

Interstate Commission for Water Coordination in Central Asia	BULLETIN №4(83)	December 2019
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MINUTES OF THE WORKING MEETING OF THE KAZAKH, TAJIK, AND UZBEK PARTIES ON OPERATION REGIMES OF THE BAKHRI TOCHIK RESERVOIR OVER JULY-AUGUST 2019

Agenda:

1. Approval of the operation regimes of the Bakhri Tochik reservoir for July-August 2019;
2. Other issues.

The parties discussed the agenda and noted that the Syrdarya River basin has faced complicated hydrological situation due to increased air temperature and sharp increase in crop water requirements. It was stressed that concerted and coordinated actions by the parties are necessary to address this issue.

In this context, the Kazakh, Tajik, and Uzbek parties have agreed on the following:

1. The Kazakh party:

- will ensure the receipt of electricity from the Republic of Tajikistan from 5 July to 31 August 2019 in the amount of 13.4 million kWh, which will ensure additional releases from the Bakhri Tochik reservoir in the amount of 335 mcm, with subsequent return from the Republic of Kazakhstan to the Republic of Tajikistan on 1-15 September 2019;

- as soon as possible, should sign an agreement on mutual electricity supply between OJSC “Barki Tojik” and LLP “Energopotok”, taking into account transit through the electric power grids of the Republic of Uzbekistan;

2. The Tajik party will ensure water releases from the Bakhri Tochik reservoir:

- from 5 to 31 July – Akdjar GS, +230 m³/s, of which +150 m³/s for the Uzbek party and +80 m³/s for the Kazakh party;

- from 1 to 10 August – Akdjar GS, +180 m³/s, of which +100 m³/c for the Uzbek party and +80 m³/s for the Kazakh party;

- from 11 to 20 August – Akdjar GS, +160 m³/s, of which +100 m³/s for the Uzbek party and +60 m³/s for the Kazakh party;

- from 21 to 31 August – Akdjar GS, +50 m³/s.

3. In the period under review, the Uzbek party:

- will ensure the inflow to the Bakhri Tochik reservoir at a rate of at least 300 m³/s through the Akdjar gauging station;

- will provide the Tajik party with flow at a rate of at least 2 m³/s from the South Fergana Canal and 6-8 m³/s from the Big Fergana Canal;

- will maintain water level of 319.3 m, at least, in the Farkhad reservoir.

4. Provided that the inflow to the Bahri Tochik reservoir will be at a rate of at least 300 m³/sec from the Akdjar gauging station, with additional releases from the Bahri Tochik reservoir in the amount of 335 mcm through the receipt of electric energy from the Republic of Kazakhstan, the Kazakh and Uzbek parties agreed on water supply along the Dustlik Canal to Kazakhstan as follows:

July			August			September	
1	11	111	I	11	III	1	II
70	70	70	70	70	50	20	6.2
60.5	60.5	66.5	60.5	60.5	47.5	17.3	5.4
60.5	121.0	187.5	248.0	308.4	356.0	373.2	378.6

In case of an increase in water releases from the BakhriTochik reservoir, as compared to point 1, water supply along the Dustlik canal to the Kazakh part will be increased.

5. The parties have agreed that they will strictly follow the agreed positions under the minutes. In case of failure to comply with the terms of the minutes, each of the parties reserves the right not to fulfill the obligations assumed.

Signed by voting:

Tajik party

Shoimzoda Zh.Sh.
Deputy Minister of
Energy and Water
Resources of the
Republic of Tajikistan

5 July 2019

Uzbek party

Khamraev Sh.R.
Minister of Water
Management of the
Republic of Uzbekistan

5 July 2019

Kazakh party

Nysanbayev Ye.N.
Vice-Minister of
Ecology, Geology and
Natural Resources of the
Republic of Kazakhstan

5 July 2019

**MINUTES OF THE 77th MEETING OF THE INTERSTATE
COMMISSION FOR WATER COORDINATION (ICWC) OF
THE REPUBLIC OF KAZAKHSTAN, KYRGYZ REPUBLIC,
REPUBLIC OF TAJIKISTAN, TURKMENISTAN AND
REPUBLIC OF UZBEKISTAN**

5 November 2019

Almaty, Republic of Kazakhstan

Chairman:

Gromov Sergey
Nikolaevich

Vice Minister of Ecology, Geology and Natural
Resources, Republic of Kazakhstan

ICWC members:

Khamraev Shavkat
Rakhimovich

Minister of Water Management, Republic of
Uzbekistan

Abdurazokzoda Daler
Abdukhalok

Head, Department of Water and Energy Policy,
Science and Technology Development, Ministry
of Energy and Water Resources of the Republic of
Tajikistan (by attorney)

Mammedov
Dovletmurad Saparovich

Deputy Chairman, State Committee for Water
Management of Turkmenistan (by attorney)

ICWC executive bodies:

Nazarov Umar
Abdusalomovich

Head, ICWC Secretariat

Kholkhuzhaev Odil
Akhmedovich

Head, BWO Syrdarya

Makhramov Makhmud
Yakhshibayevich

Head, BWO Amudarya

Dukhovniy Viktor Abramovich Director, Scientific Information Center (SIC) of ICWC

Ziganshina Dinara Ravilyevna Deputy Director, SIC ICWC

Invited:

Turlubek Arman Alashevich Chairman, Committee for Water Resources, Ministry of Ecology, Geology and Natural Resources, Republic of Kazakhstan

Zhienbaev Musilim Rysmakhanovich Head, Division of Transboundary Rivers, Department of Transboundary Rivers, Ministry of Ecology, Geology and Natural Resources, Republic of Kazakhstan

Suyundikov Maksat Zhumataevich Head, Department of Transboundary Rivers, Ministry of Foreign Affairs of the Republic of Kazakhstan

Karlykhanov Adilkhan Karlykhanovich Head, Aralo-Syrdarya Basin Inspection, Committee for Water Resources, Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan

Mukataev Serikaliy Mukhametkarimovich Head, Balkhash-Alakol Basin Inspection, Committee for Water Resources, Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan

Kipshakbaev Nariman Kipshakbaevich Director, Kazakh branch of SIC ICWC

Auen Kenes Auenovich Director, Turkestan branch of RSE Kazvodkhoz

Ernazarov Zhorabek Sharipbekovich Deputy Director, Kyzylorda branch of RSE Kazvodkhoz

Seysenov Sembay Baymenovich Director, “Su Metrologiya” branch, RSE Kazvodkhoz

Baytursynov Oryntan Imantaevich	Director, branch of the “Large Almata Canal named after D.Konaev”, RSE Kazvodkhoz
Tanirbergenov Bakhtybay Nasyrbekovich	Deputy Director, Turkestan branch of RSE Kazvodkhoz
Ryabtsev Anatoliy Dmitrievich	Director, Kazgiprovodkhoz LLC
Paschyev Yanov Durdyevich	Head, Water Use Department, Committee for Water Management of Turkmenistan
Mommadov Begench Amanovich	Head, “Garagumderiyasuvkhodjalyk” Association, State Committee for Water Management of Turkmenistan
Kuchkarov Sharifjon Zikrillayevich	Head of Division, Ministry of Water Management of the Republic of Uzbekistan
Djuraev Ilkhom Usmanovich	Representative of Uzbekistan in the Executive Committee of IFAS
Sharip Daniyar Esenuly	Chief Expert, Division of Transboundary Rivers, Department of Transboundary Rivers, Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan

Agenda of the 77th meeting of ICWC

1. Results of the use of water withdrawal limits and operation regimes of the reservoir cascades in the Amudarya and Syrdarya River basins over the growing season 2019;
2. Approval of the country water withdrawal limits and forecast operation regimes of the reservoir cascades in the Amudarya and Syrdarya River basins over the non-growing season 2019-2020;
3. Implementation of the proposals and initiatives of the Heads of IFAS founder-states voiced at the Summit of the Heads of IFAS founder-states (Turkmenbashi city, 24 August 2018)
4. Agenda and venue of the next 78th meeting of ICWC.

Decisions on the first item:

1. Take into account information provided by BWO Amudarya and BWO Syrdarya on the results of the growing season 2019 in the Amudarya and Syrdarya River basins.
2. Recommend BWO Syrdarya and BWO Amudarya to indicate existing problematic issues and measures taken in response in their reports.
3. In Table 2.7, BWO Syrdarya should fully reflect the efforts of all the parties to ensure the inflow to reservoirs, including additional water discharge from the Bakhri Tochik reservoir.

Decisions on the second item:

1. Approve forecast country limits of water withdrawal in the Amudarya and Syrdarya River basins over the non-growing season 2019-2020.
2. Approve forecast operation regimes of the reservoir cascades in the Amudarya and Syrdarya River basins over the non-growing season 2019-2020 (Annexes 1, 2).

Decisions on the third item:

1. Take into account information provided by SIC ICWC on implementation of the proposals and initiatives voiced at the Summit of the Heads of IFAS founder-states (Annex 3) (Turkmenbashi city, 24 August 2018).
2. Note the work of the ICWC executive bodies on implementation of the proposals and initiatives of the Heads of IFAS founder-states voiced at the Summit in Turkmenbashi.
3. ICWC members and its executive bodies should take necessary measures at the national and regional levels for more active implementation of the proposals and initiatives of the Heads of State as reflected in the joint Communiqué of the Council of Heads of IFAS founder-states.

Decisions on the fourth item:

1. Hold the next ordinary 78th meeting of ICWC in Ashgabat, Turkmenistan. The date of the meeting is to be approved in due course.
2. Propose the following agenda for the next 78th meeting of ICWC:
 - 1) Results of the use of water withdrawal limits and the operation regimes of the reservoir cascades in the Amudarya and Syrdarya River basins over the non-growing season 2019-2020.
 - 2) Progress on implementation of proposals and initiatives voiced at the Summit of the Heads of IFAS founder-states in Turkmenbashi city.
 - 3) Agenda and venue of the next ordinary 79th meeting of ICWC.
 - 4) Supplementary items.

Republic of Kazakhstan**S.N.Gromov****Kyrgyz Republic****Republic of Tajikistan****D.A.Abdurazokzoda****Turkmenistan****D.S.Mammedov****Republic of Uzbekistan****Sh.R.Khamraev**

Annex 1

**Forecast operation regimes of the Nurek and Tuyamuyun reservoirs
(October 2019 to March 2020)**

Nurek reservoir	unit	Actual	Forecast					Total
		X	XI	XII	I	II	III	
Volume: beginning of the season	mcm	10,571	10,525	9,937	9,038	8,086	7,265	10,571
Inflow to the reservoir	m3/s	379	273	215	193	173	216	
	mcm	1,015	708	576	517	433	579	3,829
Water releases from reservoir	m3/s	392	500	550	550	500	500	
	mcm	1,050	1,296	1,473	1,473	1,253	1,339	7,885
Volume: end of the season	mcm	10,525	9,937	9,038	8,086	7,265	6,511	6,511
Accumulation (+), drawdown (-)	mcm	-46	-588	-899	-952	-821	-754	-4,060

Tuyamuyun reservoir	unit	Actual	Forecast					Total
		X	XI	XII	I	II	III	
Volume: beginning of the season	mcm	5,041	4,899	5,098	4,552	4,905	4,207	5,041
Inflow to the reservoir	m3/s	438	312	357	347	399	415	
	mcm	1,173	809	956	929	1,000	1,112	5,978
Water releases from the reservoir	m3/s	491	235	561	215	678	810	
	mcm	1,315	609	1,503	576	1,699	2,170	7,869
Volume: end of the season	mcm	4,899	5,098	4,552	4,905	4,207	3,150	3,150
Accumulation (+), drawdown (-)	mcm	-142	199	-546	353	-698	-1,057	-1,891

Forecast operation regimes of the Naryn-Syrdarya reservoir cascade, 1 October 2019 to 31 March 2020

		October	November	December	January	February	March	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m3/s	237	202	168	159	158	166	
	mcm	635	524	450	426	396	445	2,875
Volume: beginning of the season	mcm	17,214	16,810	15,972	14,691	13,260	11,955	
end of the season	mcm	16,810	15,972	14,691	13,260	11,955	10,661	
Water releases from reservoir	m3/s	386	524	645	693	679	649	
	mcm	1,034	1,358	1,728	1,856	1,701	1,738	9,415
Bakhri Tochik reservoir								
Inflow to the reservoir	m3/s	495	815	966	937	925	818	
(Akdjar GS)	mcm	1,327	2,114	2,588	2,509	2,318	2,190	13,046
Volume: beginning of the season	mcm	2,154	2,643	2,836	2,920	2,967	3,080	
end of the season	mcm	2,643	2,836	2,920	2,967	3,080	3,418	
Water releases from reservoir	m3/s	295	750	950	940	900	700	
	mcm	790	1,944	2,544	2,518	2,255	1,875	11,926
Shardara reservoir								
Inflow to the reservoir	m3/s	281	713	950	970	1,023	906	
	mcm	752	1,848	2,545	2,598	2,564	2,428	12,735
Volume: beginning of the season	mcm	1,134	1,064	1,526	2,558	3,659	4,740	
end of the season	mcm	1,064	1,526	2,558	3,659	4,740	5,194	
Water releases from reservoir	m3/s	284	517	550	550	581	725	

		October	November	December	January	February	March	Total,
	mcm	760	1,339	1,473	1,473	1,456	1,941	8,443
Water supply to the Aral Sea	m3/s	111	146	211	259	230	186	
	mcm	296	379	564	694	576	499	3,009
Charvak reservoir								
Inflow to the reservoir	m3/s	109	97	83	73	72	105	
(4 rivers in total)	mcm	292	253	222	196	181	281	1,425
Volume: beginning of the season	mcm	1,751	1,585	1,394	1,173	926	730	
end of the season	mcm	1,585	1,394	1,173	926	730	690	
Water releases from reservoir	m3/s	170	170	165	165	150	120	
(water releases from the Gazalkent HPP)	mcm	455	441	442	442	376	321	2,477
Andizhan reservoir								
Inflow to the reservoir	m3/s	31	50	72	58	43	54	
	mcm	84	130	192	156	109	144	813
Volume: beginning of the season	mcm	706	602	576	728	843	903	
end of the season	mcm	602	576	728	843	903	902	
Water releases from reservoir	m3/s	70	60	15	15	20	54	
	mcm	188	156	40	40	49	144	618

RESULTS OF THE USE OF WATER WITHDRAWAL LIMITS AND OPERATION REGIMES OF THE RESERVOIR CASCADES IN THE AMUDARYA AND SYRDARYA RIVER BASINS OVER THE GROWING SEASON 2019¹

I. Amudarya River basin

The actual water availability in the Amudarya River basin at the nominal Kerki gauging station upstream of Garagumdarya was 100.9 % of the norm over the growing season 2019. The estimations were made taking into account the natural flow in the Vakhsh River and regulation by the Nurek reservoir. In the past season, this value was 80.3 % of the norm.

The use of the approved water withdrawal limits over the growing season under consideration is as follows (breakdown by state).

Taking into account the current water situation, 91.1 % of the approved water withdrawal limits was used totally in the basin. While the limit was 39,671.1 mcm, the actually used volume was 36,122 mcm, of which:

Republic of Tajikistan actually used 5,999 mcm or 86.3 % of the total limit;

Republic of Uzbekistan actually used 15,426.7 mcm or 89.6 % of the total limit;

Turkmenistan actually used 14,696.3 mcm or 94.8 % of the total limit.

Water user state	Water withdrawal limits, growing season 2019	Actual, mcm	%% of use
Republic of Tajikistan	6,951.1	5,999.0	86.3
Turkmenistan	15,500	14,696.3	94.8
Republic of Uzbekistan	17,220	15,426.7	89.6
Total	39,671.1	36,122	91.1

Over the growing season 2019, the use of water limits downstream of the nominal Kerki gauging station upstream of Garagumdarya was 93.2 % of the

¹Information on the first item of the 77th ICWC Meeting's Agenda

total limit, of which:

Republic of Uzbekistan actually used 14,687.8 mcm or 91.7 % of the total limit

Turkmenistan actually used 14,696.3 mcm or 94.8 % of the total limit.

Water user state	Water withdrawal limits, growing season 2019	Actual, mcm	%% of use
Downstream of the nominal Kerki GS	31,520	2,9384.1	93.2
Turkmenistan	15,500	14,696.3	94.8
Republic of Uzbekistan	16,020	14,687.8	91.7

The actual use of water against limits is as follows:

1. Upper reaches – 82.7 % of the total limit, including 86.3 % in the Republic of Tajikistan and 61.6 % in the Republic of Uzbekistan.

2. Middle reaches – 91.2 % of the total limit, including 85.7 % in the Republic of Uzbekistan and 94.1 % in Turkmenistan.

3. Lower reaches – 95.4 % of the total limit, including 95 % in the Republic of Uzbekistan and 96.2 % in Turkmenistan.

Water user state	Water withdrawal limits, growing season 2019	Actual, mcm	%% of use
Upper reaches	8,151.1	6,737.9	82.7
Republic of Tajikistan	6,951.1	5,999.0	86.3
Republic of Uzbekistan	1,200	7,38.9	61.6
Middle reaches	16,207.0	14,774.7	91.2
Turkmenistan	10,472.0	9,858.2	94.1
Republic of Uzbekistan	5,735.0	4,916.5	85.7
Lower reaches	15,313.0	14,609.5	95.4
Turkmenistan	5,028.0	4,838.1	96.2
Republic of Uzbekistan	10,285.0	9,771.3	95

Water supply to the Amudarya delta and the Aral Sea was planned to be 2,100 mcm for the growing season. However, actual supply was 1,943 mcm or 92.5%.

The inflow to the Nurek reservoir was to be 17,003 mcm; however, the actual inflow was 17,439 mcm or 103 %. Water releases from the reservoir were planned to be 12,536 mcm; the actual releases were 13,608 mcm or 109 %.

By the end of the growing season 2019, water storage in the reservoir was to be 10,569 mcm. The actual volume was 10,571 mcm or 100 %.

The inflow to the Tuyamuyun reservoir was to be 24,425 mcm; however, the actual inflow was 22,562 mcm or 93 %. Water releases from the reservoir were planned to be 22,160 mcm; while the actual water releases were 20,064 mcm or 91 %.

By the end of the growing season, water storage in the reservoir was planned to be 4,808 mcm; however, the actual storage was 5,041 mcm or 105 %.

Item		unit	Nurek reservoir	Tuyamuyun reservoir
Volume: beginning of the season		mcm	6,099	2,543
Inflow to the reservoir	forecast	mcm	17,003	24,425
	actual	mcm	17,439	22,562
		%%	103	93
Water releases from reservoir	forecast	mcm	12,536	22,160
	actual	mcm	13,608	20,064
		%%	109	91
Volume: end of the season	forecast	mcm	10,569	4,808
	actual	mcm	10,571	5,041
		%%	100	105
Accumulation (+), drawdown (-)	forecast	mcm	4,470	2,265
	actual	mcm	4,472	2,498
		%%	100	111

More detailed information is provided in Tables below.

**Analysis of the use of water withdrawal limits in the Amudarya River basin
over the growing season 2019, mcm**

Item	Limit, growing season	Actual	%%
Upper Amudarya Administration			
(Upper reaches)	8,151.1		
of which:			
Tajikistan	6,951.1	5,999.0	86.3
Uzbekistan:	1,200.0	738.9	61.6
Water withdrawals from the Amudarya River			
at nominal Kerki gauging station	3,1520.0	29,384.1	93.2
of which:			
Turkmenistan	15,500.0	14,696.3	94.8
Uzbekistan:	16,020.0	14,687.8	91.7
Middle Amudarya Administration			
(Middle reaches)	16,207.0	14,774.7	91.2
of which:			
Turkmenistan	10,472.0	9,858.2	94.1
Uzbekistan:	5,735.0	4,916.5	85.7
UPRADIK* and Lower Amudarya Administration			
Lower reaches:	15,313.0	14,609.5	95.4
of which:			
Turkmenistan	5,028.0	4,838.1	96.2
Uzbekistan:	10,285.0	9,771.3	95.0
Total for the basin	39,671.1	36,122.0	91.1
of which:			
Tajikistan	6,951.1	5,999.0	86.3
Turkmenistan	15,500.0	14,696.3	94.8
Uzbekistan:	17,220.0	15,426.7	89.6

*Amudarya Inter-republican Canal Division

**Actual operation regimes of the Nurek and Tuyamuyun reservoirs
(April – September 2018), mcm**

Nurek reservoir	unit	Actual						total
		IV	V	VI	VII	VIII	IX	
Volume: beginning of the season	mcm	6,099	6,422	6,540	7,553	9,975	10,567	6,099
Inflow to the reservoir	m ³ /s	637	742	1,047	1,849	1,530	786	
	mcm	1,651	1,987	2,714	4,952	4,098	2,037	17,440
Water releases from the reservoir	m ³ /s	548	710	739	1,039	1,329	782	
	mcm	1,420	1,902	1,915	2,783	3,560	2,027	13,607
Volume: end of the season	mcm	6,422	6,540	7,553	9,975	10,567	10,571	10,571
Accumulation (+), drawdown (-)	mcm	323	118	1,013	2,422	592	4	4,472

Tuyamuyun reservoir	unit	Actual						total
		IV	V	VI	VII	VIII	IX	
Volume: beginning of the season	mcm	2,543	3,834	4,435	4,506	5,205	5,602	2,543
Inflow to the reservoir	m ³ /s	1,210	1,412	1,478	1,790	1,910	734	
	mcm	3,136	3,782	3,831	4,794	5,116	1,903	22,562
Water releases from the reservoir	m ³ /s	712	1,187	1,450	1,529	1,762	951	
	mcm	1,846	3,179	3,758	4,095	4,719	2,465	20,063
Volume: end of the season	mcm	3,834	4,435	4,506	5,205	5,602	5,041	5,041
Accumulation (+), drawdown (-)	mcm	1,291	601	71	699	397	-561	2,498

**Information
on water supply to the Aral Sea and the Amudarya River delta over the growing season
2019, mcm**

Name	IV	V	VI	VII	VIII	IX	Actual
From the Amudarya River, at Samanbay GS	70	126	58	79	479	285	1,097
Total water discharge from Dustlik and Suenli canals system	1	7	7	0	2	0	17
CDF	86	105	124	162	186	166	829
Total:	157	238	189	241	667	451	1,943
Cumulative	157	395	584	825	1,492	1,943	

II. Syrdarya River basin

Hydromet's forecast

According to the Hydromet's forecast, water content was expected to be 90-100% of the norm in the basins of the Naryn River, rivers of the northern Fergana Valley, Chirchik River and Akhangaran River during the growing season 2019.

The Coordination Dispatch Center "Energy" provided the forecast operation regime of the Toktogul reservoir for the growing season on 11 April 2019. According to the data, the forecast inflow to the Toktogul reservoir was 97% of the norm.

According to the data by UzHydromet, the forecast inflow was:

- 92% to the Andizhan reservoir;
- 95% to the Charvak reservoir;
- Total lateral inflow – 97% of the norm.

Totally in the basin, water content was expected to be 96% of the norm.

At the 76th meeting of ICWC, the members considered the forecast operation regimes of the Naryn-Syrdarya reservoir cascade and approved country water withdrawal limits in the Syrdarya River basin over the growing season.

Results of the growing season are as follows:

Inflow to upstream reservoirs

Over the growing season, the norm of inflow to the upstream reservoirs of the Naryn-Syrdarya cascade is 18,286 mcm.

The forecast inflow was expected to be 17,476 mcm or 96% of the norm.

The actual inflow to upstream reservoirs was 16,991 mcm or 485 mcm less than the forecast (97%) (in 2018, the inflow to reservoirs was 17,017 mcm for the same period) (Table 2.1).

Lateral inflow

The lateral inflow to the Syrdarya River up to the Shardara reservoir is 11,042 mcm.

According to the Hydromet's forecast, lateral inflow was expected to be 10,667 mcm or 97% of the norm.

The actual lateral inflow was 10,736 mcm or 69 mcm more than the forecast (101%) (in 2018, the lateral inflow was 11,248 mcm).

Table 2.1

Item	Growing season, mcm						
	from 1 April to 30 September 2019					2018	
	norm	forecast	actual	actual/ forecast (%)	actual / norm (%)	forecast	actual
Inflow to upstream reservoirs							
Toktogul	9,620	9,332	8,806	94	92	8,754	9,853
Andizhan	2,915	2,680	1,945	73	67	2,591	2,491
Charvak (4 rivers in total)	5,751	5,464	6,240	114	109	5,335	4,673
Total	18,286	17,476	16,991	97	93	16,680	17,017
Lateral inflow							
Toktogul – Uchkurgan	1,216	1,180	1,294	110	106	1,156	1,299

Item	Growing season, mcm						
	from 1 April to 30 September 2019					2018	
	norm	forecast	actual	actual/ forecast (%)	actual / norm (%)	forecast	actual
Andizhan – Uchtepe	2,529	2,371	2,451	103	97	2,213	2,324
Uchkurgan, Uchtepe – Bakhri Tochik	3,368	3,320	3,069	92	91	3,162	3,949
Bakhri Tochik – Shardara	3,020	2,846	2,855	100	95	2,688	2,631
Gazalkent-Chinaz (excluding Ugam)	909	949	1,068	112	117	870	1,045
Total	11,042	10,667	10,736	101	97	10,089	11,248
Overall (total inflow)	29,328	28,143	27,727	99	95	26,769	28,265

Total inflow

The norm of total inflow to the Syrdarya River is 29, 328 mcm.

According to the Hydromet’s forecast, it was expected to be 28,143 mcm or 96% of the norm.

The actual inflow amounted to 27,727 mcm or 99 % of the forecast (in 2018, the total lateral inflow was 28,265 mcm) (Table 2.1).

Water releases from reservoirs

According to the forecast operation regimes of the Naryn-Syrdarya reservoir cascade, 25,643 mcm were to be released from reservoirs over the growing season 2019.

The actual water releases were 25,549 mcm or 94 mcm less than the schedule (in 2018, 23,765 mcm were released from reservoirs) (Table 2.2).

Table 2.2

Reservoir	Water releases from 1 April to 30 September 2019, mcm			Actual, 1 April to 30 September 2018
	Forecast operation schedule for NSRC	Actual	actual/schedule, %	
Toktogul	5,466	5,138	94	5,011
Andizhan	2,545	2,193	86	2,800
Charvak (water releases from the Gazalkent HPP)	4,418	4,607	104	3,867
Bakhri Tochik	6,421	6,218	97	7,318
Shardara	6,793	7,393	109	4,770
TOTAL:	25,643	25,549	100	23,765

Water storage in reservoirs

In the upstream reservoirs, the scheduled water storage was to be 20,149 mcm by the end of the growing season 2019.

By the end of the growing season, however, the actual water storage was 19,671 mcm (Table 2.3).

Water storage in the upstream reservoirs:

Toktogul- 17 214 mcm,

Andizhan- 706 mcm,

Charvak –1,751 mcm.

Table 2.3

Reservoir	Watervolume, mcm			
	Actual, as of 1 April 2019	Scheduled, as of 1 October 2019	Actual, as of 1 October 2019	Actual, as of 1 October 2018
Upstream reservoirs				
Toktogul	13,563	17,374	17,214	19,298
Andizhan	969	1,106	706	881
Charvak	548	1,669	1,751	1,754
TOTAL:	15,080	20,149	19,671	21,933
In-stream reservoirs				
Bakhri Tochik	2,825	2,004	2,154	2,110
Shardara	5,175	1,414	1,134	952
TOTAL:	8,000	3,417	3,288	3,062
OVERALL:	23,080	23,566	22,959	24,995

Water supply to the states

Over the growing season, water was supplied to the user states based on approved water withdrawal limits and submitted requests.

Over the growing season, water supply was:

- Republic of Kazakhstan: limit – 918 mcm, actual – 602 mcm;
- Kyrgyz Republic: limit – 246 mcm, actual – 165 mcm;
- Republic of Tajikistan: limit – 1,905 mcm, actual – 1,557 mcm;
- Republic of Uzbekistan: limit – 8,799 mcm, actual – 6,639 mcm;

Actual total water withdrawals by user states amounted to 8,963 mcm (Table 2.4).

Table 2.4

Water user state	Water withdrawals, 1 April to 30 September 2019, mcm	
	limit	actual
Republic of Kazakhstan (Dustlik canal)	918	602
Kyrgyz Republic	246	165
Republic of Tajikistan	1,905	1,557
Republic of Uzbekistan	8,799	6,639
Total	11,869	8,963

Inflow to in-stream reservoirs and water supply to the Aral Sea

The inflow to the Bakhri Tochik reservoir was scheduled to be 6,315 mcm over the growing season 2019.

The actual inflow to the reservoir was 6,291 mcm or 99.6 % of the forecast (in 2018, 6,838 mcm were supplied to the reservoir) (Table 2.5).

The inflow to the Shardara reservoir was scheduled to be 4,602 mcm.

Actual inflow to the reservoir was 5,241 mcm or 639 mcm more than the scheduled amount (in 2018, 3,539 mcm were supplied to the reservoir) (Table 2.5).

The inflow to the Aral Sea and Prearalie was scheduled to be 1,409 mcm.

The actual inflow to the Aral Sea and Prearalie as measured at the Karateren gauging station was 1,077 mcm or 332 mcm less than the schedule.

Table 2.5

Parameter	Scheduled, 1 April to 30 September 2019, mcm	Actual, 1 April to 30 September 2019, mcm	actual/schedule (%)	Actual, 1 April to 30 September 2018, mcm
Inflow to in-stream reservoirs				
Inflow to the Bakhri Tochik reservoir	6,315	6,291	100	6,838
Inflow to the Shardara reservoir	4,602	5,241	114	3,539
Discharge into Arnasay and supply to the Aral Sea				
Supply to the Aral Sea	1,409	1,077	76	1,149

Table 2.6 presents schedule-forecast of the Naryn-Syrdarya reservoir cascade for the growing season 2019.

Table 2.7 provides actual operation regimes of the Naryn-Syrdarya reservoir cascade over the growing season 2019.

Table 2.6

Forecast-schedule of the Naryn-Syrdarya reservoir cascade for the growing season 2019

		April	May	June	July	August	September	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m3/s	287	617	939	808	562	321	
	mcm	744	1,653	2,434	2,164	1,505	832	9,332
Volume: beginning of the season	mcm	13,563	13,298	14,071	15,636	16,689	17,270	
end of the season	mcm	13,298	14,071	15,636	16,689	17,270	17,374	
Water releases from the reservoir	m3/s	388	327	334	411	339	274	
	mcm	1,006	876	866	1,101	908	710	5,466
including: 1. Internal needs	m3/s	388	327	292	301	284	274	
Kyrgyz Republic	mcm	1,006	876	757	806	761	710	4,915
2. additional releases	m3/s			42	110	55		
(energy receipt)	mcm			109	295	147		550
Bakhri Tochik reservoir								
Inflow to the reservoir	m3/s	530	489	404	350	302	323	
(Akdjar GS)	mcm	1,373	1,309	1,048	939	810	837	6,315
including: inflow from	m3/s			50	67	29		
Andizhan reservoir	mcm			130	179	77		386
Volume: beginning of the season	mcm	2,825	3,423	3,499	3,101	2,327	1,812	
end of the season	mcm	3,423	3,499	3,101	2,327	1,812	2,004	
Water releases from the reservoir	m3/s	300	430	500	550	430	220	
	mcm	778	1,152	1,296	1,473	1,153	570	6,421

		April	May	June	July	August	September	Total,
Shardara reservoir								
Inflow to the reservoir	m3/s	441	340	250	200	200	320	
	mcm	1,143	910	648	536	536	829	4,602
Volume: beginning of the season	mcm	5,175	5,180	4,751	3,784	2,324	1,186	
end of the season	mcm	5,180	4,751	3,784	2,324	1,186	1,414	
Water releases from the reservoir	m3/s	350	400	500	570	550	200	
	mcm	907	1,071	1,296	1,527	1,473	518	6,793
Releases into the Kyzylkum canal	m3/s	50	50	70	115	50	15	
	mcm	130	134	181	308	134	39	926
Supply to the Aral Sea	m3/s	147	110	68	63	65	83	
	mcm	382	295	176	168	175	214	1,409
Charvak reservoir								
Inflow to the reservoir	m3/s	259	455	567	416	235	140	
(4 rivers in total)	mcm	670	1,218	1,471	1,115	628	362	5,464
Volume: beginning of the season	mcm	548	843	1,444	1,921	2,005	1,842	
end of the season	mcm	843	1,444	1,921	2,005	1,842	1,669	
Water releases from the reservoir	m3/s	173	230	383	385	295	207	
(Releases from Gazalkent HPP)	mcm	449	617	994	1,032	791	536	4,418
Andizhan reservoir								
Inflow to the reservoir	m3/s	160	277	300	163	68	48	
	mcm	415	743	778	437	182	125	2,680
Volume: beginning of the season	mcm	969	1,144	1,503	1,762	1,574	1,188	
end of the season	mcm	1,144	1,503	1,762	1,574	1,188	1,106	
Water releases from reservoir	m3/s	93	144	200	234	212	80	
	mcm	242	384	518	626	568	207	2,545

		April	May	June	July	August	September	Total,
Shardara reservoir								
Inflow to the reservoir	m3/s	825	519	241	138	113	162	
	mcm	2,137	1,391	624	369	302	419	5,241
Volume: beginning of the season	mcm	5,175	5,095	4,691	4,322	2,777	1,592	
end of the season	mcm	5,095	4,691	4,322	2,777	1,592	1,134	
Water releases from the reservoir	m3/s	622	560	310	563	448	297	
	mcm	1,611	1,501	805	1,507	1,201	769	7,393
Releases into the Kyzylkum canal	m3/s	50	24	30	109	40	7	
	mcm	128	65	78	292	106	17	687
Supply to the Aral Sea	m3/s	89	107	21	16	75	100	
	mcm	230	287	55	44	201	260	1,077
Charvak reservoir								
Inflow to the reservoir	m3/s	377	519	618	473	230	150	
(4 rivers in total)	mcm	977	1,391	1,602	1,266	615	389	6,240
Volume: beginning of the season	mcm	548	1,015	1,404	1,893	1,993	1,855	
end of the season	mcm	1,015	1,404	1,893	1,993	1,855	1,751	
Water releases from the reservoir	m3/s	212	318	357	424	265	166	
(Releases from Gazalkent HPP)	mcm	550	851	926	1,137	711	431	4,607
Andizhan reservoir								
Inflow to the reservoir	m3/s	149	169	179	158	41	42	
	mcm	386	453	465	422	111	109	1,945
Volume: beginning of the season	mcm	969	1,143	1,255	1,346	1,140	737	
end of the season	mcm	1,143	1,255	1,346	1,140	737	706	
Water releases from reservoir	m3/s	82	125	143	233	193	52	
	mcm	213	334	370	625	517	135	2,193

WATER WITHDRAWAL LIMITS AND OPERATION REGIMES OF THE RESERVOIR CASCADES DURING THE NON- GROWING SEASON 2019-2020 IN THE AMUDARYA AND SYRDARYA RIVER BASINS²

I. Amudarya River basin

**Limits of water withdrawal from the Amudarya River and water supply to Prearalie
and the Aral Sea for the non-growing season 2019-2020, mcm**

River basin, state	Water withdrawal limits, mcm	
	Total annual (1.10.19-1.10.20)	Including non- growing season (1.10.19-1.10.20)
Total withdrawal from the Amudarya River	55,424	15,727.6
Of which:		
Republic of Tajikistan	9,854	2,877.6
Republic of Uzbekistan	1,570	370
From the Amudarya River to the nominal Kerki gauging station	44,000	12,480
Turkmenistan	22,000	6,500
Republic of Uzbekistan	22,000	5,980
Plus: -		
- water supply to Prearalie, including irrigation water and CDW	4,200	2,100
- sanitary and environmental releases to irrigation systems in:	800	800
Dashoguz province	150	150
Khorezm province	150	150
Republic of Karakalpakstan	500	500

Note:

Water withdrawal limits include water for irrigation, industrial, municipal and other needs. If water availability in the basin changes, the limits will be adjusted accordingly.

²Information on the second item of the 77th ICWC meeting agenda

**Forecast operation regimes of the Nurek and Tuyamuyun reservoirs
(October 2019 to March 2020)**

Nurek reservoir	unit	Actual	Forecast					Total
		X	XI	XII	I	II	III	
Volume: beginning of the period	mcm	10,571	10,525	9,937	9,038	8,086	7,265	10,571
Inflow to the reservoir	m3/s	379	273	215	193	173	216	
	mcm	1,015	708	576	517	433	579	3,829
Water releases from the reservoir	m3/s	392	500	550	550	500	500	
	mcm	1,050	1,296	1,473	1,473	1,253	1,339	7,885
Volume: end of the period	mcm	10,525	9,937	9,038	8,086	7,265	6,511	6,511
Accumulation (+) drawdown (-)	mcm	-46	-588	-899	-952	-821	-754	-4,060

Tuyamuyun reservoir	unit	Actual	Forecast					Total
		X	XI	XII	I	II	III	
Volume: beginning of the period	mcm	5,041	4,899	5,098	4,552	4,905	4,207	5,041
Inflow to the reservoir	m3/s	438	312	357	347	399	415	
	mcm	1,173	809	956	929	1,000	1,112	5,978
Water releases from the reservoir	m3/s	491	235	561	215	678	810	
	mcm	1,315	609	1,503	576	1,699	2,170	7,869
Volume: end of the period	mcm	4,899	5,098	4,552	4,905	4,207	3,150	3,150
Accumulation (+) drawdown (-)	mcm	-142	199	-546	353	-698	-1,057	-1,891

II. Syrdarya Riverbasin

Forecast of inflow

On the 25th of September 2019, UzHydromet provided the forecast for the non-growing season 2019-2020. Moreover, the expected operation regimes of the Toktogul reservoir were provided by the Coordination Dispatch Center (CDC) “Energy”, including the forecast operation regimes of the Andizhan reservoir by the Ministry of Water Mangement of the Republic of Uzbekistan and of the Shardara reservoir by the Committee for Water Resources of the Republic of Kazakhstan.

According to the data, the inflow to upstream reservoirs was as follows:

- 100% to the Toktogul reservoir;
- 87% to the Andizhan reservoir;
- 101% to the Charvak reservoir.

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

In total, water content is expected to be 96% of the norm in the Syrdarya basin.

Inflow to upstream reservoirs

The norm of inflow to the upstream reservoirs of the Naryn-Syrdarya cascade is 5,233 mcm over the non-growing season. The inflow is forecasted to be 5,113 mcm (98% of the norm) (Table 2.8).

The norm of inflow to the Toktogul reservoir is 2,875 mcm. It is forecasted to be 2,875 mcm (100% of the norm).

The norm of inflow to the Andizhan reservoir is 938 mcm. It is forecasted to be 813 mcm (87% of the norm).

The norm of inflow to the Charvak reservoir is 1,414 mcm. It is forecasted to be 1,425 mcm (101% of the norm).

Table 2.8

Item	Non-growing season, mcm				
	1 October 2019 to 31 March 2020			2018-2019	
	norm	forecast	forecast/ norm (%)	forecast	actual
Inflow to upstream reservoirs					
Toktogul	2,875	2,875	100	2,804	3,162
Andizhan	938	813	87	866	784
Charvak (4 rivers in total)	1,414	1,425	101	1,340	1,438
Total	5,227	5,113	98	5,010	5,384
Lateral inflow					
Toktogul – Uchkurgan	400	380	95	387	254
Andizhan – Uchtepe	2,530	2,610	103	2,518	2,658
Uchkurgan, Uchtepe – Bakhri Tochik	4,391	4,107	94	4,396	4,707
Bakhri Tochik – Shardara	2,971	2,608	88	2,828	2,376
Gazalkent–Chinaz (excluding Ugam)	846	870	103	786	865
Total	11,138	10,575	95	10,915	10,859
Overall (total inflow)	16,365	15,688	96	15,925	16,243

Lateral inflow

The norm of lateral inflow is 11,138 mcm. The forecast lateral inflow is to be 10,575 mcm (95% of the norm).

1. In the Toktogul-Uchkurgan reach:

- the norm of lateral inflow is 400 mcm;
- the forecast is to be 380 mcm (95% of the norm).

2. In the Andizhan-Uchtepa reach:

- the norm of lateral inflow is 2,530 mcm;
- the forecast is to be 2,610 mcm (103% of the norm).

3. In the Uchkurgan, Uchtepe – Bakhri Tochik reach:

- the norm of lateral inflow is 4,391 mcm;
- the forecast is to be 4,107 mcm (94 of the norm).

4. In the Bakhri Tochik-Shardara reach:

- the norm of lateral inflow is 2,971 mcm;
- the forecast is to be 2,608 mcm (88% of the norm).

5. In the Gazalkent-Chinaz reach (excluding Ugam):

- the norm of lateral inflow is 846 mcm;
- the forecast is to be 870 mcm (103% of the norm).

Total inflow

Over the non-growing season, the norm of total inflow in the Syrdarya basin is 16,365 mcm. The forecast inflow is to be 15,688 mcm (96% of the norm).

In the past non-growing 2018-2019, the total lateral inflow in the Syrdarya basin was forecasted to be 15,925 mcm. The actual inflow was 16,243 mcm, which is 318 mcm more than the forecast or 102% of it.

Water storage in the reservoirs

As of October 2019, the total water storage in the reservoirs is 22,959 mcm (including 7,963 mcm of dead storage). The water storage, excluding dead storage, is 14,996 mcm.

As of the 1st of October 2018, water storage in the reservoirs was 24,995 mcm (including 7,963 mcm of dead storage). The water storage in the reservoirs, excluding dead storage, was 17,032 mcm.

By the beginning of the growing season 2018-2019, the water storage was 2,036 mcm more than by the beginning of the non-growing season 2019-2020 (Table 2.9).

Available water resources of the Naryn-Syrdarya reservoir cascade (water storage in the reservoirs, excluding dead storage and plus total inflow) are 30,684 mcm.

(14,996 mcm+15,688 mcm=30,684 mcm)

Table 2.9

Reservoir	Reservoir storage, mcm			
	Actual as of October 1, 2019	Actual as of October 1, 2018	Dead storage	Water storage in the reservoirs as of 1 October 2019, excluding dead storage
Upstream reservoirs				
Toktogul	17,214	19,298	5,500	11,714
Andizhan	706	881	150	556
Charvak	1,751	1,754	426	1,325
TOTAL:	19,671	21,933	6,076	13,595
In-stream reservoirs				
Bakhri Tochik	2,154	2,110	917	1,237
Shardara	1,134	952	970	164
TOTAL:	3,288	3,062	1,887	1,401
OVERALL:	22,959	24,995	7,963	14,996

Water releases from reservoirs

According to the forecast operation regime of the Naryn-Syrdarya reservoir cascade, 32,880 mcm is planned to be released from the reservoirs in the non-growing season 2019-2020.

According to the forecast operation regime of the Naryn-Syrdarya reservoir cascade for the non-growing season 2018-2019, 30,833 mcm were planned to be released. However, actual releases from the reservoirs were 32,005 mcm (Table 2.10).

Table 2.10

Reservoir	Water releases, mcm		
	Forecast schedule, 2019-2020	Forecast schedule, 2018-2019	Actual, 2018-2019
Upstream reservoirs			
Toktogul	9,415	8,551	8,883
Andizhan	618	603	680
Charvak (discharge of the Gazalkent HPP)	2,477	2,384	2,482
TOTAL:	12,510	11,538	12,045
In-stream reservoirs			
Bakhri Tochik	11,926	11,374	12,219
Shardara	8,443	7,921	7,741
TOTAL:	20,370	19,295	19,960
OVERALL:	32,880	30,833	32,005

Water withdrawal limits

Taking into account requests submitted by water user states, the following water withdrawal limits are proposed for the non-growing season.

The total water withdrawal limits of all states are 3,405 mcm in the non-growing season (Table 2.11).

Table 2.11

Water user state	Based on request, mcm
Republic of Kazakhstan (Dustlik canal)	519
Kyrgyz Republic	37
Republic of Tajikistan	365
Republic of Uzbekistan	2,484
Total from the Syrdarya River	3,405

According to data by the Committee for Water Resources of the Republic of Kazakhstan, water supply to the Aral Sea and Prearalie is expected to be 3,009 mcm in the non-growing season.

Over the non-growing season 2018-2019, water supply to the Aral Sea and Prearalie, as measured at the Karateren GS, was 2,960 mcm.

The forecast operation regimes of the Naryn-Syrdarya reservoir cascade over the period from 1 October 2019 to 31 March 2020 were developed according to the Hydromet's forecast and based on water storage in the reservoirs and requests submitted by water user states. This schedule is provided below (Table 2.12).

Table 2.12

Forecast operation schedule of the Naryn-Syrdarya reservoir cascades, 1 October 2019 to 31 March 2020

		October	November	December	January	February	March	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m3/s	237	202	168	159	158	166	
	mcm	635	524	450	426	396	445	2,875
Volume: beginning of the season	mcm	17,214	16,810	15,972	14,691	13,260	11,955	
End of the season	mcm	16,810	15,972	14,691	13,260	11,955	10,661	
Water releases from the reservoir	m3/s	386	524	645	693	679	649	
	mcm	1,034	1,358	1,728	1,856	1,701	1,738	9,415
Bakhri Tochik reservoir								
Inflow to the reservoir	m3/s	495	815	966	937	925	818	
(Akdjar GS)	mcm	1,327	2,114	2,588	2,509	2,318	2,190	13,046
Volume: beginning of the season	mcm	2,154	2,643	2,836	2,920	2,967	3,080	
End of the season	mcm	2,643	2,836	2,920	2,967	3,080	3,418	
Water releases from the reservoir	m3/s	295	750	950	940	900	700	
	mcm	790	1,944	2,544	2,518	2,255	1,875	11,926
Shardara reservoir								
Inflow to the reservoir	m3/s	281	713	950	970	1,023	906	
	mcm	752	1,848	2,545	2,598	2,564	2,428	12,735
Volume: beginning of the season	mcm	1,134	1,064	1,526	2,558	3,659	4,740	
End of the season	mcm	1,064	1,526	2,558	3,659	4,740	5,194	
Water releases from the reservoir	m3/s	284	517	550	550	581	725	

		October	November	December	January	February	March	Total,
	mcm	760	1,339	1,473	1,473	1,456	1,941	8,443
Supply to the Aral Sea	m3/s	111	146	211	259	230	186	
	mcm	296	379	564	694	576	499	3,009
Charvak reservoir								
Inflow to the reservoir	m3/s	109	97	83	73	72	105	
(4 rivers in total)	mcm	292	253	222	196	181	281	1,425
Volume: beginning of the season	mcm	1,751	1,585	1,394	1,173	926	730	
End of the season	mcm	1,585	1,394	1,173	926	730	690	
Water releases from the reservoir	m3/s	170	170	165	165	150	120	
(Releases from the Gazalkent HPP)	mcm	455	441	442	442	376	321	2,477
Andizhan reservoir								
Inflow to the reservoir	m3/s	31	50	72	58	43	54	
	mcm	84	130	192	156	109	144	813
Volume: beginning of the season	mcm	706	602	576	728	843	903	
End of the season	mcm	602	576	728	843	903	902	
Water releases from the reservoir	m3/s	70	60	15	15	20	54	
	mcm	188	156	40	40	49	144	618

ACTIVITIES OF SIC ICWC ON IMPLEMENTATION OF INITIATIVES OF THE HEADS OF IFAS FOUNDER-STATES VOICED AT THE SUMMIT IN TURKMENBASHI³

General information

On the 24th of August, the city of Turkmenbashi hosted the XII meeting of the Council of Heads of founder-states of the International Fund for Saving the Aral Sea (IFAS). The President of Kazakhstan N. Nazarbayev, President of Tajikistan E. Rakhmon, President of Turkmenistan G. Berdymukhamedov, President of Uzbekistan Sh. Mirziyoyev, and President of Kyrgyzstan S. Zheenbekov as an honorary guest participated in the meeting.

Among *challenges* to be paid special attention, the Presidents noted the need to mitigate the consequences of the Aral catastrophe, consider hydropower interests, climate change and glacier melt, promote water conservation and efficient use of water resources, consolidate efforts for a comprehensive approach to problems, develop ASBP-4, and strengthen the role of IFAS in strengthening of cooperation. The following initiatives were proposed by the Presidents:

- Kazakhstan: automation, establishment of the International Water and Energy Consortium of Central Asia
- Kyrgyzstan: consideration of hydropower interests, fundamental reform of IFAS, compensation mechanism for water accumulation, review of water allocation limits
- Turkmenistan: water diplomacy, adoption of a Special Program for the Aral Sea basin countries
- Tajikistan: drinking water supply from Lake Sarez, climate change adaptation measures
- Uzbekistan: ecological innovations, afforestation, protected areas in Prearalie, as well as water conservation and scientific cooperation.

³Annex 3 to the Minutes of the 77th meeting of ICWC

Contribution of SIC ICWC to initiatives of the Presidents

1. Automation of operation of gauging stations in the Amudarya and Syrdarya River basins

Preparation of project proposals. SIC ICWC, BWO Syrdarya and BWO Amudarya prepared project proposals on automation in the Amudarya and Syrdarya River basins. The project proposal on automation of gauging stations along the Syrdarya River provides for development of the feasibility study on automation of gauging stations and implementation of the SCADA system at hydraulic facilities of BWO Syrdarya. The project proposal on automation of the Amudarya River basin management system provides for the system of automation and dispatching of head and gauging stations, telecommunication system and software development for operational water resources management in the river basin within Uzbekistan and Turkmenistan.

Search for funding. Data sheets with project proposals were submitted to the authorized agencies in Kazakhstan (Ye.N.Nysanbayev, ICWC member) and Uzbekistan (Ref. No 352 of 26.12.18 to the Ministry of Innovative Development of Uzbekistan) and discussed with donors (ADB on 28.01.19, 11.04.19, EBRD on 17.07.19; SDC rejected the request to further fund automation on the Syrdarya River). The request for funding the feasibility study on automation along the Syrdarya River was submitted under the call of the UN Multi-Partner Human Security Trust Fund for the Aral Sea region in Uzbekistan (MPHSTF) (rejected) and German call on the “Regional mechanisms for the low-carbon, climate-resilient transformation of the energy-water-land Nexus in Central Asia” under the International Climate Initiative 2020 (under consideration since 18.07.19).

Study. SIC and BWO Syrdarya conducted on their own, without involvement of external experts, a survey of the upper and middle reaches of the Syrdarya River, including the Chirchik River basin. The results of the survey and recommendations regarding the need to develop the feasibility study and technical project for implementation of the SCADA automation system in the middle and lower reaches of the Syrdarya river basin, as well as the request to provide in the 2020 Work Plan the necessary funds for financing these works have been sent to the Ministry of Investment and Foreign Trade of Uzbekistan (Ref. No. 185 of 16.09.19). SIC also submitted the budget estimate to MWM of Uzbekistan for the survey of the Tuyamuyun hydroscheme with the organization of a commission consisting of BWO Amudarya, MWM of Uzbekistan, SIC and

Sigma Ltd. for the subsequent equipping of the Tuyamuyun reservoir system with the SCADA automation system in order to reduce losses in the control area of this hydroscheme and to improve the accuracy of measuring water flowing to Tuyamuyun from Turkmenistan through Dargan Ata (Ref. No. 148 of 19.07.19).

SIC *monitors* the balance of all waters in the Amudarya and Syrdarya river basins on a daily basis and systematically informs about significant discrepancies, especially in the Amudarya river basin, but these have recently emerged and intensified in the Syrdarya river basin. The meeting on this issue was held under the chairmanship of the Adviser to the Minister of Water Management of Uzbekistan Mr. I.Kh. Zhurabekov (26.04.19).

2. Establishment of the International Water and Energy Consortium (IWEC)

Proposals of SIC ICWC to establish IWEC were submitted to ICWC members, heads of its executive bodies, Chairman of EC-IFAS, Director of CAREC (Ref. No. 61 of 04.03.19), as well as to EBRD (Ref. No. 127 of 17.05.18). This matter was discussed with CDC “Energy” and EBRD Head in Uzbekistan Mr. A. Drakinos (23.04.18). The feasibility study to establish IWEC was included in the project proposal under the German call “Regional mechanisms for the low-carbon, climate-resilient transformation of the energy-water-land Nexus in Central Asia” (under consideration since 18.07.19).

3. Water diplomacy

SIC developed an Action Plan on the Improvement of Regional Water Cooperation and submitted it to ICWC members and heads of its executive bodies (Ref. No 24 of 21.01.19). The request to fund the Plan was sent to the authorized agencies in Uzbekistan (the State Committee for Investments and Ministry of Innovative Development, Ref. No.352 of 26.12.2018) and donors – SDC, WB, ADB (funds were not allocated).

SIC participated in the International Conference “Role of Water Diplomacy in Achieving Sustainable Development in Central Asia” (5.06.19, Ashgabat), at the special session of which a preliminary meeting was held and consultations on the Concept of the UN Special Program for the Aral Sea Basin were started. SIC ICWC made a number of proposals for this Program and on its alignment with existing programs.

4. Water conservation and rational use of water resources

SIC ICWC prepared the draft Regional Program of Rational Water Use in Central Asia (Ref. No. 81 of 28.03.19 to MFA and MWM of the Republic of Uzbekistan). In developing the Program, it is proposed to focus on the 2001 UN/SPECA Diagnostic report “Rational and effective water resources use in Central Asia” and Principal Provisions of the Water Management Strategy in the Aral Sea Basin developed by EC-ICAS and approved by the IFAS Board in 1998. It is proposed to involve all ICWC members in the preparation of the Program and to establish regional and national groups. As a first step, SIC ICWC together with regional experts prepared the first version of the Diagnostic Report on Rational Use of Water Resources in Central Asia as of 2019 under an agreement with the Organization for Economic Cooperation and Development.

SIC ICWC in cooperation with the University of Würzburg (Germany) developed an online tool for monitoring water use efficiency in Central Asia, - WUEMOCA. The tool allows tracking changes in water use efficiency and available water supply across Central Asia over 2012-2018 based on satellite images.

5. Mitigation of consequences of the Aral Sea catastrophe

SIC ICWC has prepared and submitted to relevant ministries of Uzbekistan the following:

- data sheets of project proposals: Monitoring of the dried bed of the Aral Sea, Development of a strategy and implementation of concrete measures for environmental improvement in South Prearalie (Ref. No. 323 of 23.11.18 to the Ministry of Investments and Foreign Trade of RU; Ref. No. 356 as of 26.12.18 to the Ministry of Innovative Development of Uzbekistan); Developing the system of monitoring over environment and water resources in Prearalie region and on the dried sea bed (Ref. No. 252 of 28.09.18 to MWM of Uzbekistan; Ref. No. 272 of 16.10.18 to the Ministry of Investments and Foreign Trade of RU; 17.12.18 to the Ministry of Innovative Development of Uzbekistan. This data sheet was approved and recommended to the ministries for implementation).
- thematic brochure on global experience in environmentally sustainable desert development “Innovative technologies in the deserts of China, Israel and Libya” (Ref. No. 286 of 16.10.18 to the State Committee for Investments, available on www.cawater-info.net/library/rus/inf/51.pdf);

- proposals for the draft Concept on Prearalie as the Zone of Ecological Innovations and Technologies (Ref. No. 356 of 26.12.18 to the Ministry of Innovative Development of Uzbekistan; Ref. No. 323 of 23.11.18 to the State Committee for Investments).

SIC ICWC in cooperation with UNDP implements the project “Monitoring of the dried bed of the Aral Sea” funded by MPTFHS. The first ground expedition started on 20.09.19 under the project; the second expedition is anticipated in spring 2020.

SIC ICWC carries out continuous (once in 2 months) RS-based monitoring of the state of water bodies and wetlands within the Aral Sea and Prearalie. The monitoring results are published on the CAWater-Info Portal. In case of deterioration of situation, relevant ministries are informed via letters. After the speech of the President Sh. M. Mirziyoev at the XII Summit of the Heads of IFAS founder-states, certain steps have been taken to increase stable water supply in the delta; however additional water supply is required to ensure environmental water releases to solve this issue drastically. Unfortunately, previously stable water supply of the Syrdarya River delta was affected by disruption of environmental water releases in the amount less than 3.5 km³ due to the operation of the Kokaral dam.

6. Scientific cooperation

To implement the initiative of the President Mr. Sh.M.Mirziyoev on joint interdisciplinary research at the premises of SIC ICWC and SIC ICSD, SIC ICWC supported the idea of NWO EECCA and partners from the Netherlands to establish a Central Asia Expert Fund (platform) for water security, sustainable development and future studies. In this context, the following work has been done:

- The main positions of the Fund were reported at the first meeting of the Central Asian Expert Forum organized by the Institute of Strategic and Interregional Studies under the President of the Republic of Uzbekistan (ISRS) on 29 October 2018 and the International Conference of the Network of Water (Basin) Organizations from Eastern Europe, Caucasus and Central Asia (NWO EECCA).
- Within NWO EECCA under the leadership of the former Chairman of EC-IFAS Mr. S.R.Ibatullin, an initiative group has been created to study and promote the idea of establishing the Fund. A questionnaire on the feasibility and form of the Fund was disseminated to examine expert opinions

(24.12.18). Experts proposed the following priority themes for research to be carried out under umbrella of the Fund:

- Regional climate change adaptation strategies, including assessment of possible scenarios for water limits for 2020-2035, 2035-2050 and beyond based on available forecasts on climate change, demographic growth and demands of riparian countries, including Afghanistan, in the Aral Sea basin;
 - Regional water strategies in conjunction with the roadmap for the International Water Decade formulated in accordance with the Dushanbe Resolution;
 - Planning and feasibility study of integrated water and energy policy at the regional level;
 - Planning and feasibility study for an updated integrated water and agricultural policy, taking into account the study on transition from a sub-national (planning zone) to a national and regional perspective;
 - Organization of a regional program for development of future water leaders at various levels (regional, national, and local);
 - Improvement of the higher education system to meet current requirements.
- A letter was sent to Mr. Torsten Bretsin, Director of GIZ regional programs in Central Asia, who voiced Germany's interest in supporting expert communities of Central Asia at the meeting on 5 June 2019 in Ashgabat.
 - A draft concept note on the establishment of the Platform was submitted to the Ministry of Foreign Affairs of Uzbekistan with the request to disseminate it among the Central Asian countries for consultations (8.07.19).

SIC ICWC conducted joint research with BWO Syrdarya, particularly

- Research was carried out to clarify the balance items of the main course of the Syrdarya River and its main tributaries. This work resulted in the development of a methodology for calculation of river channel balance, XLSX computer program and test examples for two sections of the Syrdarya River.
- Efficiency of the SCADA automated equipment and gauging stations was surveyed in the upper and middle reaches of the Syrdarya River, including the Chirchik River basin (August-September).

At the regional level, SIC ICWC involves representatives of all the region's countries.

7. Development of ASBP-4

SIC ICWC submitted data sheets of 19 regional projects and 1 national project to ICWC members for consideration (Ref. No. 327 of 30.11.18; Ref. No. 33 of 04.02.19) for ASBP-4. Feedbacks were received from the Ministry of Agriculture of Kazakhstan (Ref. No. 6-1-16/28839 of 01.03.19), the Ministry of Energy and Water Resources of Tajikistan (Ref. No. 6-1-16/28839 of 01.03.19), and BWO Amudarya (Ref. No. 75/04 of 19.02.19).

The 76th meeting of ICWC (19.04.19, Tashkent) considered information “On SIC ICWC contribution to the development of ASBP-4”, and a decision was made to recommend EC IFAS to include project proposals into ASBP-4 taking into account comments received from the ICWC members. This ICWC decision was sent to EC IFAS (Ref. No. 327 of 30.11.18). The list of proposals approved by ICWC is provided in Annex 1.

In addition, SIC ICWC presented project proposals to the National Working Group of Uzbekistan, and six of them were approved for ASBP-4 (Annex 2).

Deputy Director of SIC participated in the second meeting of the Regional Working Group (RWG) on Development of ASBP-4 (30.07.19, Ashkhabad). The meeting considered country project proposals for ASBP-4. As a result of discussions and according to the Concept on Development of ASBP-4, a list of regional project proposals for ASBP-4 was agreed.

Project proposals finalized by EC-IFAS jointly with experts for ASBP-4 were sent to RWG members. SIC ICWC is currently working on this list to ensure that the project proposals approved by ICWC are fully taken into account in ASBP-4.

8. Reform of IFAS

SIC ICWC submitted to EC IFAS, ICWC members and heads of executive bodies proposals on the improvement of institutional and legal framework of IFAS (Ref. No.170 of 16.07.18; Ref. No.15 of 10.01.19). Deputy Director of SIC ICWC took part in the second meeting of RWG on the Improvement of Institutional and Legal Framework of IFAS (31.07.19, Ashkhabad), following the results of which the stages of work were agreed upon (Final document of the meeting). Particularly, the RWG members should submit country proposals to IFAS EC by 01.11.19.

9. Measures for climate change adaptation

The project proposal was prepared together with European partners and submitted under the call announced by the German Government under the International Climate Initiative 2020 on theme 4.7 “Regional mechanisms for the low-carbon, climate-resilient transformation of the energy-water-land Nexus in Central Asia” (18.07.19).

10. Achievements in information development

For over 15 years, SIC has been maintaining and continuously improving the Central Asian Water and Environmental Knowledge Portal, CAWater-Info, which contains over 62 gigabytes of information. Information system on water and land resources in the Aral Sea basin, databases on the Amudarya and Syrdarya rivers and their tributaries, systematic information on the state of water bodies of the Aral Sea and Prearalie, knowledge bases covering energy to land reclamation issues, and the ASBmm model have no analogues in the information space of the EECCA countries. The Portal is completely open to the ICWC members and their authorized representatives in terms of databases on Amudarya and Syrdarya rivers. All other sections of the Portal are open to the general public, including publications on climate change and Afghanistan. The portal is daily visited by more than 8,000 people. SIC also disseminates a weekly bulletin on Water, Irrigation and Ecology in Central Asia.

The online tool for water use efficiency in Central Asia (WUEMoCA) based on remote sensing data has been launched; it allows estimating water and land use using satellite images throughout Central Asia over the past 6 years.

Prepared by SIC ICWC

**Annex 1. List of project proposals for ASBP-4 agreed at the 76th ICWC meeting
(19.04.2019, Tashkent)**

Area 1. Integrated use of water resources taking into account interests of all the region's states

1. Improvement of methods for integrated research and forecasting of reservoir siltation in Central Asia and development of recommendations for its reduction: case-study of the in-stream reservoir of the Tuyamuyun hydroscheme
2. Development of an operational risk management system for irrigated agriculture to protect it from negative impacts of climate change
3. Adjustment of water duty zoning (borders of water duty zones) and updating of crop irrigation scheduling
4. Optimization of subsurface horizontal drain parameters, taking into account bi-directional regulation of water tables
5. Governance of the Amudarya River basin development in the context of climate change and other future challenges

Area 2. Environment

6. Assessment of impact of reservoir siltation in Central Asia on efficiency of runoff regulation and economic indicators of water use

Area 3. Socio-economic

7. Ways to improve economic efficiency of water and land use in the Amudarya River basin based on optimization of cropping patterns and water management

Area 4. Improvement of institutional and legal frameworks

8. Improvement of water supply and demand management at the local level by building capacities of water user organizations in Central Asia
9. Improvement of institutional structure of water agencies and system of bonuses and rules for integrated water resource management (IWRM)
10. Water and education: breeding the solicitous attitude towards water in Central Asian states

Annex 2. List of project proposals selected by the National Working Group of Uzbekistan

Area 1: Integrated use of water resources

1. Development of a Regional Strategy for Rational Use of Water Resources in the Aral Sea basin based on water conservation and reduction of unproductive water losses.
2. Development of zone-based metrological centers in the Amudarya and Syrdarya transboundary river basins.
3. Automated management system in the Amudarya River basin.

4. Automation of gauging stations along the Syrdarya River basin (includes work on the project “Modernization and implementation of the automated water resources management system and sustainable operation of interstate hydraulic structures in the Syrdarya river basin” submitted by BWO Syrdarya)
5. Development of the environment and water monitoring system in Prearalie and on the dried seabed (Karakalpakstan)

Area 4: Improvement of social and legal mechanisms

6. Capacity building to improve the system of water sector professional development in the Central Asian countries.

ANALYSIS OF HYDROLOGICAL CONDITIONS IN THE SYRDARYA AND AMUDARYA RIVER BASINS OVER THE GROWING SEASON 2019

1 Syrdarya River basin

The actual inflow to the upstream reservoirs in the Syrdarya basin (Toktogul, Andizhan, and Charvak reservoirs) was 17 km³ or 97% of the forecast and 93% of the norm for the growing season. The total lateral inflow to the Naryn and Syrdarya Rivers (in the reaches up to the Shardara reservoir) was 10 km³.

By the beginning of the growing season, the upstream reservoirs (Toktogul, Andizhan, and Charvak) have accumulated 15.1 km³. By the end of the growing season, the total capacity in the upstream reservoirs was 19.67 km³ or 98% of the value scheduled by BWO Syrdarya. In the Toktogul reservoir, the total capacity was 17.21 km³ and the active capacity - 11.71 km³. Water releases from the Toktogul reservoir were 5.14 km³ or 94 % of the BWO Syrdarya schedule. Analysis of operation of the Toktogul reservoir shows that water supply to the reservoir was 0.53 km³ less than the forecast and amounted to 92% of the norm during the growing season. Water releases from the reservoir were 0.33 km³ less than scheduled (planned) by BWO Syrdarya.

Water storage in the Bakhri Tochik reservoir was 2.83 km³ by the beginning of the growing season and 2.15 km³ by the end of the growing season. The inflow to the Bakhri Tochik reservoir and water discharge into the river amounted to 6.29 km³ and 6.22 km³, respectively. Analysis of operation of the

Bakhri Tochik reservoir showed that water supply to the reservoir was 0.02 km³ less than planned by BWO Syrdarya, and water releases from the reservoir were 0.2 km³ less than scheduled by BWO Syrdarya.

In the Shardara reservoir, water storage was 5.18 km³ by the beginning of the growing season and 1.13 km³ by the end of the growing season. The inflow to the Shardara reservoir was 5.24 km³; water releases from the reservoir were 8.49 km³, including 7.39 km³ into the river; 0.41 km³ of water was released into the Arnasay reservoir from the Shardara hydroscheme. Water losses amounted to 0.79 km³ in the reservoir.

According to the Aralo-Syrdarya Basin Water Administration's data, the Koksarai reservoir accumulated water in the amount of 255 Mm³ only in April and May, while 2,317 Mm³ were drawn down from April till July.

The total water withdrawal from the Naryn River and the Syrdarya River was 8.96 km³ or 76% of the limit in the reaches up to the Shardara reservoir; last season it was 10.7 km³ (92 %). Over the growing season 2019, water withdrawal was 2.91 km³ less than planned by BWO Syrdarya. Water shortage was estimated in the amount of 316 Mm³ in the Republic of Kazakhstan (along the Dustlik canal), 82 Mm³ in the Kyrgyz Republic, 348 Mm³ in the Republic of Tajikistan, and 2,161 Mm³ in the Republic of Uzbekistan; last season it was 505 Mm³. Water availability was uneven by state and river reach (Table 1.1). The greatest relative water shortage (% of the limit) was observed in the middle reaches in the Bakhri Tochik-Shardara reservoir site – 34 % (Table 1.4). The water shortage situation is described as follows by ten-day:

- In Kazakhstan, water shortage amounted to 66-76 % in the third ten-day of April-second ten-day of May. From the third ten-day of June till the first ten-day of July, water shortage varied between 53 and 58%.
- Water shortage in Tajikistan was 63% in the beginning of May.
- In Uzbekistan, water shortage varied between 36% and 44 % in June and 31% and 41% in July.

Water availability was estimated at 75% for the Republic of Uzbekistan, 66% for the Republic of Kazakhstan, and 67% for the Kyrgyz Republic. Water availability in the Republic of Tajikistan was higher than in other countries but very uneven by river reach: 1) Toktogul-Uchkurgan – 51%; 2) Uchkurgan-Bakhri Tochik – 121%; 3) Bakhri Tochik-Shardara – 73% (Table 1.1).

Analysis of water balance in basin's reservoirs (Table 1.3) has revealed balance discrepancy (taking into account water losses in reservoirs) 1.58 km³ in total, including 0.79 km³ in the Shardara reservoir, 0.32 km³ in the Bakhri Tochik reservoir, and 0.43 km³ in the Charvak reservoir.

Open river channel balance discrepancy in the Toktogul-Shardara reach

was 0.87 km³ or 6% of regulated Syrdarya runoff in the growing season.

In the lower reaches, runoff utilization was 8.38 km³ (including water withdrawal, losses, minus lateral inflow).

Water supply to the Aral Sea and Prearalie (Karateren GS) amounted to 0.72 km³ in the growing season by KazHydroMet's data and 1.08 km³ according to the Kazakh Committee for Water Resources.

Table 1.1

Water availability in the Syrdarya River basin countries over the growing season 2019

Water user	Water volume, km ³		Water availability, %	Deficit (-), surplus (+) km ³
	BWO schedule/limit	Actual	Season	Season
1 Total water withdrawal up to the Shardara reservoir	11.87	8.96	76	-2.91
2 By state:				
– Kyrgyz Republic	0.25	0.16	67	-0.08
– Republic of Uzbekistan	8.80	6.64	75	-2.16
– Republic of Tajikistan	1.91	1.56	82	-0.35
– Republic of Kazakhstan	0.92	0.60	66	-0.32
3 By river reach				
3.1 Toktogul reservoir – Uchkurgan hydroscheme	3.95	3.36	85	-0.59
of which:				
– Republic of Uzbekistan	0.16	0.10	59	-0.07
– Republic of Tajikistan	0.24	0.12	51	-0.12
– Republic of Kazakhstan	3.55	3.14	89	-0.41
3.2 Uchkurgan hydroscheme – Bakhri Tochik reservoir	1.08	1.08	101	0.01
of which:				
– Republic of Uzbekistan	0.08	0.07	82	-0.02
– Republic of Tajikistan	0.45	0.54	121	0.09

Water user	Water volume, km ³		Water availability, %	Deficit (-), surplus (+) km ³
	BWO schedule/limit	Actual	Season	Season
– Republic of Kazakhstan	0.54	0.47	87	-0.07
3.3 Bakhri Tochik reservoir-Shardara reservoir	6.85	4.52	66	-2.32
of which:				
– Republic of Uzbekistan	0.92	0.60	66	-0.32
– Republic of Tajikistan	1.22	0.89	73	-0.33
– Republic of Kazakhstan	4.71	3.03	64	-1.68
4 In addition:				
– Inflow to the Shardara reservoir	4.60	5.24	114	0.64
– Discharge into Arnasay	0.00	0.41		0.41
– Supply to the Aral Sea and Prearalie*	1.41	1.08	76	-0.33

* Committee for Water Resources of the Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan

Table 1.2

Syrdarya River channel water balance in the growing season 2019

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/plan	Actual		Forecast/plan
1 Inflow to the Toktogul reservoir	9.33	8.81	-0.53	6
2 Lateral inflow to the river reach of Toktogul reservoir – Shardara reservoir (+)	9.78	10.01	0.23	2
of which:				
– Discharge from the Karadarya river	1.54	1.75	0.21	13

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/plan	Actual		Forecast/plan
– Discharge from the Chirchik river	0.89	1.04	0.15	17
– Lateral inflow from CDF and small rivers	7.35	7.22	-0.13	2
3 Flow regulation in the reservoirs: inflow (+) or withdrawal (-)	-3.76	-3.74	0.02	1
including:				
– Toktogul reservoir	-3.87	-3.67	0.20	5
– Bakhri Tochik reservoir	0.11	-0.07	-0.18	168
4 Regulated runoff (1+2+3)	15.35	15.07	-0.28	2
5 Water withdrawal in the Toktogul – Shardara reach (-)	-11.87	-8.96	2.91	24
6 Discrepancy: water losses (-) or unrecorded inflow to the river channel (+) in the Toktogul-Shardara reach	1.12	-0.87	-1.99	177
Including % of regulated runoff	7	6		
7 Inflow to the Shardara reservoir	4.60	5.24	0.64	14
8 Flow regulation in the Shardara reservoir: inflow (+) or withdrawal (-)	3.12	3.25	0.14	4
9 Water releases from the Shardara reservoir	7.72	8.49	0.77	10
10 Including water releases into the river	6.79	7.39	0.60	9
11 Flow regulation in the Koksaray reservoir: inflow (+) or withdrawal (-)	1.68	2.06	0.38	23
12 Runoff utilization (water withdrawal-lateral inflow+losses) (-)	-7.07	-8.38	-1.31	19
13 Supply to the Aral Sea and Prearalie	1.41	1.08	-0.33	24

Table 1.3

Water balance of the Syrdarya River basin reservoirs in the growing season 2019

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/ plan	Actual		Forecast/ plan
1. Toktogul reservoir				
1.1 Inflow to the reservoir	9.33	8.81	-0.53	6
1.2 Water volume in the reservoir:				
– beginning of the season (1 April 2019)	13.56	13.56	0.00	0
– end of the season (1 October 2019)	17.37	17.21	-0.16	1
1.3 Water releases from the reservoir	5.47	5.14	-0.33	6
1.4 Discrepancy: unrecorded inflow (+) or losses (-)	-0.05	-0.02	0.04	68
% of inflow to the reservoir	1	0	0	
1.5 Flow regulation: flow inflow (+) or withdrawal (-)	-3.87	-3.67	0.20	5
2. Andizhan reservoir				
2.1 Inflow to the reservoir	2.68	1.94	-0.74	27
2.2 Water volume in the reservoir:				
– beginning of the season (1 April 2019)	0.97	0.97	0.00	0
– end of the season (1 October 2019)	1.11	0.71	-0.40	36
2.3 Water releases from the reservoir	2.55	2.19	-0.35	14
2.4 Discrepancy: unrecorded inflow (+) or losses (-)	0.00	-0.01	-0.02	894
% of inflow to the reservoir	0	1	1	
2.5 Flow regulation: flow inflow (+) or withdrawal (-)	-0.13	0.25	0.38	284
3. Charvak reservoir				
3.1 Inflow to the reservoir	5.46	6.24	0.78	14
3.2 Water volume in the reservoir:				
– beginning of the season (1 April 2019)	0.55	0.55	0.00	0

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/ plan	Actual		Forecast/ plan
– end of the season (1 October 2019)	1.67	1.75	0.08	5
3.3 Water releases from the reservoir	4.42	4.61	0.19	4
3.4 Discrepancy: unrecorded inflow (+) or losses (-)	0.07	-0.43	-0.51	682
% of inflow to the reservoir	1	7	6	
3.5 Flow regulation: flow inflow (+) or withdrawal (-)	-1.05	-1.63	-0.59	56
4 Bakhri Tochik reservoir				
4.1 Inflow to the reservoir	6.32	6.29	-0.02	0
4.2 Lateral inflow	0.30	0.24	-0.06	19
4.3 Water volume in the reservoir:				
– beginning of the season (1 April 2019)	2.83	2.83	0.00	0
– end of the season (1 October 2019)	2.00	2.15	0.15	8
4.4 Water releases from the reservoir	7.02	6.88	-0.14	2
including:				
– Water releases into river	6.42	6.22	-0.20	3
– Water withdrawal from reservoir	0.60	0.66	0.06	10
4.5 Discrepancy: unrecorded inflow (+) or losses (-)	-0.41	-0.32	0.09	22
% of inflow to the reservoir	7	5	1	
4.6 Flow regulation: inflow (+) or withdrawal (-)	0.11	-0.07	-0.18	168
5 Shardara reservoir				
5.1 Inflow to the reservoir	4.60	5.24	0.64	14
5.2 Lateral inflow	0.00	0.00	0.00	
5.3 Water volume in the reservoir:				
– beginning of the season (1 April 2019)	5.18	5.18	0.00	0
– end of the season (1 October 2019)	1.41	1.13	-0.28	20
5.4 Water releases from the reservoir	7.72	8.49	0.77	10
including:				
– Discharge into Arnasay	0.00	0.41	0.41	

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/ plan	Actual		Forecast/ plan
– Water releases into river	6.79	7.39	0.60	9
– Water withdrawal from reservoir	0.93	0.69	-0.24	26
5.5 Discrepancy: unrecorded inflow (+) or losses (-)	-0.64	-0.79	-0.14	22
% of inflow to the reservoir	14	15	1	
5.6 Flow regulation: inflow (+) or withdrawal (-)	3.12	2.15	-0.96	31
TOTAL Flow regulation by reservoirs: inflow (+) or withdrawal (-)	-1.82	-2.97	-1.15	63
TOTAL losses (-), unrecorded inflow (+)	-1.04	-1.58	-0.54	52

Table 1.4

Country water deficit in the Bakhri Tochik-Shardara reach, growing season 2019

Water balance item		April			May			June			July			August			September			Total for growing season, Mm ³
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
Total water withdrawal at the reach	Limit, m ³ /s	288	355	382	366	370	410	535	611	649	672	674	672	562	471	352	199	121	92	6,845
	Actual, m ³ /s	152	103	40	127	218	297	333	407	379	403	478	472	473	419	320	186	138	181	4,522
	Deficit, %	47	71	90	65	41	28	38	33	42	40	29	30	16	11	9	7	-	-	34
Kazakhstan	Limit, m ³ /s	20	20	20	25	25	35	55	75	105	120	120	120	110	100	75	15	0	0	918
	Actual, m ³ /s	20	20	5	8	9	26	39	53	45	57	78	74	78	71	60	36	7	0	602
	Deficit, %	-	-	76	69	66	26	30	29	58	53	35	38	30	30	21	-	-	-	34
Tajikistan	Limit, m ³ /s	10	60	81	82	82	89	92	96	96	96	96	96	96	96	82	60	40	35	1,220
	Actual, m ³ /s	0	0	0	30	59	75	78	74	75	79	83	84	82	79	73	53	45	40	893
	Deficit, %	100	100	99	63	28	16	16	23	22	18	13	13	14	17	11	12	-	-	27
Uzbekistan	Limit, m ³ /s	258	275	281	259	263	286	388	440	448	456	458	456	356	275	195	124	81	57	4,707
	Actual, m ³ /s	132	83	35	89	150	196	217	280	259	267	317	314	313	269	188	97	86	140	3,027
	Deficit, %	49	70	88	66	43	31	44	36	42	41	31	31	12	2	4	22	-	-	36

2 Amudarya River basin

The actual water content in the Amudarya River at the nominal Atamyrat gauging station (upstream of intake to Garagumdarya) was 47.28 km³ or 3 km³ less than expected by the BWO Amudarya (Table 2.2). The inflow to the Nurek HPP amounted to 17.44 km³ and turned to be lower of the forecast by 0.44 km³. Water releases from the reservoir were 13.61 km³ or 1.07 km³ more than scheduled by BWO Amudarya. Water withdrawal from the river through accumulation in the Nurek reservoir amounted to 3.89 km³. Water storage in the reservoir of the Nurek HPP was 4.47 km³. Unrecorded inflow to the reservoir was estimated at 0.64 km³ (Table 2.3).

According to measurements at the Bir-Ata gauging station, inflow to the Tuyamuyun hydroscheme (TMHS) was 30.2 km³ or 2.62 km³ more than expected. This allowed accumulating 2.5 km³ in TMHS reservoirs. Water volume in TMHS reservoirs was only 5.04 km³ by the end of the growing season. Water releases from TMHS were 2.1 km³ more than planned and amounted to 20.06 km³. Balance discrepancy amounted to 7.64 km³ in the reach Bir-Ata GS – Tuyamuyun GS in the growing season. Possible causes for balance discrepancy of TMHS reservoirs are: inaccuracies in measurements of water discharge at the Amudarya River gauging stations, inaccuracies in calculation of water volumes in reservoirs (by bathymetric curves depending on measured water levels), and inaccuracies in control of water withdrawals in the river reach and reservoirs.

Given such hydrological conditions, the established limit of water withdrawal into canals in the Amudarya River basin was 91% provided (Table 2.1). The total water withdrawal amounted to 36.12 km³, including 29.4 km³ downstream of the Atamyrat gauging station (starting from intake to Garagumdarya). During the growing season, the average water availability was 86% in the Republic of Tajikistan, 95% in Turkmenistan, and 90% in the Republic of Uzbekistan; in the lower reaches, water availability was 96% in Turkmenistan, 95% in the Republic of Uzbekistan, and 62% in Surkhandarya province (Table 2.1).

The Amudarya River main course balance discrepancy was 0.09 km³ in the reach Atamyrat GS (nominal) – Bir-Ata GS or about 0.2% of river runoff at the nominal Atamyrat reach and 4.36 km³ in the lower reaches (Tuyamuyun GS-Samanbay GS reach) or 29% of river runoff at Tuyamuyun GS.

The amount of 1.94 km³ was supplied to Prearalie and the Aral Sea during the growing season (Amudarya River runoff along the Samanbay GS plus discharged collector-drainage water) or 93 % of BWO's schedule.

Table 2.1

Water availability in the Amudarya River basin countries over the growing season 2019

Water user	Water volume, km ³		Water availability %	Deficit (-), surplus (+) km ³
	Limit/ Schedule	Actual	Season	Season
1. Total water withdrawal	39.67	36.12	91	-3.5
2. By state:				
Kyrgyz Republic	-	-	-	-
Republic of Tajikistan	7.0	6.0	86	-1.0
Turkmenistan	15.5	14.7	95	-0.8
Republic of Uzbekistan	17.2	15.4	90	-1.8
3. Downstream of Atamyrat g/s*)	31.5	29.4	93	-2.1
of which:				
Turkmenistan	15.5	14.7	95	-0.8
Republic of Uzbekistan	16.0	14.7	92	-1.3
4. By river reach:				
Upper reaches	8.15	6.74	83	-1.4
of which:				
Kyrgyz Republic	-	-	-	-
Republic of Tajikistan	6.95	6.00	86	-1.0
Surkhandarya province, Uzbekistan	1.20	0.74	62	-0.5
Middle reaches	16.207	14.77	91	-1.4
of which:				
Turkmenistan	10.47	9.86	94	-0.6
Republic of Uzbekistan	5.73	4.92	86	-0.8
Lower reaches	15.31	14.61	95	-0.7
of which:				
Turkmenistan	5.03	4.84	96	-0.2
Republic of Uzbekistan	10.285	9.77	95	-0.5
5. In addition:				
Emergency and environmental water releases into canals in lower reaches	0	0		

Water user	Water volume, km ³		Water availability %	Deficit (-), surplus (+) km ³
	Limit/Schedule	Actual	Season	Season
Turkmenistan	0	0		
Republic of Uzbekistan	0	0		
Supply to the Aral Sea and Prearalie**	2.10	1.94	93	-0.2
Turkmenistan	0	0		

*) Atamyrat g/s nominal – section of the Amudarya River upstream of water intake to Garagumdyarya

***) including the discharged collector-drainage water

Table 2.2

Amudarya River channel water balance in the growing season 2019

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast /Plan	Actual		Forecast /Plan
1. Water content in the Amudarya River - non-regulated flow at Atamyrat g/s nominal*	50.26	47.28	-2.99	6
2. Flow regulation in the Nurek reservoir: accumulation (+) or withdrawal (-)	-4.47	-3.83	0.64	14
3. Water withdrawal in the middle reaches (-)	-16.21	-14.77	1.43	9
4. Return flow (collector-drainage) in middle reaches (+)	1.76	1.62	-0.13	8
5. Water losses (-) or unrecorded inflow to the river channel (+)	-3.77	-0.09	3.68	98
% of flow at Atamyrat g/s nominal	7	0	-7	
6. River flow at Bir-Ata g/s	27.58	30.20	2.62	10
7. Flow regulation in Tuyamuyun hydroscheme: accumulation (+) or withdrawal (-)	-11.11	-15.38	-4.26	38
8. Releases from Tuyamuyun hydroscheme	22.16	20.06	-2.10	9

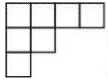
Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast /Plan	Actual		Forecast /Plan
(including withdrawal from reservoir)				
9. Withdrawal in lower reaches, including withdrawal from Tuyamuyun hydroscheme (-)	-15.31	-14.61	0.70	5
10. Return flow (collector-drainage) in lower reaches (+)	0.00	0.00	0.00	
11. Emergency and environmental water releases into canals (-)	0.00	0.00	0.00	
12. Flow losses (-) or unrecorded inflow to the channel (+)	1.66	-4.36	-6.02	363
% of flow at Tuyamuyun g/s	10	29	19.32	
13. Supply to Prearalie and the Aral Sea (Samanbay g/s)	2.81	1.10	-1.71	61
TOTAL losses:	-2.11	-4.45	-2.34	111
% of river water content	4	9	5	

* Amudarya River runoff upstream of the intake to Garagumdarya, given the estimated natural flow at the Nurek HPP (without regulation of the Vakhsh River runoff)

Table 2.3

Water balance of the Amudarya River basin reservoirs in the growing season 2019

Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/ plan	Actual		Forecast /plan
1 Nurek reservoir				
1.1. Inflow to the reservoir	17.00	17.44	0.44	3
1.2. Water volume in the reservoir:				
– beginning of the season (1 April 2019)	6.10	6.10	0.00	0
– end of the season (1 October 2019)	10.57	10.57	0.00	0
1.3. Water releases from the reservoir	12.54	13.61	1.07	9
1.4. Balance discrepancy: unrecorded inflow (+) or losses (-)	0.00	0.64	0.64	
% of inflow to the reservoir	0	4	3.66	
1.5. Flow regulation: accumulation (+) or withdrawal (-)	-4.47	-3.83	0.64	14
2 TMHS reservoirs				
2.1 Runoff at Bir-Ata g/s	27.58	30.20	2.62	10
2.2 Water volume in the reservoirs:				
– beginning of the season (1 April 2019)	2.54	2.54	0.00	0
– end of the season (1 October 2019)	4.81	5.04	0.23	5
2.3 Water releases from the hydroscheme	22.16	20.06	-2.10	9
of which:				
– releases into the river	16.47	14.83	-1.64	10
– withdrawal	5.69	5.24	-0.46	8
2.4 Balance discrepancy: unrecorded inflow (+) or losses (-)	-3.15	-7.64	-4.49	142
Including % of inflow to the reservoir	11	25	14	
2.5 Flow regulation: accumulation (+) or withdrawal (-)	-11.11	-15.38	-4.26	38
TOTAL flow regulation by the reservoirs:	-15.58	-19.21	-3.63	23



Balance item	Water volume, km ³		Deviation (actual-plan)	
	Forecast/ plan	Actual		Forecast /plan
accumulation (+) or withdrawal (-)				
TOTAL losses (-), unrecorded inflow (+)	-3.15	-7.00	-3.85	122

INTERNATIONAL HIGH-LEVEL CONFERENCE “PREARALIE – ZONE OF ENVIRONMENTAL INNOVATIONS AND TECHNOLOGIES”⁴

On 24-25 October 2019, Nukus hosted an international conference under UN auspices on the theme “Priaralie – Zone of Environmental Innovations and Technologies”.

More than 200 participants of the Conference – representatives of Diplomatic Corps of foreign countries, international environmental organizations, and experts – got acquainted with exhibitions on the consequences of the Aral Sea disaster and projects for their elimination.

The First Deputy Prime Minister of the Republic of Uzbekistan Mr. Ochilboy Ramatov read out the message of the President of the country to the Conference.

A video message of the UN Secretary-General Antonio Guterres was translated.

Speeches were delivered by Mr. BoriyAlikhanov (Deputy Speaker of the Legislative Chamber of OliyMajlis), Mr. Musa Yerniyazov (Chairman of the ZhokargyKenes of the Republic of Karakalpakstan), Ms. Natalia Gherman (Special Representative of the UN Secretary-General for Central Asia), Mr. Abdoulaye Mar Dieye (Assistant Secretary-General of the United Nations), and Mr. Peter Burian (European Union Special Representative for Central Asia).

The main goal of the Conference is to create favorable conditions for foreign investments in the development and implementation of environmentally friendly technologies and implementation of the green economy principles, develop ecotourism, introduce environmentally friendly energy and water saving technologies, as well as technologies that ensure food security, prevent desertification and environmental migration.

Desiccation of the Aral Sea is a tragedy transcending national and regional borders. Undeniably, this is one of the biggest environmental catastrophes caused by human activities that posed a direct threat to the sustainable development of Uzbekistan and other countries of the Aral Sea basin. Noteworthy, the problem also affects the global ecosystem as a whole.

⁴Source: UZA <http://uza.uz/ru/society/mezhdunarodnaya-konferentsiya-pod-egidoy-oon-25-10-2019>, (in Russian)

The Aral Sea disaster aggravated climatic conditions in the region.

Unfortunately, full restoration of the Aral Sea doesn't seem possible, yet its negative consequences can be mitigated. The most important present task is to reduce the destructive impact of the Aral Sea crisis on environment and livelihoods of millions of people living in Prearalie and mitigate or prevent further aggravation of climate impacts.

The draft concept on three initiatives of the President of Uzbekistan was presented and discussed, namely: organization of the zone of environmental innovations and technologies in Prearalie, adoption of a special resolution of the UN General Assembly on declaring Prearalie the zone of environmental innovations and technologies, and a regional program on the rational use of water resources in Central Asia.

COMMUNIQUE OF THE INTERNATIONAL HIGH-LEVEL CONFERENCE ON PREARALIE – ZONE OF ENVIRONMENTAL INNOVATIONS AND TECHNOLOGIES

At the initiative of the President of the Republic of Uzbekistan, Nukus hosted the International High-Level Conference “Prearalie –Zone of Environmental Innovations and Technologies” under UN auspices in October 24-25, 2019.

The Conference brought together 250 participants from 28 countries, including the heads and representatives of international organizations, such as the United Nations, UNECE, UNDP, Regional Center for Preventive Diplomacy for Central Asia, World Bank, Asian Development Bank, European Investment Bank, European Bank for Reconstruction and Development, as well as foreign governments and private companies – Western Export Solutions, Elion Group, and United Phosphorus Limited.

During the Conference, plenary sessions and 4 breakouts were held; a study-tour was organized to the dried bed of the Aral Sea.

The participants discussed a draft Concept for creation of a zone of environmental innovations and technology in Prearalie, a special resolution of the UN General Assembly on declaring Prearalie the zone of environmental innovations and technology, as well as a Regional Program on the rational use of water resources in Central Asia.

During the Conference, a broad understanding was reached that the tragedy of the dried Aral Sea goes beyond national and regional borders. Undoubtedly, this is one of the largest global environmental disasters of our time, with environmental, climatic, socio-economic and humanitarian consequences posing a direct threat to the sustainable development of the Aral Sea Basin countries and the global ecosystem as a whole.

Restoration of the Aral Sea in full is no longer possible, but the negative consequences can be mitigated. The most important task today is to reduce devastating impact of the Aral Sea crisis on environment and life of millions of people in Prearalie, as well as to mitigate or prevent further aggravation of climatic impacts.

Based on the provisions of the UN General Assembly Resolution No. 72/283 entitled “Strengthening regional and international cooperation to ensure peace, stability and sustainable development in the Central Asian Region”, and taking into account the importance of mutually beneficial regional and international cooperation in the region, the participants:

- expressed concern about aggravating consequences of the drying up of the Aral Sea;

- supported the establishment of the UN Multi-Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan (MPHSTF) aimed to overcome consequences of the environmental catastrophe in Prearalie and promote projects to improve the socio-economic situation in this area, and called donor-countries and international organizations to contribute to the development of the Fund;

- underlined the great importance of the established International Innovation Center for Prearalie at the President of the Republic of Uzbekistan with the aim to improve ecosystem and livelihoods and maintain cooperation with international organizations on the development and implementation of innovations and solutions to varied problems occurring on the salinized dried bed of the Aral Sea;

- supported an initiative of the President of Uzbekistan to declare Prearalie the zone of environmental innovations and technologies with the aim to integrate efforts for attraction of foreign investments in the development and implementation of environmentally friendly technologies; promotion of green economy principles and environmentally friendly energy- and water-saving technologies; prevention of further desertification and ecological migration; development of ecotourism, etc.;

- welcomed the proposal of the Republic of Uzbekistan to adopt a special UN General Assembly Resolution on declaring Prearalie the zone of environmental innovations and technologies;

- highly evaluated the efforts made by Uzbekistan in promoting fundamentally new measures for all-round resolution of problems in the Prearalie region, involving innovations and brand-new approaches;

- underlined the importance of enhancement of international cooperation for promotion of target projects on mitigation of negative consequences of the Aral Sea catastrophe and socio-economic improvement in Prearalie;

- expressed confidence that task-oriented, multidimensional, and systematic interactions between the region's countries, UN agencies, financing and donor organizations will allow developing programs and projects aimed to resolution of the most acute issues in Prearalie;

- thanked international organizations, financing institutions, and governments of the donor-countries for voiced support to specific investment projects and programs.

Taking into account the above mentioned, the participants called international organizations and governments of donor-countries to become actively involved in implementation of target programs and projects in Prearalie.

Following the International Conference, a package of priority investment projects for implementation of environmental innovations and technologies was formed and proposals were presented for inclusion in a draft Concept for creation of the zone of environmental innovations and technology in Prearalie and the Regional Program on rational use of water resources in Central Asia.

In conclusion, the participants thanked the Government of the Republic of Uzbekistan for warm welcome and high level organization.

MEMORANDUM OF COOPERATION SIGNED BETWEEN SIC ICWC AND IIC

In the margins of the International Conference “Prearalie – the Zone of Environmental Innovations and Technologies” held in Nukus, a Memorandum of Cooperation was signed between the Scientific Information Center of ICWC and the International Innovation Center for the Aral Sea Basin (IIC) on the 25th of October 2019 to support research and development in the area of water management, use and protection, ecology, environmental protection, water and agriculture.

The Parties intend to cooperate primarily in fundamental and applied research to improve the environmental situation and eliminate the consequences of the Aral Sea desiccation, as well as in creation of a unified information space on the use and monitoring of water resources, lakes, aquatic ecosystems, irrigated areas and adjacent territories.

PARTICIPATION OF THE UZBEK DELEGATION IN THE SECOND MEETING OF THE WATER COUNCIL OF THE ORGANIZATION OF ISLAMIC COOPERATION DURING THE CAIRO WATER WEEK

The Uzbek delegation represented by Ravshan Mamutov, Deputy Minister of Water Management of the Republic of Uzbekistan and Vadim Sokolov, head of the GEF Agency of IFAS, took part in the Second Meeting of the OIC Water Council held as part of the Cairo Water Week (20-22 October 2019).

Uzbekistan was admitted to the Organization of Islamic Cooperation (OIC) as an observer at the extraordinary meeting of foreign ministers of member countries in New York in October 1995. Uzbekistan became the full OIC member on the 2nd of October 1996. Since 2003, Uzbekistan has been a member of the Islamic Development Bank, the OIC specialized institution. The Republic signed the new OIC Charter on the 14th of December 2015.

The topic of the 2nd Cairo Water Week is chosen to be “Responding to Water Scarcity” covering 5 themes:

- Achieving SDGs under Water Scarcity
- Cooperation in Water Sector
- Research and Innovation in Facing Water Scarcity
- Climate Change Impacts, Mitigation and Adaptation
- Non-Conventional Water Resources Use under Scarcity Conditions

The 2nd CWW was held under the auspices of H.E. Mr. Abdel Fatah El-Sisi, President of the Arab Republic of Egypt and organized by the Ministry of Water Resources and Irrigation in collaboration with national, regional and international partners. The CWW became the focus of attention of every one who cares about water as a basic element for life and turned to be the main and largest water event in Egypt.

The Water Council is the execution branch of the Ministers of Water Resources in OIC Member-States. The Council aims at activating cooperation among the OIC member states in the field of water, in addition to following up the efforts and progress achieved in this regard. Following the results of the first meeting held in November 2017 in Turkey, the Water Council approved the Program of Actions for 2017-2023, which provides for:

- Assessment of institutional and human capacity requirements in Member States;

- Collaborative activities amongst water institutes of OIC countries and arrangement of joint events;
- Training workshops for government officials, civil society, private sector, academic and research institutions of the Member States;
- Promote network of Centres of Excellence in collaborative arrangements with the Member States;
- Improvement of water infrastructure of the Member States.

The second meeting of the Council is considered as an attempt to put countries on the right track to implement their national water strategy under the general framework of the OIC Vision. The meeting produced concrete conclusions and recommendations focusing on shared priorities that will work as guidelines for countries in cooperation.

The program of the second meeting of the OIC Water Council included a meeting of senior officials of the Council Member States on the 21st of October 2019 (representatives of 13 countries participated – Egypt, Azerbaijan, Saudi Arabia, Morocco, Uzbekistan, Senegal, Sierra Leone, Somali, Pakistan, Jordan, Turkey, Yemen, Cote d'Ivoire, as well as OIC institutions – Islamic Development Bank, Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH), Islamic World Educational, Scientific and Cultural Organization (ISESCO), Islamic Organization for Food Security (IOFS), International Center for Biosaline Agriculture (ICBA), Inter-Islamic Network on Water Resources Development and Management (INWRDAM), Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC).

Mr. Rajab Abdel Azim, Secretary of the Ministry of Water Resources and Irrigation of Egypt, chaired the meeting of senior officials from the OIC Water Council Member States.

The meeting discussed the most important issues of mutual interest and concern, such as capacity building, waste water treatment, transboundary issues, and financial support. Uzbek delegation shared information on problems related to water monitoring and promotion of water-saving technologies in agriculture. As a result of this meeting, recommendations were agreed upon for the subsequent ministerial meeting.



On October 22, the Ministerial Meeting of the OIC Water Council was held, where recommendations were adopted to motivate cooperation among OIC member states. The meeting was chaired by Dr. Mohamed Abd El-Aty, Minister of Water Resources and Irrigation of Egypt.

The Uzbek delegation had an opportunity to deliver a message to the OIC Water Council.

Message by the Ministry of Water Management of Uzbekistan at the second meeting of the OIC Water Council

(22 October 2019, Cairo, Egypt)

Distinguished Participants, Ladies and Gentlemen,

On behalf of the Ministry of Water Management of the Republic of Uzbekistan, I am sincerely glad to welcome all of you in this hall at the regular meeting of the OIC Water Council.

I would like to take this opportunity to express my special thanks to the Government of the Arab Republic of Egypt, the Secretariat of the Organization of Islamic Cooperation and all the organizers for warm welcome and hospitality.

Undoubtedly, this meeting is a significant event for the OIC Water Council, which aims at providing concrete conclusions and recommendations focusing on common priorities that will guide the expansion of cooperation within the organization.

Dear Participants,

With regard to the Central Asian region, it should be emphasized that, given the transboundary importance of major rivers, water is a source of peace and stability, as well as the key factor in ensuring sustainable development of national economies.

Realizing that water is an irreplaceable source of life, the President of the Republic of Uzbekistan Mr. Sh.M. Mirziyoyev identified water sharing in the region as one of priorities of the Uzbekistan's foreign policy.

The changing political climate in Central Asia has caused “warming” in many regional dimensions. This is reflected in similar understanding by the Central Asian leaders of water management and use problems, which they repeatedly voiced at bilateral and multilateral meetings in 2017-2019.

We jointly seek ways to cooperate and find compromises through regular meetings. Experience shows that it is the cooperation based on interests of all the riparian countries, as well as on norms and principles of the international water law, which is truly successful, long-term and mutually acceptable.

Dear Participants,

Growing population and consequent increase in water and food demands in the face of declining water availability and new climate-related challenges pose enormous challenges to water security of the country.

Our country pays a special attention to and takes measures for rational water use. In 2018, the Ministry of Water Management was established to improve water governance.

The Water Sector Development Strategy until 2030, which provides for integrated measures for water conservation, is being developed.

In this context, consistent measures are taken to completely reform mechanisms for rational and efficient use of water resources, support and promote water-saving technologies in economic sectors, as well as reclaim irrigated land:

- subsidies are provided to raw cotton producers and for the establishment of new grape plantations to introduce drip irrigation technologies in the amount of about \$900 per ha of cropped area;
- state support is provided to newly organized orchards and greenhouses in the form of subsidies for introduction of water-saving irrigation technologies in the form of drip and sprinkling irrigation in the amount of about \$700 per ha of cropped area.

Since 2013 to the present day, the total area of application of water-saving irrigation technologies is only 415,000 ha or 10% of the total irrigated area.

However, it is already planned to adopt drip technology on an area of 200,000 ha in 2020, and more than 1.5 million ha will be covered by water-saving technologies by 2025 (i.e. 35 % of the total irrigated area).

The Uzbek state annually spends about \$500 million to maintain and improve irrigation and drainage infrastructure.

Over the past 10 years, about \$1.5 billion of investment funds from international financing institutions have been raised for rehabilitation of irrigation and drainage systems and modernization of water facilities and pumping stations.

Dear Colleagues,

Today Uzbekistan is implementing two projects with the financial and technical support of the Islamic Bank of Development: “Reconstruction of Main Irrigation Canals of Tashaka Irrigation System in Khorezm Region” worth \$144.5 million and “Improving Water Management in Surkhandarya region (reconstruction of Khazarbag-Akkapchigai canal system)” worth \$122.7 million. Moreover, the Karshi Pumping Cascade Rehabilitation (Phase III) project worth \$115.8 million is being implemented with participation of the Saudi Fund for Development.

We are very grateful to our Islamic Cooperation partners for their invaluable support. At the same time, we would like to propose that the Organization of Islamic Cooperation consider the possibility of allocating additional funds for implementation of new joint projects in the water sector, including grant funds for feasibility studies of the construction of small reservoirs in Uzbekistan to improve irrigated water supply.

Dear Colleagues,

In conclusion, I wish all fruitful joint work and call on you to engage in constructive dialogue and active discussion of priority issues with a view to addressing current and future water challenges in the framework of the Organization of Islamic Cooperation.

Thank you for your attention!



At the end of the Ministerial Meeting, the Secretary General of OIC, Dr. Yousef A. Al-Othaimeen stressed that water security has become a prerequisite for achieving sustainability and for ensuring health and prosperity of the OIC Member States. He also pointed out that achieving growth in almost every economic sector depends on water availability.

Mr. Al-Othaimeen called upon member states with technological and financial capabilities to move forward to assist other disadvantaged member states in this field, taking into account the magnitude of water-related challenges. He urged all stakeholders, including international organizations, to join hands to implement the recommendations of the second meeting of the Water Council.

Recommendations of the second meeting of the OIC Water Council

To adopt a more focused approach and develop synergies among OIC institutions' activities, the meeting requested OIC institutions to conduct capacity-building and training workshops, in particular on the water monitoring network and early warning system; water conservation and productivity in the agricultural sector. OIC institutions should share the details of planned activities with each other to avoid duplication.

The meeting highly appreciated the efforts of the Government of Egypt in organization of a training course for young water professionals in OIC countries on integrated water resources management, to be held in Cairo from 20 to 24 October 2019, to train 15 young professionals from 9 OIC countries. It is recommended that other OIC countries could organize training programs in priority areas. It is recommended that the Water Council members announce such training workshops, as well as the initiative, and inform the OIC General Secretariat accordingly.

To exchange information with various stakeholders and share innovative methods and new mechanisms for addressing water-related issues adopted by OIC countries, it is recommended that the web portal on water be re-launched. The portal should focus on highlighting success stories, case studies and other information on water-related activities undertaken by member states.

The network of centers of excellence in the Islamic world to share experiences with other relevant institutions is an important first step to encourage joint water-related research. The OIC Secretariat should work closely with member states and other OIC institutions to organize a meeting of the OIC water research institutions in the near future.

OIC calls on the Islamic Development Bank (IDB) to complete the Water Sector Mapping - Resource Centers (WS-RC) program in the OIC countries before convening the next water meeting in Saudi Arabia at the end of the following year, as well as to share the IDB's Water Sector Policy and Strategic Operations Plan with senior officials and ministers. It is considered that the preparation of such reports and their dissemination would be beneficial for the member-states, OIC institutions and other specialized international/regional bodies.

The Secretary General of OIC coordinates his actions between Member States, OIC institutions, and other regional and international organizations to promote and disseminate progress of all participation in implementation of the Water Vision by sharing information, organizing seminars on raising awareness

of public with participation of stakeholders.

To overcome the lack of technical and financial resources in many OIC Member-States for the development of water strategies, as well as for conduction of and cooperation on innovative research to achieve various mitigation measures, the OIC General Secretariat is invited to work with other regional and international stakeholders to establish institutional mechanisms to benefit from available funds and international best practices, as well as opportunities for capacity building.

V.I.Sokolov

FOURTEENTH MEETING OF THE WORKING GROUP ON IWRM UNDER UNECE WATER CONVENTION

The fourteenth meeting of the Working Group on IWRM under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) was held on 22-24 October 2019 in Geneva. Following adoption of the agenda and the report on the previous meeting, the Working Group was briefed on the ratification of the Convention by Senegal and plans for accession by Togo, Ghana, Uganda, Iraq, Lebanon and Tanzania. The Secretariat presented the Roadmap to facilitate accession processes to the Water Convention.

The Working Group reviewed implementation of the Work Program for 2019-2021 of the Water Convention adopted at the eighth session of the Meeting of the Parties to the Water Convention in Nur-Sultan. The meeting was reported on building capacity for implementation of the Convention and supporting to national pre-accession processes, on implementing the “Strategy for the implementation of the Convention at the global level”, and on supporting the development of agreements and the establishment of joint bodies. Batyr Hajiyev informed about projects supporting implementation of the Convention in the countries of Eastern and South-Eastern Europe, Caucasus, and Central Asia: bilateral cooperation on the Chu-Talas River (Kazakhstan and Kyrgyzstan), Kura River (Azerbaijan and Russia) and Dniester (Moldova and Ukraine), as well as on projects on water quality and dam safety in Central Asia. SIC ICWC was mentioned as a key partner on information sharing and knowledge management platform. Mr. I. Dzholdashaliev provided more detailed information on the dam safety project (Kyrgyzstan). He put forward an idea on organization of a global workshop to promote transboundary water cooperation, followed by a checklist for the development of agreements.

The Working Group was provided with an update on progress made in the activities regarding promoting and communicating the benefits of transboundary cooperation in a number of basins worldwide, in particular in the Cubango-Okavongo and the Sio-Malaba-Malakisi River basins, as well as at the national level in Tanzania.

The Working Group was updated about the developments at the global level with regard to measuring progress relating to the 2030 Agenda for Sustainable Development, in particular Sustainable Development Goal 6

(water), including under the UN-Water Sustainable Development Goal 6 Integrated Monitoring Initiative, and the second data collection in 2020. To coordinate and integrate efforts, the SDG 6 Data Portal was developed (www.sdg6data.org). It was officially launched in August 2019 and is being filled in.

The Working Group was also informed about the draft guide to reporting under the Water Convention and as a contribution to Sustainable Development Goal indicator 6.5.2. The guide was developed through an inter-governmental drafting group that brought together around 30 experts from Africa, Central Asia (including Dr. D. Ziganshina, member of the Implementation Committee), Europe, Middle East, North and South America, and South-east Asia. Two meetings of the drafting group took place in Geneva on 9-10 May and 3-4 September 2019, where the drafting group reviewed an outline of the guide and then developed a full draft of the Guide. Regional events will be held to raise awareness on reporting. Announcements on the second cycle for reporting will be sent in December 2019.

Regarding supporting the National Policy Dialogues on integrated water resources management under the European Union Water Initiative, information was provided on the launch of a new project for the Central Asian states funded by EU under the third phase of EU-CA WECOOP (600,000 EUR for 2019-2022). Overall objective of the project is to enhance IWRM and inter-sectoral coordination for water security at the national level in Central Asian countries. It is intended to facilitate NPDs in Kazakhstan, Kyrgyzstan and Tajikistan, re-launch NPD in Turkmenistan and launch it in Uzbekistan. The representative of Romania reported on the country's contribution to the UNRCCA project in Central Asia.

The Program of Work for 2019–2021 foresees activities to support countries in developing and revising agreements and arrangements in transboundary basins. The Working Group was informed about the status of preparation of the handbook on water allocation in the transboundary context, including the outcomes of the first meeting of the Expert Group on Water Allocation (Geneva, 21 October 2019). Two regional meetings are planned – one in Budapest to collect case studies from Europe and the Caucasus and the other one in Almaty for Central Asia and neighboring countries.

Implementation Committee. The Committee member D. Ziganshina informed about activities of the Committee, as well as past and planned future events, including involvement in drafting the Guide to Reporting under the Convention and in events of the Geneva Water Hub in December 2019.

The Working Group was informed about the progress achieved in the following ongoing activities of the nexus program area: (a) the Drina River

Basin nexus assessment follow-up; (b) the North-Western Sahara Aquifer System nexus assessment; (c) the Drin River Basin nexus assessment. The secretariat also presented the Working Group with a checklist document, developed in cooperation with the ECE Sustainable Energy Division that establishes the basis for the development of a tool to sustainably deploy renewable energy by accounting for nexus and transboundary considerations.

The Working Group was informed about the outcomes of the fourth meeting of the Global network of basins working on climate change adaptation (Geneva, 14 and 15 February 2019), the global workshop on ecosystem-based adaptation in transboundary basins (Geneva, 29 and 30 April 2019), the tenth meeting of the Task Force on Water and Climate (Geneva, 1 May 2019) and the progress of the pilot projects and other activities within the framework of the Global network of basins.

Scheduled events: meeting of the Expert Group on Water and Climate, Global Workshop on Water, Climate and Health (May 2020), contribution to the global initiatives (COP-25 in Santiago). Training on preparation of project proposals for climate change adaptation in transboundary basins in Central Asia is scheduled for autumn 2020.

Representatives of INBO, UN Office for Disaster Risk Reduction (presentation of the Words into Action Guidelines: Implementation Guide for Addressing Water-Related Disasters and Transboundary Cooperation), as well as of Moldova (work on climate change adaptation in the Dniester basin) reported on adaptation activities. The representative of Ethiopia reported that 300 million trees were planted in Ethiopia in one day as a climate change action. Ms. Sonja Koepfel, Secretary to the Water Convention called everyone to organize Water and Climate Day on the occasion of the World Water Day in March 2020 and inform the Secretariat on these events. Countries were requested to include water and transboundary cooperation issues while revising Nationally Determined Contributions to the Paris Agreement.

Partnerships, communication and knowledge management: Exchange of experience of focal points. The Meeting of the Parties approved decision VIII/2 on the designation and responsibilities of focal points. Although 36 Parties and 53 non-parties sharing transboundary waters have officially designated their focal points, many other Parties and non-parties have not yet designated their focal points. To facilitate the exchange of information among focal points on innovative ways to carry out their functions, the Co-Chairs will invite all participants, particularly the focal points, to participate in an interactive discussion.

Facilitating financing of transboundary water cooperation. The first activity under this new program area was the High-level Workshop on Financing

Transboundary Basin Development (Nur-Sultan, 9 October 2018), organized by ECE in cooperation with Switzerland, the Netherlands, Kazakhstan, the Asian Development Bank (ADB), the European Investment Bank (EIB), the Global Environment Facility International Waters Learning Exchange and Resource Network (GEF IW:LEARN) and the World Bank. Information was presented about the session on mobilizing financial resources for transboundary water resources management and cooperation organized within the 2019 World Water Week (28 August 2019, Stockholm). On 16–18 December 2020, Geneva will host the Global workshop on financing transboundary basin development. Participants discussed issues to be included in the workshop program.

Application of the United Nations Framework Classification for Resources for the sustainable management of natural resources, including groundwater. The ECE Committee on Sustainable Energy Expert Group on Resource Management has made significant efforts in the areas of resource classification and management aligned with the Sustainable Development Goals. The Expert Group currently works on expansion and development of the United Nations Resource Management System. This activity is also aligned with the ECE nexus on sustainable use of natural resources.

Within the framework of the Program area “Supporting monitoring, assessment and information sharing in transboundary basins”, the Working Group was informed about the Global workshop on exchange of data and information in transboundary basins held on 4-5 December 2019 in Geneva. The workshop will be held back-to-back with the fifteenth meeting of the Working Group on Monitoring and Assessment (6 December 2019), where guidelines on monitoring and assessment of transboundary waters under the Convention, past and present activities, as well as projects on the ground will be discussed. The Working Group was also informed of the activities of the International Water Assessment Center.

In the lead-up to the meeting of the Working Group (21 October 2019), the Pan-European regional workshop in support of the monitoring and implementation of SDGs and preparation of the second reporting exercise under the Convention was held.

In parallel, on the same day, the first meeting of the Expert Group on development of the Guidelines on Transboundary Water Allocation was held and SIC ICWC was invited as a participant. SIC ICWC representative suggested that the Guidelines should be made more practical and reflect the realities and needs of individual basins. Two case studies were proposed for the Guidelines: “Regulation of Extreme Floods in the Syrdarya River Basin: comparison between 1969 and 2004” and “Degree of Adaptability of the Water Allocation System in the Amudarya River Basin: 1991-2016”.

D.R.Ziganshina

EXTENDED ST. PETERSBURG STATEMENT ON THE ARAL SEA

Introductory information (Preamble)

The Second International Conference on the problems of the Aral Sea was held in St. Petersburg, Russia, from November 15 to November 18, 2019. The Conference resulted from a resolution of the Eighth Nevsky Ecological Congress, which stated:

“In the field of environmental safety of the Aral Sea:

- to develop specialized educational and enlightening programs for primary, secondary and higher educational institutions under the jurisdiction of the states participating in the activities of the International Fund for Saving the Aral Sea;
- to hold in St. Petersburg the second International Conference on the problems of the Aral Sea;
- to assess the current environmental problems of the Aral Sea and Prearalie;
- to develop, taking into account the best available technologies, a set of measures aimed at conserving and rehabilitating residual water bodies of the Aral Sea, under the auspices of the International Fund for Saving the Aral Sea”.

The Conference was attended by scientists from 9 countries: Russia, Kazakhstan, Uzbekistan, the United Kingdom of Great Britain and Northern, France, USA, Japan, Poland and Spain.

There were 8 speakers from Russia.

Russia speakers – two from Moscow:

Novikova Nina Maksimovna, Professor, Doctor of geographical sciences, Water Problems Institute of RAS. She and her co-authors presented a report on “Monitoring the evolution of natural complexes in the southern Aral Sea region”.

Konyushkova Maria Valerievna, Senior Research Scientist, candidate of agricultural sciences, Eurasian Center for Food Security, Moscow State University. She and her co-authors presented a report on “Soil salinization monitoring using remote sensing data on agricultural lands of Prearalie”.

Russian speakers - six from St. Petersburg:

Aladin Nikolai Vasilevich, Professor, Doctor of biological sciences, Head of the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He and co-authors from the Laboratory presented a report on “Aral disaster in the literal and figurative sense of the word”.

Plotnikov Igor Svetozarovich, Candidate of biological sciences, Senior Researcher at the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He made a presentation on “Changes in the species composition of free-living aquatic invertebrates of the Aral Sea”.

Zhakova Lubov Vasilevna, Junior Researcher, Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. She made a presentation on “Impact of long-term changes in the salinity of the Aral Sea on biodiversity in communities of aquatic macrophytes”.

Lisovskiy Sergey Anatolevich, Editor-in-chief of the newspaper “Society and Ecology”. He presented a report on “Aral Sea in a dream and in reality”.

Smurov Alexey Olegovich, Candidate of biological sciences, Senior Researcher at the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He and his co-authors from the Laboratory and one (1) co-author from Germany presented a report on “Salinity tolerance of hydrobionts in thalassic and athalassic water reservoirs”.

Pankratova Irina Viktorovna, Candidate of biological sciences, Herzen State Pedagogical University of Russia. She made a presentation on “Scientific Research of the Herzen State Pedagogical University of Russia on Barsakelmes Lake (BKGZ)”.

Kazakhstan speakers – two:

Bekniyaz Bolat Kabykenovich, Doctor of geographical sciences, International Fund for Saving the Aral Sea, Director of Executive Board of the Republic of Kazakhstan, Almaty. He presented a report on “Proposals for improving the environmental conditions of the Aral Sea and Prearalie”.

Alimbetova Zauresh Zhansultanovna, Director of the Barsakelmes State Nature Reserve, Aralsk. She presented a report on “Barsakelmes State Natural Reserve”.

Uzbekistan speaker – one:

Odilbek Islamovich Eshchanov, leading environmental specialist, Scientific Information Center of the Interstate Commission for Water Coordination (SIC ICWC), Tashkent. He, in collaboration with Dukhovny Viktor Abramovich, Director of SIC ICWC, made a report on “Aral and Prearalie – a little of the history and a lot about the future”.

United Kingdom speaker – one:

Gallagher Ronald, former head of the Environmental Department of British Petroleum in Azerbaijan. He gave a lecture on “Strandlines on Azerbaijan's Mud Volcanoes and coastal interior: New evidence of a catastrophic marine flood impacting the Ponto Caspian and Aral Sea regions with its implications to natural sciences and humankind”.

United States of America speaker – one:

White Christopher, currently teaching at KIMEP University, Almaty, Kazakhstan. He presented a report on “Ecological and economic recovery of Kazakhstan's Northern Aral Sea”.

France speaker – one:

Cretaux Jean-Francois, Legos/CNES, Toulouse. He presented a report on “Lakes in Central Asia, survey from satellite remote sensing”.

Japan speaker – one:

Chida Tetsuro, Associate Professor, School of Global Management and Cooperation, Nagoya University of Foreign Studies, presented a report on “Further measures for the sustainable socio-economic development of the Aralsk district”.

Poland speakers – two:

Klimaszyk Piotr, Head of Department of Water Protection, Adam Mickiewicz University, Poznań, and Marszelewski Włodzimierz, Head of Department of Hydrology and Water Management, Nicolaus Copernicus University, Toruń. They, together with their co-workers, reported on “Differentiation of biotopes and biocoenoses of Small Aral Sea and lower course of Syrdarya River – spring survey in 2018”.

Spain speaker – one:

Alonso Garcia-Amilibia Miguel, University of Barcelona, presented a report on “Limnological studies of the salt lakes in Mongolia are important for rehabilitation projects of the Aral Sea”.

In addition to the speakers, three observers participated from Russia, Uzbekistan and Azerbaijan.

Meshcheryakova Natalia Sergeevna, Russian company “Support for GOOD IDEAS”, Open social and humanitarian communications. She called for making new films and TV programs about the Aral Sea and Prearalie and congratulated the scientific staff of the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences with its 30th Anniversary.

Mamadzhanova Gulsanam Sandzharovna from Uzbekistan, author and Director of the International Innovation Project “Revived Aral” (2004). She called for the production of new works of art and culture dedicated to the Aral Sea and Prearalie. She also spoke about the activities of the International Women's Public Fund “Woman of the East”. She congratulated the scientific staff of the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences with its 30th Anniversary.

Almaz-Hanum Medzhidova, Azerbaijan, head of the International Cultural and Educational, Ecological and Educational Center “AZERI”, accredited member of the International Women's Public Fund “Sharq Ayoli” (Woman of the East). She called for the creation of new scientific knowledge for the development of new innovative projects for the Aral and Prearalie. She also spoke about the activities of the “AZERI” Center and asked to combine the efforts of scientists, art and culture in the faster rehabilitation of the remnants of the Aral Sea and the greening of the dried bottom of the Aral Sea. She congratulated the scientific staff of the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences with its 30th Anniversary.

The Statement below is based on presentations made at the conference, discussions, suggestions and comments of conference participants and experts not participating in the conference. The statement was prepared in the format of the statement a decade ago, which was adopted after the First International Conference on the Aral Sea from October 12 to 15, 2009.

Statement

1. The Aral Sea – a large closed lake located in the deserts of Central Asia, has undergone an unprecedented reduction in size and salinization over the past 60 years. This had a strong negative environmental impact on the lake and the deltas of the two rivers flowing into it. The population of the adjacent territories also experienced the negative consequences of sea degradation, which led to environmental degradation, the emergence of conditions unfavorable to human health, the destruction of the economy of the surrounding areas, as well as social and cultural disconnection.

2. In order to assess the modern lake regression that occurred after 1960, it is necessary to understand that the lake has repeatedly changed its level over the past 10,000 years. This was due to natural climate change, repeated displacements of the bed feeding the lake of the Amudarya River and the redirection of its flow from the Aral Sea to the Caspian Sea, as well as, over the past 4,000 years, the development of irrigation systems for agriculture in the

basin.

3. The modern regression observed after 1960 was different in character from previous regressions. For the first time, irrigation was the dominant regression factor, more significant than the deviation of the Amudarya course from the lake. Irrigation using river water led to the drying out of the lake, which is the most significant event, at least in the last few thousand years. Between the mid-1950s and mid-1980s, increased use of river water for irrigation in the lake basin significantly exceeded the allowable limit for water use from the point of view of sustainable development, causing a significant reduction in river inflow in the lake. The second most important cause of the Aral Sea drying was natural climatic cycles. In recent decades, global warming began to affect the water balance and is forecast to become an important factor in the future; however, to date, it has not been the main reason for the drying of the Aral Sea.

4. The redirection of Siberian rivers to the south to the Aral Sea basin or pumping water from the Caspian Sea to the Aral Sea, are unrealistic measures to solve the water problems of Central Asia. Such measures would be too expensive and complicated; they would require the development and adoption of international agreements and would have many potentially serious environmental consequences. It would be more reasonable to direct efforts towards developing local and regional solutions to the key issues, such as improving the efficiency of water use for irrigation and taking measures to preserve and partially restore the remaining parts of the Aral Sea. A number of conference participants argued that diverting some of the water from Siberian rivers south to the Aral Sea basin should be discussed again in scientific and political circles. They considered that the river diversions would not only redistribute the flow of Siberian rivers in favor of the Aral Sea basin, but also help preserve the Arctic ice. Otherwise, the water resources of the Aral Sea region may be exhausted by 2030-2045. The rapid melting of Arctic ice and the exacerbation of methane emissions from underwater permafrost might be slowed if part of the flow of Siberian rivers is directed to the Aral Sea. According to data from research at the Siberian Branch of the Russian Academy of Sciences, under the influence of climate change, the water content of Siberian rivers flowing into the Arctic Ocean increases by 150-200 cubic kilometers per year. The diversion of a part of the Siberian river flow into the Aral Sea basin may have a positive impact on the restoration of Arctic ice and will benefit water resources for Prearalie, which, according to some participants of this conference, may be exhausted by 2030-2045.

5. The flow of the Amudarya and Syrdarya rivers is a key factor determining the size of the lake and its ecological state and it must be managed cooperatively. The joint work of states is needed to solve important problems

including water sharing and conflicts between countries in the upper and lower reaches of the rivers arising from irrigation needs and hydropower generation. The most important measure is the widespread adoption of modern technologies and methods of irrigated agriculture as part of the program for the reconstruction of obsolete inefficient irrigation systems. This could decrease water withdrawal by countries in the Aral Sea basin and would contribute to the restoration of the unique Aral Sea biota. Central Asian countries require agricultural reform and rational water use at all levels of government and society – from individual users to decision makers. Specialists, as well as social and environmental organizations, associations and groups of activists can be involved in the reform process. More active phyto-reclamation of the former bottom of the Aral Sea is needed to prevent dust and salt storms and improve climate in Prearalie.

6. The study of the Aral Sea has a long and rich history, beginning in the middle of the 19th century. Many thorough scientific studies of high quality were carried out during the time of the Russian Empire and in subsequent years in the Soviet Union, resulting in many excellent scientific publications. Modern researchers should not ignore the valuable scientific contribution made during these periods.

7. Reports of the death of the Aral Sea are premature. Although the Aral Sea of the 1960s will not exist in the foreseeable future, significant parts of this lake have survived. The Small (North) Aral Sea has been partially (and very successfully) restored, so that it again has important environmental and socio-economic importance. Although the eastern basin of the Large Aral Sea has been lost, its western basin can be partially preserved and restored if studies show that it is economically and environmentally feasible. The efforts to protect and preserve parts of the Syrdarya and Amudarya deltas are bringing positive results.

8. There is need for a new scientific approach to the study of the Aral Sea, river deltas and the surrounding region, a balance of theoretical and applied research, and cooperation between specialists and scientists from a variety of disciplines and from as many countries as possible, with the support of the International Fund for Saving the Aral Sea (IFAS). Special efforts should be made to attract young scientists and researchers to ensure continued scientific participation and international dialogue.

9. It is proposed to create the International Committee of Intellectual Solidarity with the Aral Sea (ICISwAS). The task of ICISwAS is to develop a comprehensive assessment of the ecosystems of the lake and the directly adjacent zone (especially the deltas of the two rivers flowing into it). The Committee will analyze the available data as the basis for developing measures to improve the environmental conditions and methods of water use for the Aral Sea and its basin, as well as for phyto-melioration of its former seabed. The

Committee should thoroughly consider ideas to improve situation in the Aral Sea and Prearalie, develop new innovative projects, both for the former bottom and for the residual water bodies created by the sharp drop in water levels. ICISwAS will coordinate its activities and cooperate with IFAS, avoiding duplication of efforts, ensuring the most effective use of international donor funds and avoiding interference with the important work of IFAS. ICISwAS should include scientists from relevant disciplines, including (but not limited to) the following: limnology, ecology of terrestrial ecosystems, geography, geology, botany, zoology, ichthyology, ornithology, hydrology, agronomy, geology, soil science, meteorology, historical sciences (anthropology, archeology, history), and economics. It should also include local politicians and administration representatives, as well as representatives of public organizations, such as non-governmental organizations, and other responsible persons. A research group should also be established, which would include experts from the Aral Sea region, to implement a long-term scientific master plan. Funding should be allocated to create a modern, well-equipped laboratory at an appropriate point in the Aral Sea basin. Since many useful and relevant raw data are difficult to access (for example, information recorded on cards or in registration books), coordinated efforts are needed to convert such data into an easily accessible digital format. This will facilitate access to data and make it possible for more specialists worldwide to participate. ICISwAS should coordinate its efforts and cooperate with the Multi-Partner Human Security Trust Fund for the Aral Searegion in Uzbekistan, which was recently established under the UN auspices. To return optimism to the local population and restore decent living conditions in the Aral Sea region, the conference participants called for creating special joint research programs in Prearalie for implementing the Sustainable Development Goals.

The President of Uzbekistan Mr. Shavkat Mirziyoyev put forward a number of important initiatives at the IFAS Summit in Turkmenbashi on the 24th August 2018, which, if implemented, will “radically improve the unfavorable environmental situation in the Aral Sea Basin region”. In this context, “drastic and unconventional measures” are needed. Those include also proposal of the President of Uzbekistan on the development of effective scientific cooperation, “Today it is impossible to ensure the solution of problems facing us without developing effective scientific cooperation”. In this context, we consider it important to carry our joint multidisciplinary research, including on the base of Scientific Information Centers of the Interstate Commission for Water Coordination (SICICWC) and the Interstate Commission for Sustainable Development (SICICSD)”. Key features of such enhanced interstate strategic cooperation “beyond the water” should be sustainable development, achieving security and prosperity. The main principle of creating this platform is that collective efforts will yield more productive results than expandable but

fragmented national work. Currently, proposals have been prepared and related work is underway to create a Central Asian expert platform based on the SIC ICWC. Alongside with ICISwAS, the proposal to establish the Central Asian expert platform based on the SIC ICWC and SIC ICSD need to be promoted, given that those entities are in the IFAS structure.

10. All participants both speakers and audience have underlined that scientists, artists and cultural experts all have important roles in the preservation and rehabilitation of the Aral Sea and Prearalie. Knowing and understanding the consequences of an environmental catastrophe in the Aral Sea and in the Aral Sea region complement each other and will serve, urgently, to achieve a better future for the Aral Sea and all peoples of the Aral Sea region. To promote wider understanding, we strongly support the creation of new works of art and culture dedicated to the Aral and Aral Sea region. We need new dedicated literary, artistic and other works. New poems, songs, paintings, plays, films, television shows, internet sites and much more can use the forces of masters of art and culture to draw attention to the problems of the Aral Sea and the Aral Sea region and help elicit solutions. Thematic literary, song, theater, film and television festivals could thrive. Tourism has great potential on the shores of the residual water bodies of the Aral Sea and in the Aral Sea region. Joint efforts of workers in science, art, culture and the tourism industry will enable us to successfully fulfill the development objectives for the Aral Sea and Prearalie.

We, the participants of the Second International Conference on the Problems of the Aral Sea, appeal to politicians, representatives of science, art, culture, business, civil society and journalists to actively contribute to the implementation of the ideas contained in this Statement.

JOINT STATEMENT OF THE CONSULTATIVE MEETING OF THE HEADS OF STATES OF CENTRAL ASIA

On November 29, 2019 the Consultative meeting of the heads of states of Central Asia took place in the city of Tashkent in which the President of the Kyrgyz Republic, President of the Republic of Tajikistan, President of Turkmenistan, President of the Republic of Uzbekistan and the First President of the Republic of Kazakhstan – Elbasy participated.

The participants of the meeting:

proceeding from the common interests of the states of Central Asia in strengthening stability, security and sustainable development in the region, ensuring well-being of its multimillion population,

based on common aspiration of the participating states of Consultative meeting towards expanding multilateral mutually beneficial interaction, deepening regional cooperation and solidifying good-neighborly relations among the countries of the region,

emphasizing primary and key role of the states of Central Asia in tackling urgent problems and acute issues of entire region through negotiations and consultations based on consensus, equality and respect for one another's interests,

noting that active joint participation of the Central Asian states in addressing important global problems, the initiatives being put forward and implemented by them in the spheres of security, protection of environment, economic, social, scientific and technological, cultural and humanitarian development are receiving broad international recognition,

affirming the unity of opinions that stirring up and strengthening the multifaceted cooperation among the states of Central Asia on the basis of friendship, good-neighborliness and mutual benefit corresponds to the core interests of brotherly peoples and is a key factor of economic and social progress, maintaining peace, stability and security in the region,

proceeding from the need to further strengthen political trust and mutual understanding among the states, stir up and expand the trade-economic, investment, transport-communication and cultural-humanitarian ties, cross-border and inter-regional cooperation,

attaching special significance to deepening interactions in combating

international terrorism, religious extremism, illicit drug trafficking,

illegal migration, trans-border organized crime and cyber threats,

noting historical significance of the meeting of the heads of states of Central Asia, which took place on January 2, 1998 in the city of Ashkhabad, and the Consultative meeting of the heads of states of Central Asia, which took place on March 15, 2018 in the city of Nur-Sultan, as well as importance of practical implementation by the parties of the secured agreements,

affirming that realization of the initiative to organize regular Consultative meetings of the heads of states of Central Asia as an in-demand dialogue platform with an aim to discuss urgent issues of regional cooperation will promote further strengthening multilateral interstate partnership and cooperation in the region,

state about the following:

1. In the conditions of dynamic development of international processes, emergence of new threats, and at the same time, of new favorable opportunities for sustainable development of the states of Central Asia, the demand for a trustworthy dialogue, political consultations and practical interactions among them increases manifold. It is necessary to fully exploit these opportunities in the interests of our countries, striving to make Central Asia a secure and prosperous region.

2. The current regular Consultative meeting in the city of Tashkent allowed to discuss in detail the course of advancement of regional interaction in Central Asia and confirmed the principle choice of all states of the region in favor of intensifying mutually beneficial cooperation.

Tashkent consultative summit promotes development of interstate interaction in Central Asia guided by the goals of creating the most favorable conditions for dynamic development of national economies, raising living standards of our countries' populations, expanding and deepening multifaceted ties in the region.

The Consultative meeting at the highest level allowed to comprehensively consider the prospective directions, forms and mechanisms of further development of cooperation in the areas of trade, economy, investments, transport and transit, agriculture, industrial cooperation, protection of environment, energy, water resources, tourism, science and culture.

3. The tendency formed in Central Asia towards regional rapprochement is a historically conditioned reality. Stirring up regional cooperation in the spheres of politics, security, preserving stability and achieving sustainable development in the region correspond to the core interests of the peoples of Central Asian countries, promote bigger consolidation of brotherly ties among

them, serve for full-scale realization of the enormous economic and civilization potential of Central Asia.

The contemporary realities show demand and need for stirring up and developing political and diplomatic contacts among the states of the region by way of conducting regular meetings at the highest level, as well as at the level of ministers of foreign affairs of the countries of Central Asia in the form of pentilateral political consultations.

4. The political dialogue and positive processes of interstate rapprochement in Central Asia are of an open and constructive nature and not aimed against the interests of third parties. Advancing the regional dialogue and cooperation in concrete priority spheres, above all, in the issues of full-scale realization of the rich economic and human potential of the region, the parties promote establishment of Central Asia as a stable, open and dynamically developing region, reliable and predictable international partner.

The states of the region will continue to strive towards developing open economic cooperation and diversifying ties with other partner countries, international and regional organizations, proceeding from the goals of solidifying regional peace, stability and expanding prospects of economic development of the region, taking into account global tendencies in terms of forming structures of multilateral coordination and cooperation.

5. The prospects of stable development in Central Asia are linked to achieving peace in neighboring Afghanistan.

We welcome and support stirring up of international efforts on settling the situation in Afghanistan and in this regard note important significance attached to realization of outcomes of the VII Conference on regional economic cooperation on Afghanistan (RECCA VII), which took place on November 14-15, 2017 in the city of Ashkhabad and the Tashkent conference on Afghanistan “Peace process, security cooperation and regional connectivity”, which took place on March 26-27, 2018, as well as the First regional conference “Empowering women in Afghanistan”, which took place in September 2018 in the city of Nur-Sultan, as a continuation of the efforts of international community to support peace and reconciliation process in this country.

With a purpose of achieving stable and long-term peace in Afghanistan, we deem it necessary to hold on to key principles of political settlement, above all, abstention from violence, ceasefire, and demonstration of readiness to dialogue and compromises.

The states of Central Asia intend to continue comprehensive efforts to involve Afghanistan into regional trade-economic and infrastructure projects which must assist promotion of peace process.

6. All states of Central Asia are making important contribution to intensification of regional cooperation and advancement of common interests and needs of their region on the international arena.

The achievements of the Central Asian countries deserve a special attention in terms of elaboration and realization of such large international political initiatives as adoption of the UN General Assembly resolutions “International Decade for Action on “Water for Sustainable Development, 2018-2028” (December 2016), “Strengthening regional and international cooperation to ensure peace, stability and sustainable development in the Central Asian region” (June 2018), “The role of the international community in the prevention of the radiation threat in Central Asia” (November 2018), “Enlightenment and religious tolerance” (December 2018), “Cooperation between United Nations and International Fund for Saving the Aral Sea” (April 2018 and May 2019) and others.

The parties noted productive stirring up of activities of the states of the region in the framework of the Central Asia Nuclear Weapon-Free Zone Treaty (CANWFZ).

We intend to continue to strengthen interaction in the framework of the United Nations and other international organizations, elaborate and jointly promote the new initiatives and projects aimed at consolidating peace, stability, security and supporting sustainable development in Central Asia. This positive tendency corresponds to modern requirements of international political development of our region, promotes strengthening of role and place of Central Asia in the world community, solidifying the weight and influence of our countries on the global arena.

7. Noting the need to develop effective economic cooperation in Central Asia based on the principles of mutual support and mutual benefit, the parties stand up for strengthening coordination and deepening regional cooperation in the issues of joint implementation of large economic projects, and particularly, which are aimed at expanding the transport and transit capabilities and developing the energy potential of the region, ensuring stable access to seaports and world markets, developing infrastructure, forming modern international logistics, trade and tourism centers, building new enterprises, introducing innovative technologies and developing green economy.

The states of Central Asia are ready to undertake joint measures in terms of establishing modern production infrastructure in the region, which meets the priority goals and tasks of policies of the Central Asian countries in the area of industrial development.

In this regard, we confirm our intention to continue active cooperation in the sphere of forming effective regional system of transport corridors and

realizing enormous transit potential of Central Asia. Creating interconnected regional transport system, which ensures the shortest access to seaports and new external markets, will reinforce process of reviving the role of the Central Asian region as a global transit corridor which links the South Asia, China and Europe.

The countries of the region are interested in advancing practical implementation of initiatives and projects on developing transit systems in the region, which will have a positive impact on dynamics and volumes of international trade, growth of transit flow of cargo, cost of transportation of raw, equipment and finished products.

We intend to take practical actions aimed at increasing commodity turnover among the countries of the region, including improving treaty and law basis, which regulates the order of crossing goods of the countries of Central Asia on their territories.

8. The states of Central Asia are interested in developing and expanding regional cooperation in the sphere of protection of environment, combating climate change and mitigation its consequences for the population of the region.

With these goals we intend to continue to develop and strengthen interaction in the basin of Aral Sea. Paying big attention to the issues of ecology and protection of environment in the region, the states of Central Asia will undertake effective coordination of their efforts in addressing the problems of melting of glaciers, the basin of Aral Sea and uranium tail dumps. We consider it expedient to use capabilities of the International Fund for Saving Aral Sea and the resources of the Multi-partner human security trust fund for the Aral Sea region, established under auspices of the United Nations, to tackle practical tasks in terms of drawing new knowledge and innovative technologies to the region, integrated introducing principles of green economy, preventing further desertification, ecological migration and other measures.

Noting importance of reasonable and fair use of water and energy resources in Central Asia, our countries will continue work on improving mechanisms of long-term and mutually beneficial cooperation in this sphere with taking into account the interests of all parties.

9. The states of the region intend to continue to take necessary joint measures to settle all remaining issues in the region in terms of development and security by way of common efforts to make the region more stable and prosperous, reinforce the potential of their countries to address contemporary threats and challenges.

With these purposes it is necessary to assist shaping effective forms of cooperation endorsed on the regional level on concrete directions – the trade-economic interaction, social development, security and combating threats and challenges, etc.

10. We are committed to the efforts to promote and support development of close cooperation and regional interactions, exchanges and contacts in the areas of science and education, enlightenment, culture, art and sport, supporting youth and developing tourism.

The parties agreed on the need to pay special permanent attention to the problems of youth and take joint measures and adopt programs aimed at supporting young people in realizing their potential, as well as developing dialogue and cooperation among youth organizations of the states of the region in the spheres of culture, science, technologies, entrepreneurship, etc.

The states of the region will continue to deepen mutual cooperation in these spheres with a goal to preserve, strengthen and advance region-wide cultural and scientific achievements of Central Asia, values and traditions which unite the peoples of the Central Asian countries. We are interested to comprehensively promote distribution of knowledge about rich history, culture, civilization, tourist attractiveness of Central Asia in their countries and throughout the world.

11. Tashkent Consultative meeting took place in traditionally friendly, warm and trustworthy atmosphere.

We confirm our intention to continue annual consultations at the highest level in the format of the heads of five states of the region, and in this regard, we have agreed to institute the regular Consultative meetings of the heads of states of Central Asia as a regional dialogue platform for trustworthy, constructive and open discussion of urgent issues of regional cooperation in our region and tackling common problems.

In this regard, we have adopted Regulations of work on organizing Consultative meetings of the heads of states of Central Asia, which includes also holding regular meetings of ministers of foreign affairs and expert level sessions.

12. The parties sincerely welcome proposal of Kyrgyz Republic to take up a role of chairing side of the next Consultative meeting of the heads of states in 2020 and conduct it in accordance with the adopted Regulations.

The parties expressed gratitude to the President of the Republic of Uzbekistan Mirziyoyev Shavkat Miromonovich for hospitality and high level of organization of the Consultative meeting.

City of Tashkent, 29 November 2019

FINAL DOCUMENT OF THE 3rd MEETING OF THE REGIONAL WORKING GROUP ON DEVELOPMENT OF THE ARAL SEA BASIN PROGRAM (ASBP-4)

On the 25-26th of November 2019, Ashgabat (Turkmenistan) hosted the 3rd meeting of the Regional Working Group on Development of the Aral Sea Basin Program (ASBP-4).

Members of the Regional Working Group on Development of ASBP-4 from Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan, representatives of EC-IFAS, BWO Syrdarya, as well as a regional consultant of the regional program “Transboundary Water Management in Central Asia”, manager of the Central Asia Nexus Dialogue project participated in the event.

I. The meeting considered the regional project proposals revised by EC-IFAS and selected as a result of the 2nd RWG meeting for the draft ASBP-4.

II. As a result of the RWG meeting, the content of 34 project proposals were agreed upon in the following areas:

- Integrated use of water resources;
- Environment;
- Socio-economic;
- Improvement of institutional and legal framework of IFAS.

III. RWG requests EC-IFAS to formalize the draft ASBP-4 taking into account the previously adopted Concept for its development and agreed project proposals.

IV. RWG also requests EC IFAS to submit the draft ASBP-4 to the countries for approval through diplomatic channels in the first decade of December 2019 and for further approval by the IFAS Board.

Annex: 34 project proposals⁵

⁵Annex is not attached here

FINAL DOCUMENT OF THE 3rd MEETING OF THE REGIONAL WORKING GROUP ON IMPROVEMENT OF INSTITUTIONAL AND LEGAL FRAMEWORK OF IFAS

On the 29th of November 2019, Ashgabat, Turkmenistan hosted the third meeting of the Regional Working Group (RWG) on the Improvement of Institutional and Legal Framework of IFAS.

Members of RWG from Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan, representatives of the Executive Committee of the International Fund for Saving the Aral Sea, BWO Syrdarya, as well as a consultant of the regional program “Transboundary Water Management in Central Asia”, manager of the Central Asia Nexus Dialogue project participated in the meeting.

I. At the meeting, proposals of the parties on further work within the framework of RWG were presented, including proposals of the Republic Kazakhstan and Republic Uzbekistan aimed at measures for institutional and legal improvement of IFAS.

II. RWG requests EC-IFAS to submit proposals of the Republic of Kazakhstan and the Republic of Uzbekistan to the countries through diplomatic channels in the first ten-day of December 2019.

III. The RWG members are to submit country proposals according to the agreed stages by April 1, 2020.

IV. RWG requests EC-IFAS to appeal to international partners in order to support further activities of RWG on Improvement of Institutional and Legal Framework of IFAS.

Annex: Proposals of the Republic of Kazakhstan and Republic of Uzbekistan on institutional and legal improvement of IFAS⁶

⁶Annex is not attached here

UNECE EVENTS ON WATER ISSUES IN GENEVA

The first week of December was full of activities dedicated to water issues. Three meetings of the UNECE Water Convention were held in Geneva, as well as two conferences organized by the Geneva Water Hub, University of Geneva and UNECE on the occasion of the 10th anniversary of the Platform for International Water Law.

Implementation Committee meeting

On 2-3 December, the 10th meeting of the Implementation Committee under the UNECE Water Convention was held. The Committee reviewed the issues of implementation and elected Dr. D. Ziganshina as the new Vice-chair of the Committee nominated to the Committee by Uzbekistan.



Within the framework of the UNECE Water Convention in Geneva, the Global workshop on exchange of data and information in transboundary basins (4-5 December) and the 15th meeting of the Working Group on Monitoring and Assessment (6 December) were organized.

Global workshop on exchange of data and information in transboundary basins

On 4-5 December 2019, the Global workshop on exchange of data and information in transboundary basins was held under the UNECE Water Convention to discuss practical experiences, on the basis of a range of initiatives and basin or aquifer cases, related to different key issues in information and data exchange that has brought results and has allowed to overcome challenges. The workshop was organized around the following thematic sessions:

Session 1: Identifying the relevant types of data and information for exchange according to the context and the thematic

Session 2: Infrastructure for collection and management of data and information

Session 3: Achieving comparability of data and information in a transboundary context

Session 4: Legal Basis and Institutional Framework for transboundary data and information exchange

Session5: The architecture of effective data and information exchange in transboundary settings

Session6: How to get data and information exchange started, progressively improved or participation broadened

Session7: Sustainability of monitoring and data and information exchange

The session on sustainability addressed the experience in establishment and development of the Central Asian Water Information System. Particular, it was demonstrated that after the completion of the SDC's project in 2012, SIC ICWC was able to ensure sustainability of the system and increase the amount of information there by 6 times. Such sustainability was achieved through the mandate of SIC ICWC, key role of local experts in creating and maintaining the system, integrating data and information into the full cycle of their production, collection, processing and use. The system is currently supported by the budget of Uzbekistan and partly by international projects that include data collection and processing components.



15th meeting of the Working Group on Monitoring and Assessment

The meeting discussed activities on monitoring and assessment presented in the Program of Work for 2019–2021. Particularly, the participants were informed about the Global workshop on data and information exchange and two regional events on monitoring and assessment and the possibility of providing, upon request, tailored assistance, such as studies or expert support. The Working Group was informed about the second reporting exercise under the Convention and on Sustainable Development Goal indicator 6.5.2, to be implemented in 2020, with a reporting deadline of 30 June 2019.

The Working Group discussed strategic directions for future work on monitoring, assessment and data exchange under the Water Convention, building on the insights from a background paper entitled “Outlook for developing monitoring cooperation and exchange of data and information across borders”, from the reporting under the Convention and on Sustainable Development Goal indicator 6.5.2 and from the Global workshop on exchange of data and information in transboundary basins (Geneva, 4 and 5 December 2019).



The Working Groups was informed about projects and other activities that involve monitoring, assessment or data exchange activities, including the project “Enhancing transboundary cooperation and governance in the Drin River Basin”, funded by UNDP/GEFin cooperation with ECE; the Drina River Basin Nexus follow-up project; project “Strengthening cooperation on water quality management in Central Asia” implemented by ECE with CAREC; monitoring and assessment activities implemented by the International Water Assessment Centre; roundtable on transboundary collaboration on the Senegalese-Mauritanian Aquifer.

The Working Group discussed information and data needs for sustainable water allocation in transboundary river basins and aquifers to support developing these aspects of the handbook on water allocation in transboundary basins currently under development with guidance from the Expert Group on water allocation.

Delegations from Tajikistan and Uzbekistan, as well as ICWC executive bodies (SIC and Secretariat) attended the UNECE events.

Two other events were organized by the Geneva Water Hub, University of Geneva, and UNECE on the occasion of the 10th anniversary of the Platform for International Water Law.

On 3 December, a **round table entitled: ‘Water disputes: how to prevent and solve them?’** was held. It addressed:

- What are the means for avoiding water disputes?
- Can the rule of law play a role in this context??

- When a dispute crystallises, what are the best methods - be they diplomatic, judicial or institutional - for solving them?
- How can the prevention of water disputes be integrated in international diplomacy?
- What is the role of the Implementation Committee of the UNECE Convention on the Protection and Use of Transboundary Watercourses in this context?

The conference on “The implementation of international water law: global, regional and basin perspectives” was held on 4 December in the headquarters of the World Meteorological Organizations in Geneva.

The first panel addressed water diplomacy and universal freshwater agreements. It featured presentations by Prof. Stephen McCaffrey (University of the Pacific) on strengthening the implementation of universal freshwater agreements at the regional and basin levels; Dinara Ziganshina (Vice-chairman of the Implementation Committee) on the contribution of the UNECE Implementation Committee to water diplomacy; Prof. Lucius Caflisch (Graduate Institute of International and Development Studies) on the contribution of international courts and tribunals to the formation and implementation of international water law, as well as Christina Leb (World Bank) on the role of development organizations in helping the implementation of the principles of international water law.

The panel on the role of basin mechanisms in the implementation of international water law featured the following presentations: Fragmentation or cross-fertilization? - Lessons from the interactions between European law and river basin commissions by Gábor Baranyai (National University of Public Service, Budapest); Contribution of river basin organizations in Africa to the implementation of international water law by Komlan Sangbana (UNECE); Key features of the joint water institutional bodies established between Ecuador and its neighboring countries by Diego Jara (IUCN).

The panel on how other areas of international law contribute to the implementation of international water law was addressed by Prof. Salman M.A. Salman (IWRA) on the human right to water: challenges to implementation; Prof. Makane Moïse Mbengue (University of Geneva) on the contribution of international economic law to the implementation of international water law; Alejandro Iza (IUCN) on the contribution of international environmental law to the implementation of international water law; Catherine Brölmann (University of Amsterdam) on how the Sustainable Development Goals contribute to the implementation of international water law.

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