republic of Uzbekistan	1.92	1.72	89

Table 1.2

Water balance of the Syr Darya River for the non-growing season 2022-2023

#	Balance item	Water quantity, km ³		
		Forecast/ plan	Actual	Deviation (actual – plan)
1	Inflow to Toktogul reservoir	2.88	2.88	0.00
2	Lateral inflow in the Toktogul reservoir – Shardara reservoir reach (+)	9.24	11.12	1.88
	including:			
2.1	<i>Discharge from the Karadarya River</i>	1.22	2.07	0.85
2.2	<i>Discharge from the Chirchik River</i>	1.03	1.32	0.29
2.3	<i>Lateral inflow from CDN and small rivers</i>	6.99	7.74	0.75
3	Flow regulation by reservoirs: recharge (+) or diversion of flow (-)	2.03	5.84	3.81
	including:			
3.1	<i>Toktogul reservoir</i>	3.76	5.68	1.92
3.2	<i>Bakhri Tojik reservoir</i>	-1.72	0.17	1.89
4	Regulated flow (1+2+3)	14.16	19.85	5.69
5	Water diversion in the Toktogul– Shardara reach (-)	-4.21	-3.54	0.67
6	Inflow to Shardara reservoir	10.78	14.26	3.48
7	Flow regulation by Shardara reservoir: recharge (+) or diversion of flow (-)	-5.45	-7.22	-1.77
8	Inflow to the Aral Sea (Karateren g/s)*	1.59	1.67	0.09

*Based on the data of the Committee for Water Resources of the Republic of Kazakhstan

Table 1.3

**Reservoir water balance in the Syr Darya River basin
for the non-growing season 2022-2023**

#	Balance item	Water quantity, km ³		Deviation (actual – plan)
		Forecast/ plan	Actual	
1	Toktogul reservoir			
1.1	Inflow to the reservoir	2.88	2.88	0.00
1.2	Water volume in reservoir:			
	– beginning of the season (1 October 2022)	13.62	13.62	0.00
	– end of the season (1 April 2023)	9.86	7.939	-1.92
1.3	Water releases from the reservoir	6.64	8.56	1.92
1.4	Flow regulation: recharge (+) or diversion of flow (-)	3.76	5.68	1.92
2	Andizhan reservoir			
2.1	Inflow to the reservoir	0.78	0.68	-0.11
2.2	Water volume in the reservoir:			
	– beginning of the season (1 October 2022)	0.91	0.91	0.00
	– end of the season (1 April 2023)	1.01	0.90	-0.12
2.3	Water releases from the reservoir	0.68	0.68	-0.01
2.4	Flow regulation: recharge (+) or diversion of flow (-)	-0.10	0.00	0.10
3	Charvak reservoir			
3.1	Inflow to the reservoir	1.26	1.54	0.27
3.2	Water volume in reservoir:			
	– beginning of the season (1 October 2022)	1.57	1.57	0.00
	– end of the season (1 April 2023)	0.69	0.65	-0.04
3.3	Water releases from the reservoir	2.10	2.39	0.29
3.4	Flow regulation: recharge (+) or diversion of flow (-)	0.84	0.86	0.02
4	Bakhri Tojik reservoir			
4.1	Inflow to the reservoir	9.84	12.47	2.63
4.2	Water volume in reservoir:	0.380	0.224	-0.16
4.3	– beginning of the season (1 October 2022)			
	– end of the season (1 April 2023)	1.71	1.71	0.00
	Water releases from the reservoir	3.49	3.45	-0.04
4.4	Inflow to the reservoir	8.50	12.68	4.19

#	Balance item	Water quantity, km ³		Deviation (actual – plan)
		Forecast/ plan	Actual	
	of which:			
	– discharge into the river	8.39	12.64	4.25
	– water diversion from reservoir	0.11	0.046	-0.06
4.5	Flow regulation: recharge (+) or diversion of flow (-)	-1.72	0.17	1.89
5	Shardara reservoir			
5.1	Inflow to the reservoir	10.78	14.26	3.48
5.2	Water volume in reservoir:	0.0	0.0	0.00
5.3	– beginning of the season (1 October 2022)			
	– end of the season (1 April 2023)	1.34	1.34	0.00
	Water releases from the reservoir	5.16	4.99	-0.17
5.4	Inflow to the reservoir	7.00	9.68	2.68
	of which:			
	– discharge into Arnasay	0.00	0.50	0.500
	– discharge into the river	6.92	8.71	1.79
	– water diversion from reservoir	0.08	0.47	0.39
5.5	Flow regulation: recharge (+) or diversion of flow (-)	-3.78	-5.55	-1.77
	TOTAL flow regulation by reservoirs: recharge (+) or diversion of flow (-)	-0.93	1.15	2.08

2. Amu Darya River Basin

Actual water availability in the Amu Darya River at nominal Kerki g/s (upstream of water intake to Garagumdarya) was 11.82 km^3 (83% of the norm at 14.16 km^3) which is 118% more than forecast (Table 2.1).

Inflow to the Nurek reservoir amounted to 4.56 km^3 (125% of forecast), while water releases from the reservoir were 8.13 km^3 (108% of BWO Amu Darya's schedule). Recharge of river flow through drawdown of the Nurek reservoir amounted to 3.57 km^3 . By the end of the season, the reservoir was drawn down to 6.32 km^3 .

The plan of water accumulation in the reservoirs of Tuyamuyun hydroscheme (TMHS) was fulfilled during the non-growing season. By April 1, the actual water quantity was 0.11 km^3 more than planned quantity and amounted to 2.7 km^3 due to higher than expected inflow to the instream reservoir – the flow at Darganata point was 7.53 km^3 (123% of forecast). Consequently, water releases from TMHS were higher than BWO's schedule – 6.12 km^3 (119%).

The established limit on water withdrawal in the Amu Darya Basin was used by 91%. Total water withdrawal was 14.32 km^3 , including 11.53 km^3 - downstream of Kerki g/s (starting from the water intake to Garagumdarya). Available water supply varied by states from 87% (Tajikistan) to 93% (Turkmenistan) (Table 2.1). Water availability was 87% in the upper reaches (up to intake to Garagumdarya), 92% in the middle reaches (from nominal Kerki g/s to TMHS) and 92% in the lower reaches (97% in Turkmenistan and 90% in Uzbekistan).

The established limit of sanitary and environmental flow for canals in the lower reaches of the Amu Darya was used by 93%, and 0.75 km^3 of water were delivered. According to UzHydromet's data, inflow to the Aral Sea and the Aral Sea region amounted to 1.35 km^3 or 64% of the plan.

Tables 2.2 and 2.3 show the data on river water balance and reservoir water balance, respectively.

Table 2.1

Indicators of available water supply of the riparian countries in the Amu Darya River Basin, non-growing season 2022-2023

#	Water user	Water quantity, km ³		Water availability, %
		Limit/ Schedule	Actual	Season
1	Total water withdrawal	15.71	14.32	91
2	Breakdown by states:			
	<i>Kyrgyz Republic</i>	-	-	-
	<i>Republic of Tajikistan</i>	2.86	2.49	87
	<i>Turkmenistan</i>	6.50	6.02	93
	<i>Republic of Uzbekistan</i>	6.35	5.81	91
3	Downstream of nominal Kerki g/s	12.48	11.53	92
	<i>including:</i>			
	<i>Turkmenistan</i>	6.50	6.02	93
	<i>Republic of Uzbekistan</i>	5.98	5.51	92
4	By river reach			
4.1	Upper reaches	3.23	2.79	87
	<i>Including:</i>			
	<i>Kyrgyz Republic</i>	-	-	-
	<i>Republic of Tajikistan</i>	2.86	2.49	87
	<i>Syrkhandarya, Republic of Uzbekistan</i>	0.37	0.30	81
4.2	Middle reaches	8.35	7.71	92
	<i>Including:</i>			
	<i>Turkmenistan</i>	5.10	4.66	91
	<i>Republic of Uzbekistan</i>	3.25	3.05	94
4.3	Lower reaches	4.13	3.82	92
	<i>Including:</i>			
	<i>Turkmenistan</i>	1.40	1.36	97
	<i>Republic of Uzbekistan</i>	2.73	2.46	90
5	Sanitary-environmental flow to canals in the lower reaches	0.80	0.75	93
	<i>Including:</i>			
	<i>Turkmenistan</i>	0.15	0.15	100
	<i>Republic of Uzbekistan</i>	0.65	0.60	92

#	Water user	Water quantity, km ³		Water availability, %
		Limit/ Schedule	Actual	Season
6	Water supply to the Aral Sea region and the Aral Sea	2.1	1.35	64

Table 2.2

**Water balance of the Amu Darya River,
non-growing season 2022-2023**

Balance item	Water quantity, km ³		Deviation (actual – plan)
	Forecast/ plan	Actual	
1. Water content in the Amu Darya River – unregulated flow at nominal Kerki section*	9.96	11.82	1.854
2. Flow regulation by the Nurek reservoir: recharge (+) or diversion of flow (-)	3.86	3.57	-0.29
3. Water withdrawal in the middle reaches (-)	-8.35	-7.71	0.64
4. Return flow in the middle reaches (+)	1.16	0.97	-0.20
5. River flow at Darganata g/s	6.12	7.53	1.40
6. Water releases from TMHS (including water diversion from the reservoir)	5.15	6.12	0.96
7. Water withdrawal in the lower reaches, including diversion from TMHS (-)	-4.13	-3.82	0.32
8. Sanitary-environmental flow to canals (-)	-0.80	-0.75	0.05
9. Flow of the Amu Darya River at Samanbai g/s	0.45	0.66	0.20

* excluding water withdrawal in the upper reaches (Tajikistan, Uzbekistan (Surkhandarya province))

Table 2.3

**Reservoir water balance, Amu Darya River basin,
non-growing season 2022-2023**

Balance item	Water quantity, km ³		Deviation (actual – plan)
	Forecast/ plan	Actual	
1 Nurek reservoir			
2.1 Inflow to the reservoir	3.66	4.56	0.91
2.2 Water quantity in the reservoir:			
– beginning of the season (1 October 2022)	10.57	10.57	0.00
– end of the season (1 April 2023)	6.34	6.38	0.04
2.3 Water releases from the reservoir	7.52	8.13	0.62
2.4 Flow regulation: recharge (+) or diversion of flow (-)	3.86	3.57	-0.29
2 TMHS reservoirs			
2.1 River flow at Darganata g/s	6.12	7.53	1.40
2.2 Water quantity in the reservoirs:			
– beginning of the season (1 October 2022)	2.32	2.32	0.00
– end of the season (1 April 2023)	2.59	2.70	0.11
2.3 Water releases from hydroscheme	5.15	6.12	0.96
including:			
– water releases into the river	3.68	4.47	0.79
– water diversion	1.48	1.65	0.17
2.4 Flow regulation: recharge (+) or diversion of flow (-)	-0.97	-3.06	-2.08

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