Interstate **C**ommission for **W**ater **C**oordination in **C**entral Asia	**BULLETIN № 4 (79)**	November 2018

CONTENTS

DECISION OF THE BOARD OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA

ON PREPARATION TO THE SUMMIT OF THE HEADS OF STATE OF CENTRAL ASIA

23 August 2018 Turkmenbashi city

1.Take into account information of the Executive Committee of the International Fund for Saving the Aral Sea on preparation to the Summit of the Heads of IFAS founder-states in 2018 in Turkmenbashi.

Republic of Kazakhstan	**U.Shukeev**
Kyrgyz Republic	
Republic of Tajikistan	**M.Zokirzoda**
Turkmenistan	**E.Orazgeldiyev**
Republic of Uzbekistan	**Z. Mirzaev**

DECISION OF THE BOARD OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA

PROGRESS ON IMPLEMENTATION OF THE WORK PLAN OF THE EXECUTIVE COMMITTEE OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA

23 August 2018 Turkmenbashi city

1. Take into account information on the progress on implementation of the Work Plan of the Executive Committee of the International Fund for Saving the Aral Sea.

2. The Executive Committee of the International Fund for Saving the Aral Sea is to speed up the implementation of the Work Plan and inform the IFAS Board on its progress.

Republic of Kazakhstan	**U.Shukeev**
Kyrgyz Republic	
Republic of Tajikistan	**M.Zokirzoda**
Turkmenistan	**E.Orazgeldiyev**
Republic of Uzbekistan	**Z. Mirzaev**

DECISION OF THE BOARD OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA

ON CONCEPT NOTE TO DEVELOP THE ACTION PROGRAM TO ASSIST THE COUNTRIES OF THE ARAL SEA BASIN (ASBP-4)

23 August 2018 Turkmenbashi city

1. Take into account information of the Executive Committee of the International Fund for Saving the Aral Sea on development of the Concept note for elaboration of an action program aimed to assist the countries of the Aral Sea basin (ASBP-4);

2. Approve the Concept note on ASBP-4;

3. The Executive Committee of the International Fund for Saving the Aral Sea in cooperation with the Interstate Commission for Water Coordination and the Interstate Commission for Sustainable Development, with the involvement of national experts and international partners is entrusted to facilitate the development of ASBP-4 based on the above mentioned Concept note.

Republic of Kazakhstan	**U.Shukeev**
Kyrgyz Republic	
Republic of Tajikistan	**M.Zokirzoda**
Turkmenistan	**E.Orazgeldiyev**
Republic of Uzbekistan	**Z. Mirzaev**

JOINT COMMUNIQUE OF THE COUNCIL OF THE HEADS OF THE STATE – FOUNDERS OF THE INTERNATIONAL FUND FOR SAVING OF ARAL SEA

Session of the Heads of the state – founders of the International Fund for Saving of Aral Sea with the participation of the President of the Republic of Kazakhstan, the President of the Republic of Tajikistan, the President of the Republic of Turkmenistan, the President of the Republic of Uzbekistan and the President of the Kyrgyz Republic who was invited by the President of Turkmenistan was held in Turkmenbashi on August 24, 2018.

The Heads of the State discussed wide range of subjects of cooperation for further improvement of water management, ecological, social and economic situation in the Aral basin, as well as noted significant contribution of the International Fund for Saving of Aral Sea (IFAS) in this sphere for 25 years.

The sides confirmed their commitment to the decisions taken earlier on joint and integrated management and rational use of water resources and environment protection in Aral Sea basin taking into account the interests of countries of the region on the principles of good neighbourliness and respect.

The Presidents highlighted the necessity of further development and improvement of equal and beneficial cooperation in use and protection of interstate watercourses in the spirit of centuries-old friendship of the nations, which have deep historical roots, similarity of culture, customs and traditions.

The Heads of the State welcomed the adoption of the UN General Assembly Resolution on Cooperation between the United Nation and the International Fund for Saving of Aral Sea of April 12, 2018 and the UN General Assembly Resolution on Strengthening regional and international cooperation for peace, stability and sustainable development in the Central Asian region of June 18, 2018, as well as the UN General Assembly Resolution on International Decade for Action on Water for Sustainable Development, 2018-2028 of December 21, 2016.

The Presidents noted the importance of the agreements achieved under the session of the IFAS Board in Ashgabat on January 30, 2018.

The Heads of the State highlighted the significance of development of the Aral Sea Basin Program (ASBP 4) for consolidation of efforts and potential of the states of the regions and international community to solve common priority water management, ecological, social and economic issues of the Aral Basin.

The sides highlighted the similarity of the approaches to the solution of key subjects of the Aral Sea agenda including the development of the Aral Sea Basin Program, which was reflected in adopted Concept for development of such program.

The Heads of the State expressed the concern on aggravation of the Aral crisis and its negative impacts, growing number and intensity of natural disasters, accelerated melting of glaciers caused by global climate change and urge the UN Institutions, international and regional organizations to cooperation for solution of these problems.

The sides accepted the importance of consolidation of efforts for integrated solution of the problems related to the improvement of social, economic and ecological situation in the Aral Sea basin, especially in the zones affected by ecological crisis.

The sides emphasized the necessity of the adoption of coordinated measures aimed at reduction of water and air pollution, lands degradation, expansion of green zones, reduction of risk of natural disasters including floods, mud streams, droughts as well as the provision of pure drinking water and other.

The heads of the states noted the importance of the outcomes of the Dushanbe High-level Conference on International Decade for Action on Water for Sustainable Development, 2018-2028 and Central Asian Ecological Forum and the Tashkent International Conference "Joint Activities for Mitigation of the Consequences of the Aral Catastrophe: New Approaches, Innovative Solutions and Investments" for consolidation and intensification of cooperation between the countries in the region for sustainable development goals.

The Presidents welcomed the development of the Regional Natural Protection Programme for Sustainable Development of Central Asia aimed at the realization of the Sustainable Development Goals and environment protection conventions of the UN, development of the principles of green economy and adaptation to the climate change.

The Heads of the State mentioned the necessity to review the opportunity to develop the UN Special Programme for the Aral Sea Basin and requested the IFAS Executive Committee to consult on this subject with the states of the region, the UN members and the UN structures.

The Presidents discussed the opportunity of the countries in the region to join the Framework Convention of Environment Protection for Sustainable Development in Central Asia from November 22, 2006.

Taking into consideration the interests of the Parties in integrated and rational use of water and energy resources in Central Asia, the heads of the states noted the importance of hydropower facilities in transboundary watercourses according to international principles and standards for support of social and economic development of the Aral Sea basin.

The sides noted the importance of the agreement of the heads of water management organizations of the state - founders of the IFAS on joint works to find the sponsors for the provision of automatic operation of water posts along entire stream of Syrdarya River.

Kazakhstan suggested to elaborate the opportunity of creation of stable regional

mechanism for integrated use of water and energy resources of Central Asia.

The Presidents expressed the willingness to further improvement of organizational structure of legal framework of IFAS for creation of efficient and stable institutional mechanism, which would be able to respond promptly to new challenges as well as to provide beneficial cooperation in realization of regional projects and programmes aimed at the saving of Aral Sea, ecological improvement of the Aral basin and region and in integrated use and protection of water resources, transboundary watercourses, water management, energy and social and economic development.

The heads of the states noted the importance of regional youth movement for protection of water resources and environment for provision of the participation of the growing generation in solution of modern challenges and threats.

For improvement of personnel and scientific potential of the region, Uzbekistan suggested organizing joint training and improvement of qualification of personnel in water resource and environmental protection spheres as well as joint interdisciplinary studies on the base of the Tashkent Institute of irrigation engineers and agricultural mechanization in cooperation with leading educational institutes of the region.

The sides requested the IFAS Board to develop the Action Plan for practical realization of achieved agreements and to provide the control of its fulfilment.

Considering the IFAS as universal platform for cooperation of the countries of the region for solution of entire complex of the issues of regional importance including by realization of regional projects and programmes aimed at ecological improvement of social and economic situation in the Aral basin, the heads of the states expressed the willingness to further development of cooperation in this direction.

The sides expressed the gratitude to Turkmenistan for high level of organisation of the session of the Council of the Heads of State – founders of the International Fund for Saving of Aral Sea and warm welcome.

Turkmenbashi, August 24, 2018

MINUTES OF THE 74th MEETING OF THE INTERSTATE COMMISSION FOR WATER COORDINATION (ICWC) OF THE REPUBLIC OF KAZAKHSTAN, KYRGYZ REPUBLIC, REPUBLIC OF TAJIKISTAN, TURKMENISTAN AND REPUBLIC OF UZBEKISTAN

22 August 2018 Turkmenbashi, Turkmenistahn

Chairman:

Bayramdurdyyev Magtymguly	Deputy Minister of Agriculture and Water Resources, Turkmenistan

ICWC members:

Nysanbayev Yerlan Nuralievich	Vice Minister of Agriculture, Republic of Kazakhstan
Rakhimzoda Sulton Nurmakhmadpur	First Deputy Minister of Energy and Water Resources, Republic of Tajikistan (MEWR RT)
Khamraev Shavkat Rakhimovich	Minister of Water Management, Republic of Uzbekistan

ICWC executive bodies:

Dukhovniy Viktor Abramovich	Director, Scientific Information Center (SIC) of ICWC
Ziganshina Dinara Ravilyevna	Deputy Director, Scientific Information Center (SIC) of ICWC
Babadjanova Malika Pulatovna	Head, ICWC Secretariat
Kholkhuzhaev Odil Akhmedovich	Head, BWO Syrdarya
Makhramov Makhmud Yakhshibayevich	Head, BWO Amudarya

Invited:

Bozjigitov Aimdos Ersainovich	Ambassador-at-large, Ministry of Foreign Affairs of the Republic of Kazakhstan
Kojaniyazov Serik Salavatovich	Deputy mayor (akim) of the Kyzylorda province, Republic of Kazakhstan
Zhienbaev Musilim Rysmakhanovich	Head, Division of Transboundary Rivers, Department of Transboundary Rivers, Ministry of Agriculture, Republic of Kazakhstan
Kipshakbaev Nariman Kipshakbaevich	Director, Kazakh branch of SIC ICWC
Kenshimov Amirkhan Kadyrbekovich	Head, Department of Water Resources, Executive Board of IFAS in the Republic of Kazakhstan
Bekniyaz Bolat Kabykenovich	Director, Executive Board of IFAS, Republic of Kazakhstan
Bekmaganbetov Serik Abdrakhmanovich	Representative of Kazakhstan in EC IFAS
Bayalimov Dauletyar Aymagambetovich	Representative of Kazakhstan in EC IFAS
Abdurazokzoda Daler	Head, Department of Water and Energy Policy, Science and Technology Development, Ministry of Energy and Water Resources of the Republic of Tajikistan
Mommadov Begench	Head, Water Use Department, Ministry of Agriculture and Water Resources of Turkmenistan
Akmyradov Mukhammetmeret	Head, Department of International Water Cooperation, Ministry of Agriculture and Water Resources of Turkmenistan
Kuchkarov Sharifjon Zikrillayevich	Head, Water Balance and Advanced Water Saving Technologies Division, MWM of the Republic of Uzbekistan
Beglov Iskander Ferdinandovich	Head, Information Division of SIC ICWC

Agenda of the 74th meeting of ICWC

1. Implementation of the water withdrawal limits and operation regimes of the reservoir cascades in the Syrdarya and Amudarya River basins over the growing season 2018.

2. Draft Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan on the Information and Analytical Support of Water Management, Use, and Protection in the Aral Sea Basin and the Arrangement of Interstate Exchange of Information.

3. Supplementary items

a. Progress on development of ASBP-4 and the role of ICWC in this process;

b. Presentation of the Awaza tourism zone by the Union of Industrialists and Entrepreneurs of Turkmenistan;

c. Presentation of the regional Smart Waters Project and its interim results by the Regional Environmental Center for Central Asia.

4. Agenda and venue of the next 75th meeting of ICWC.

Decision on the first item:

1. Take into account information of BWO Amudarya and BWO Syrdarya on implementation of the limits and operation regimes of the reservoir cascade in the Syrdarya and Amudarya River basins over the growing season 2018.

Decisions on the second item:

1. Take into account information of SIC ICWC on the Draft Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan on the Information and Analytical Support of Water Management, Use, and Protection in the Aral Sea Basin and the Arrangement of Interstate Exchange of Information.

2. Take into account the fact that the Tajik side refrains from work under the Draft Agreement until its own national information system of water resources is developed.

3. Entrust SIC ICWC with continuation of efforts on information collection and dissemination under its mandate and existing agreements.

Decisions on supplementary issues:

On the development of ASBP-4 and the role of ICWC in this process.

1. Recommend EC IFAS include into the Regional Working Group representatives of all executive bodies of ICWC: BWO Amudarya, BWO Syrdarya, SIC ICWC, and ICWC Secretariat.

2. Executive bodies of ICWC should present information on the development of ASBP-4 at each ICWC meeting.

Decisions on the fourth item:

1. Hold the next ordinary 75th meeting of ICWC in the Republic of Tajikistan. The date and venue of the meeting are to be approved in due course.

2. Propose the following agenda for the next 75th meeting of ICWC:

1) Results of the use of water limits and the operation regimes of the reservoir cascades in the Syrdarya and Amudarya River basins over the growing season 2018;

2) Approval of water withdrawal limits and operation regimes of the reservoir cascades in the Syrdarya and Amudarya River basins over the non-growing season 2018-2019;

3) Participation of members and executive bodies of ICWC in the development of ASBP-4.

4) Supplementary items

5) Agenda and venue of the next 76th regular ICWC meeting.

Republic of Kazakhstan	**Y.N.Nysanbayev**
Kyrgyz Republic	
Republic of Tajikistan	**S.N.Rakhimzoda**
Turkmenistan	**M.Bayramdurdyyev**
Republic of Uzbekistan	**Sh.R.Khamraev**

IMPLEMENTATION OF THE WATER WITHDRAWAL LIMITS AND OPERATION REGIMES OF THE RESERVOIR CASCADES IN THE SYRDARYA AND AMUDARYA BASINS OVER THE GROWING SEASON 2018[1]

1. Amudarya River basin

The actual water availability in the Amudarya River basin at the nominal Kerki gauging station upstream of Garagumdarya was 79.4 % of the norm over the four months of the growing season 2018. The calculations were made taking into account the natural flow in the Vakhsh River and the flow regulation by the Nurek reservoir. In the past season, this indicator was 114.9 %. The most severe situation was in April and the first half of May, with the actual water availability within 60% of the norm. In this context, at its 73rd meeting, ICWC members approved the decision to reduce limits by 10% in April and May.

The use of the approved water withdrawal limits over four month of the period under consideration, with a breakdown by states is as follows:

Taking into account the current water situation, totally in the basin 90 % of the approved water withdrawal limits was used. While the limit was 23,086.3 mcm, the actually used volume was 20,768 mcm, of which:

Republic of Tajikistan actually used 4,110.8 mcm (92.3 % of the total-to-date limit and 60.9 % of the total limit);

Republic of Uzbekistan actually used 8,151.3 mcm (70.5 % of the total-to-date limit and 48.6 % of the total limit);

Turkmenistan actually used 8,504.9 mcm (84.6 % of the total-to-date limit and 56.7 % of the total limit).

[1] Information on the first item of the 74th ICWC Meeting's Agenda

Water user state	Water withdrawal limits for grow. season 2018	total-to-date		%% of use	%% of the total limit
		Limit, mcm	Actual, mcm		
Republic of Tajikistan	6,752.8	4,453.3	4,110.8	103.8	60.9
Turkmenistan	15,003.3	10,057.3	8,504.9	94.2	56.7
Republic of Uzbekistan	16,773.4	11,556.4	8,151.3	80.7	48.6
Total	38,529.5	26,067	20,767	79.7	53.9

Over four months of the growing season 2018, the use of water limits downstream of the nominal Kerki gauging station upstream of Garagumdarya was 76.7 % of the total-to-date limit and 52.2 % of the total limit, of which:

Republic of Uzbekistan actually used 7,459.2 mcm (69.3 % of the total-to-date limit and 47.8 % of the total limit)

Turkmenistan actually used 8,504.9 mcm (84,6 % of the total-to-date limit and 56.7 % of the total limit)

Water user state	Water withdrawal limits for grow. season 2018	total-to-date		%% of use	%% of the total limit
		Limit, mcm	Actual, mcm		
Downstream of nominal Kerki GS	30,611.0	20,825.5	15,964.1	76.7	52.2
Turkmenistan	15,003.3	10,057.3	8,504.9	84.6	56.7
Republic of Uzbekistan	15,607.7	10,768.2	7,459.2	69.3	47.8

The actual use of the approved water withdrawal limits broken down by river reach is characterized by significant disproportion. For instance, the water limit was used 95% in the upper and middle reaches, whereas there was severe water deficit in the lower reaches. The actual use of water against limits is as follows:

1. Upper reaches – 91.6 % of the total-to-date limit, including 92.38 % in the Republic of Tajikistan and 87.8 % in the Republic of Uzbekistan.

2. Middle reaches – 93.3 % of the total-to-date limit, including 91.8 % in the

Republic of Uzbekistan and 94 % in Turkmenistan.

3. Lower reaches – 58.9 % of the total-to-date limit, including 57 % in the Republic of Uzbekistan and 63.2 % in Turkmenistan.

River reach, water user state	Water withdrawal limits for grow. season 2018	total-to-date		%% of use	%% of the total limit
		Limit, mcm	Actual, mcm		
Upper reaches	**7,918.5**	**5,241.5**	**4,802.9**	**91.6**	**60.7**
Republic of Tajikistan	6,752.8	4,453.3	4,110.8	92.3	60.9
Republic of Uzbekistan	1,166	788.2	692.1	87.8	59.4
Middle reaches	**15,697.4**	**10,762.7**	**10,037.9**	**93.3**	**52.2**
Turkmenistan	10,133.4	6,964.4	6,549.9	94	56.7
Republic of Uzbekistan	5,564	3,798.3	3,488	91.8	47.8
Lower reaches	**14,913.6**	**10,062.8**	**5,926.2**	**58.9**	**39.7**
Turkmenistan	4,869.9	3,092.9	1,955.0	63.2	40.1
Republic of Uzbekistan	10,043.7	6,969.9	3,971.2	57	39.5

In April-July, water supply to the Amudarya River delta and the Aral Sea was planned to be 1,400 mcm. Actual water supply was 346 mcm or 24.7%.

In the same period of time, the inflow to the Nurek reservoir was to be 12,410 mcm; however, actually the inflow was 10,767 mcm or 86.8 %. Water releases from the reservoir were planned to be 9,175 mcm; the actual releases were 7,460 mcm or 81.3 %. By the end of July, water volume in the reservoir was to be 9,900 mcm. The actual volume was 9,983 mcm or 100.8 %.

The inflow to the Tuyamuyun reservoir was to be 11,656 mcm; however, the actual inflow was 8,054 mcm or 69.1%. Water releases from the reservoir were planned to be 10,551 mcm; while the actual releases were 8,524mcm or 80.8%.

By the end of July, water storage in the reservoir was planned to be 3,888 mcm; however, the actual storage was 2,314 mcm or 59.5 %.

Name		unit	Nurek reservoir	Tuyamuyun reservoir
Volume: beginning of the season		mcm	6,638	2,783
Inflow to the reservoir	forecast	mcm	12,410	11,656
	actual	mcm	10,767	8,054
		%%	86.8	69.1
Water releases from reservoir	forecast	mcm	9,175	10,551
	actual	mcm	7,460	8,524
		%%	81.3	80.8
Volume: end of the season	forecast	mcm	9,900	3,888
	actual	mcm	9,983	2,314
		%%	100.8	59.5
Accumulation(+),drawdown (-)	forecast	mcm	3,262	1,105
	actual	mcm	3,345	-469
		%%	102.5	42.4

It should be mentioned that water releases from the Nurek reservoir were 81.3 % of the planned ones; the inflow was 86.8 % of the forecast.

More detailed information is given in tables below (Annexes 1.1–1.3)

Annex 1.1

Analysis
of the use of water withdrawal limits in the Amudarya River basin over the growing season 2018

Name	Water withdrawal limits over 4 months of the grow. season 2018, mcm	Actual, mcm	%%
Upper Amudarya Administration	**5,241.5**	**4,802.9**	**91.6**
(Upper reaches)			
of which:			
Tajikistan	4,453.3	4,110.8	92.3
Uzbekistan	788.2	692.1	87.8
Water withdrawals from the Amudarya River			
at nominal Kerki gauging station	**20,825.5**	**15,964.1**	**76.7**
of which:			
Turkmenistan	10,057.3	8,504.9	84.6
Uzbekistan	10,768.2	7,459.2	69.3
Middle Amudarya Administration	**10,762.7**	**10,037.9**	**93.3**
(Middle reaches) of which:			
Turkmenistan	6,964.4	6,549.9	94.0
Uzbekistan	3,798.3	3,488	91.8
Lower reaches:	**10,062.8**	**5,926.2**	**58.9**
of which:			
Turkmenistan	**3,092.9**	**1,955.0**	**63.2**
Uzbekistan:	**6,969.9**	**3,971.2**	**57.0**
Total for the basin:	26,067.0	20,767.00	79.7
of which:			
Tajikistan	4,453.3	4,110.8	92.3
Turkmenistan	10,057.3	8,504.9	84.6
Uzbekistan	11,556.4	8,151.3	70.5

Annex 1.2

Information
on water supply to the Aral Sea and the Amudarya River delta over the growing season 2018, mcm

Name	IV	V	VI	VII	VIII	IX	Water supply from 01.04.18 to 31.07.18, actual
From the Amudarya River, at Samanbay GS	26	26	23	24			99
Total water discharge from the Dostlyk and Suenli canals system					0	0	0
CDF	99	59	41	48			247
TOTAL:	125	85	64	72	0	0	346
Cumulative	125	210	274	346	346	346	

Note: Data on water supply to the Amudarya River delta and the Aral Sea are agreed with Hydromet of Uzbekistan

Annex 1.3

Forecast operation regime of the Nurek reservoir (April-September 2018)

	unit	actual				forecast		TOTAL
		IV	V	VI	VII	VIII	IX	
Volume: beginning of the season	mcm	6,638	6,243	6,580	7,742	9,983	10,548	6,638
Inflow to the reservoir	m^3/s	432	770	1,162	1,708	1,099	752	
	mcm	1,119	2,063	3,011	4,574	2,945	1,948	15,660
Water releases from the reservoir	m^3/s	598	644	721	865	887	750	
	mcm	1,549	1,725	1,868	2,318	2,376	1,944	11,780
Volume: end of the season	mcm	6,243	6,580	7,742	9,983	10,548	10,550	10,550
Accumulation (+), drawdown(-)	mcm	-395	337	1,162	2,241	566	2	3,912

Forecast operation regime of the Tuyamuyun reservoir (April-September 2018)

	Unit	actual				forecast		TOTAL
		IV	V	VI	VII	VIII	IX	
Volume: beginning of the season	mcm	2,783	2,332	2,342	2,796	2,314	2,345	2,783
Inflow to the reservoir	m^3/s	233	655	1,138	1,025	972	637	
	mcm	604	1,753	2,951	2,746	2,602	1,652	12,308
Water releases from the reservoir	m^3/s	407	651	963	1,206	960	682	
	mcm	1,054	1,744	2,496	3,229	2,570	1,767	12,861
Volume: end of the season	mcm	2,332	2,342	2,796	2,314	2,345	2,230	2,230
Accumulation (+), drawdown(-)	mcm	-451	9	454	-482	31	-115	-553

Note: operation regime of the reservoir will be adjusted depending on the inflow

2. Syrdarya River basin

On 5 April 2018, data were received from UzHydromet on water content in the Syrdarya River basin over the growing season 2018.

During the growing season, water content was expected to be as follows: 90-100 % (95 %) of the norm in the basins of the Naryn River, rivers in the Sourthern Fergana Valley, and Chirchik River, 80-90 % (85 %) of the norm in the Akhangaran River basin, and 70-80 % (75 %) of the norm in the Karadarya River basin.

On 16 April 2018, forecast operation regime of the Toktogul reservoir was provided by the Coordination Dispatch Center "Energy" for the growing season.

According to data by KyrgyzHydromet, the forecast inflow to the Toktogul reservoir was 91% of the norm.

According to data by UzHydromet, the forecast inflow was:

- 87 % to the Andizhan reservoir;

- 91 % to the Charvak reservoir;

- lateral inflow - 91 % of the norm.

Totally in the basin, water content was expected to be 91% of the norm.

At the 73rd meeting of ICWC, its members considered the forecast operation regime of the Naryn-Syrdarya reservoir cascade and country water withdrawal limits in the Syrdarya River basin over the growing season.

From 1 April to 10 August, the actual hydrological situation was as follows:

Inflow to the upstream reservoirs

The normal lateral inflow to the upstream reservoirs of the Naryn-Syrdarya cascade was 15,372 mcm over the past period of the growing season.

The forecast inflow was 13,982 mcm or 91% of the norm.

The actual inflow to upstream reservoirs was 14,506 mcm or 104% of the forecast (Table 2.1).

Lateral inflow

The normal lateral inflow to the Syrdarya River up to the Shardara reservoir is 8,535 mcm.

According to the Hydromet's forecast, the lateral inflow was expected to be 7,805 mcm or 91% of the norm.

The actual lateral inflow was 8,986 mcm, which is 1,181 mcm more than the forecast, i.e. 115% of the forecast.

Total inflow

The normal total inflow to the Syrdarya River is 23,907 mcm.

According to the Hydromet's forecast, the inflow was expected to be 21,787 mcm or 91 % of the norm.

The actual inflow was 23,492 mcm or 108 % of the forecast.

Table 2.1

Name	Growing season, mcm from April 1 to August 10, 2018						
	norm	forecast	actual	actual/ forecast (%)	actual/ norm (%)	2017	
						forecast	actual
Inflow to upstream reservoirs							
Toktogul	7,710	7,017	8,037	115	104	9,835	11,527
Andizhan	2,630	2,347	2,313	99	88	2,858	3,892
Charvak (4 rivers in total)	5,032	4,618	4,157	90	83	5,261	7,614
Total	15,372	13,982	14,506	104	94	17,954	23,033
Lateral inflow							
Toktogul – Uchkurgan	1,046	994	1,156	116	111	1,098	1,739
Andizhan – Uchtepe	1,962	1,718	1,804	105	92	2,193	2,647
Uchkurgan, Uchtepe – Bakhri Tochik	2,507	2,354	3,151	134	126	2,589	3,488
Bakhri Tochik – Shardara	2,315	2,061	2,059	100	89	2,425	2,337
Gazaglkent- Chinaz (excluding Ugam)	705	678	816	120	116	798	1,341
Total	8,535	7,805	8,986	115	105	9,103	11,552
Overall (total inflow)	23,907	21,787	23,492	108	98	27,057	34,585

Water releases from the reservoir

According to the operation schedule of the Naryn-Syrdarya reservoir cascade, 20,811 mcm were scheduled to be released from reservoirs from 1 April to 10 August 2018.

The actual water releases were 19,163 mcm, which is 1,648 mcm less than scheduled (Table 2.2).

Table 2.2

Reservoir	Water releases, mcm from 1 April to 10 August 2018		actual/ schedule, %	Actual, from 1 April to 10 August 2017
	According to operation regime of NSRC	Actual		
Toktogul	3,915	3,702	95	4,782
Andizhan	2,260	2,199	97	3,551
Charvak (water releases from the Gazalkent HEPS)	3,370	3,027	90	5,877
Bakhri Tochik	5,594	5,967	107	9,088
Shardara	5,672	4,268	75	10,543
TOTAL:	**20,811**	**19,163**	92	**33,841**

Water storage in the reservoirs

As of 10 August 2018, water storage in the reservoirs was scheduled to be 24,659 mcm. Actual storage was 25,498 mcm or 839 mcm more than the schedule.

In 2017, water storage was 28,142 mcm in the reservoirs (Table 2.3).

Table 2.3

Reservoir	Reservoir storage, mcm			
	Actual by 1 April 2018	Scheduled by 10 August 2018	Accrual by 10 August 2018	Accrual by 10 August 2017
Upstream reservoirs				
Tokrogul	14,456	17,532	18,797	19,518
Andizhan	1,218	1,299	1,307	1,417
Charvak	676	1,912	1,960	1,984
TOTAL:	16,350	20,743	22,064	22,919
In-stream reservoirs				
Bakhri Tochik	3,409	1,902	2,278	3,306
Shardara	4,265	2,014	1,156	1,917
TOTAL:	7,674	3,916	3,434	5,223
OVERALL:	24,024	24,659	25,498	28,142

Water supply to states

From 1 April to 10 August 2018, water was supplied to the user states based on submitted requests.

Actual total water withdrawals by user states amounted to 8 billion 592 million cubic meters (Table 2.4).

Table 2.4

Water user state	Water withdrawals, mcm		
	Over the period	April 1 to August 10	
		Requested	Actual
Republic of Tajikistan (Dustlik canal)	705	555	466
Kyrgyz Republic	246	180	140
Republic of Tajikistan	1,905	1469	1195
Republic of Uzbekistan	8,800	7198	6791
Total	**11,656**	**9401**	**8592**

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

The inflow to the Bakhri Tochik reservoir was scheduled to be 4,627 mcm from April 1 to August 10.

The actual inflow to the reservoir was 5,434 mcm or 807 mcm more than the schedule (Table 2.5).

The inflow to the Shardara reservoir was scheduled to be 4,217 mcm.

The actual inflow to the reservoir was 2,999 mcm or 1,218 mcm less than the schedule.

According to data by the State Committee for Water Resources of the Republic of Kazakhstan, the inflow to the Aral Sea and Prearalie was scheduled to be 1,116 mcm.

The actual inflow to the Aral Sea and Prearalie as measured at the Karateren gauging station was 902 mcm or 214 mcm less than the schedule.

Table 2.5

Parameter	Scheduled from 1 April to 10 August 2018, mcm	Actual, from 1 April to 10 August 2018, mcm	Actual/ schedule (%)	Actual, from 1 April to 10 August 2017, mcm
Inflow to in-stream reservoirs				
Inflow to the Bakhri Tochik reservoir	4,627	5,434	117	9,336
Inflow to the Shardara reservoir	4,217	2,999	71	9,065
Supply to the Aral Sea				
Supply to the Aral Sea	1,116	902	81	3,435

Table 2.6 shows the forecast operation schedule of the Naryn-Syrdarya reservoir cascade over the growing season 2018. ICWC members took into at the 73rd meeting.

The operation regime of the Naryn-Syrdarya reservoir cascade is provided for a period from 1 April to 10 August 2018 in Table 2.7, with the forecast data shown for a period from 11 August to 30 September 2018.

Table 2.6

Forecast operation schedule of the Naryn-Syrdarya reservoir cascade from 1 April to 30 September 2018

		April	May	June	July	August	September	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m3/s	269	579	881	758	527	301	
	mcm	697	1,551	2,284	2,030	1,412	780	8,754
Volume: beginning of the season	mcm	14,456	14,113	14,871	16,259	17,362	17,889	
end of the season	mcm	14,113	14,871	16,259	17,362	17,889	17,938	
Water releases from the reservoir	m3/s	400	295	344	342	325	275	
(internal needs of the Kyrgyz Republic + additional releases)	mcm	1,037	790	892	916	869	713	5,217
including: 1. internal needs	m3/s	400	295	280	260	263	275	
Kyrgyz Republic	mcm	1,037	790	726	696	704	713	4,666
2. additional releases	m3/s	0	0	64	82	62	0	
	mcm			166	220	165		550
Bakhri Tochik reservoir								
Inflow to the reservoir	m3/s	525	418	350	350	316	347	
(Akdjar GS)	mcm	1,360	1,120	907	937	847	900	6,071
Inflow from CDF	m3/s	27	27	20	17	13	15	
	mcm	71	69	53	47	31	39	310
Volume: beginning of the season	mcm	3,409	3,420	3,411	2,869	2,091	1,607	
end of the season	mcm	3,420	3,411	2,869	2,091	1,607	1,781	
Water releases from the reservoir	m3/s	520	390	500	550	432	250	
	mcm	1,348	1,045	1,296	1,473	1,158	648	6,967

		April	May	June	July	August	September	Total, mcm
Shardara reservoir								
Inflow to the reservoir	m3/s	400	550	400	200	181	200	
	mcm	1,037	1,474	1,037	535	484	518	5,085
Volume: beginning of the season	mcm	4,265	4,783	4,918	4,088	2,441	1,184	
end of the season	mcm	4,783	4,918	4,088	2,441	1,184	1,145	
Water releases from the reservoir	m3/s	150	450	650	700	600	200	
	mcm	389	1,205	1,685	1,875	1,607	518	7,279
Discharge into 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	120	68	68	65	200	
	mcm	380	321	176	182	175	518	1,752
Charvak reservoir								
Inflow to the reservoir	m3/s	286	436	544	399	225	134	
(4 rivers in total)	mcm	741	1,167	1,409	1,068	603	346	5,335
Volume: beginning of the season	mcm	676	963	1,450	1,992	1,985	1,783	
end of the season	mcm	963	1,450	1,992	1,985	1,783	1,591	
Water releases from the reservoir	m3/s	175	254	333	400	298	207	
(Releases from Gazalkent HPP)	mcm	454	679	864	1,071	799	536	4,403
Andizhan reservoir								
Inflow to the reservoir	m3/s	176	264	270	149	80	45	
	mcm	456	707	700	398	213	117	2,591
Volume: beginning of the season	mcm	1,218	1,418	1,748	1,703	1,429	1,175	
end of the season	mcm	1,418	1,748	1,703	1,429	1,175	1,112	
Water releases from reservoir	m3/s	99	140	287	250	174	68	
	mcm	256	376	743	670	465	177	2,686

Table 2.7

Operation regime of the Naryn-Syrdarya reservoir cascade from 1 April to 30 September 2018

		April*	May*	June*	July*	August**	September	Total, mcm
Toktogul reservoir								
Inflow to the reservoir	m3/s	367	611	1,006	892	526	301	
	mcm	951	1635	2,609	2,390	1,408	780	9,773
Volume: beginning of the season	mcm	14,456	14,500	15,401	17,259	18,669	19,116	
end of the season	mcm	14,500	15,401	17,259	18,669	19,116	19,166	
Water releases from reservoir	m3/s	353	275	293	362	355	275	
(internal needs of the Kyrgyz Republic+ additional water releases)	mcm	914	736	759	969	950	713	5,041
including: 1. internal needs	m3/s	353	275	239	273	323	275	
Kyrgyz Republic	mcm	914	736	619	731	866	713	4,579
2. additional water releases	m3/s	0	0	54	89	31	0	
	mcm			115	238	84		437
Bakhri Tochik reservoir								
Inflow to the reservoir	m3/s	651	487	524	303	318	347	
(Akdjar GS)	mcm	1,687	1,306	1,359	811	853	900	6,916
Volume: beginning of the season	mcm	3,409	3,403	3,502	3,453	2,506	2,020	
end of the season	mcm	3,403	3,502	3,453	2,506	2,020	2,194	
Water releases from reservoir	m3/s	623	424	523	534	431	250	
	mcm	1,616	1,135	1,356	1,431	1,155	648	7,341
Shardara reservoir								
Inflow to the reservoir	m3/s	531	236	188	159	145	304	
	mcm	1,375	632	488	426	390	787	4,098
Volume: beginning of the season	mcm	4,265	4,656	4,055	3,445	1,726	969	
end of the season	mcm	4,656	4,055	3,445	1,726	969	1,155	

		April*	May*	June*	July*	August**	September	Total, mcm
Water releases from reservoir	m3/s	153	394	298	566	332	200	
	mcm	397	1,055	773	1,515	890	518	5,149
Discharge into Kyzylkum canal	m3/s	62	31	36	101	54	15	
	mcm	161	83	93	272	144	39	792
Water supply to the Aral Sea	m3/s	220	76	34	11	51	116	
	mcm	569	203	87	30	137	301	1,327
Charvak reservoir								
Inflow to the reservoir	m3/s	296	424	480	323	192	134	
(4 rivers in total)	mcm	767	1,136	1,245	865	515	346	4,874
Volume: beginning of the season	mcm	676	978	1,548	1,991	1,992	1,831	
end of the season	mcm	978	1,548	1,991	1,992	1,831	1,638	
Water releases from reservoir	m3/s	173	217	308	370	264	207	
(water releases from the Gazalkent HPP)	mcm	449	581	799	990	706	536	4,060
Andizhan reservoir								
Inflow to the reservoir	m3/s	173	262	288	136	67	45	
	mcm	447	703	745	366	179	117	2,557
Volume: beginning of the season	mcm	1,218	1,411	1,688	1,760	1,475	1,184	
end of the season	mcm	1,411	1,688	1,760	1,475	1,184	1,121	
Water releases from reservoir	m3/s	98	158	254	242	174	68	
	mcm	254	424	657	648	465	177	2,625

Note:

* April to July – actual

** August (first ten day – actual, second and third ten day – forecast)

ANALYSIS OF HYDROLOGICAL CONDITIONS IN THE AMUDARYA AND SYRDARYA BASINS OVER THE GROWING SEASON 2018

1 Amudarya River Basin

The actual water content in the Amudarya River at the nominal Atamyrat gauging station (upstream of intake to Garagumdarya) was 37.2 km³ or 2.2 km³ less than expected by the BWO Amudarya (Table 2.2). The inflow to the Nurek HEPS amounted to 16.24 km³ and turned to be lower than the forecast by 1.86 km³. Water releases from the reservoir were 12.35 km³ or 1.89 km³ less than scheduled by BWO Amudarya. Water withdrawal from the river at the expense of water accumulated in the Nurek reservoir amounted to 3.89 km³ (Table 2.3).

According to data measured at the Bir-Ata gauging station, the inflow to the Tuyamuyun hydroscheme (TMHS) was 15.26 km³ or 3.04 km³ less than expected. This did not allow accumulating planned volume (2.24 km³). Water volume in the TMHS reservoirs was only 2.2 km³ by the end of the growing season. Water releases from TMHS were 2.96 km³ less than planned and amounted to 13.6 km³. The total water intake by the Nurek reservoir and TMHS reservoirs from the Vakhsh and Amudarya Rivers amounted to 5.6 km³ in the growing season.

Given such hydrological conditions, the established limit of water withdrawal into canals in the Amudarya River basin was 83% provided (Table 2.1). The total water withdrawal amounted to 31.9 km³, including 24.6 km³ downstream of the Atamyrat gauging station (starting from intake to Garagumdarya). During the growing season, the average water availability was 92% in the Republic of Tajikistan, 87% in Turkmenistan and 76% in the Republic of Uzbekistan; in the lower reaches, the water availability was 66% in Turkmenistan, 63% in the Republic of Uzbekistan, and 89% in the Surkhandarya province (Table 2.1).

The highest relative shortage (% of the limit) was observed in the lower reaches of Tuyamuyun-Samanbay – 36%. The situation with water shortage by ten-day (Table 2.4) is as follows:

- In Turkmenistan, minimal shortage was 12% in the second ten-day of September, and maximum shortage was 63% in the second ten-day of May; it varied from 18% to 38% in June-August.
- In Uzbekistan, maximal shortage was 43-63% at the beginning of the growing season (April-May). In June-August, it varied from 32% to 54%.

Open channel water losses in the reach between the nominal Atamyrat g/s and Bir-Ata g/s were calculated using the balance method and resulted in 4.23 km^3 or about 10 % of runoff at the nominal Atamyrat g/s. Water losses in the lower reaches (in the Tuyamuyun GS –Samanbay GS reach) were 3.8 km³ or 40% of runoff at the

Tuyamuyun GS. Open channel water losses along the Amudarya River (nominal Atamyrat GS-Samanbay GS) as a whole were estimated at approximately 8 km^3 or 22% of water content in the river.

An amount of 0.46 km³ (Amudarya runoff at Samanbay g/s plus collector-drainage flow) was supplied to Prearalie and the Aral Sea during the growing season.

Analysis of hydrological conditions in the Amudarya basin over 2018 growing season revealed that low water availability largely resulted from substantial open channel water losses, which exceeded forecasts by 1.3 km³ in the middle reaches and by 2.9 km³ in the lower reaches.

To improve hydrological conditions and increase water availability, it is necessary to improve control over water withdrawals in the middle and lower reaches.

Table 2.1

Water availability in the Amudarya River basin countries over the growing season 2018

Water user	Water volume, km³		Water availability %	Deficit (-), surplus (+) km³
	Limit/ schedule	Actual	Season	Season
1. Total water withdrawal	**38.5**	**31.87**	**83**	**-6.7**
2. By state:				
Kyrgyz Republic	-	-	-	-
Republic of Tajikistan	6.8	6.2	92	-0.6
Turkmenistan	15.0	13.0	87	-2.0
Republic of Uzbekistan	16.8	12.7	76	-4.1
3. Downstream of Atamyrat g/s *)	**30.6**	**24.6**	**81**	**-6.0**
of which:				
Turkmenistan	15.0	13.0	87	-2.0
Republic of Uzbekistan	15.6	11.6	75	-4.0
4. By river reach:				
Upper reaches	**7.92**	**7.22**	**91**	**-0.7**
of which:				
Kyrgyz Republic	-	-	-	-
Republic of Tajikistan	6.75	6.19	92	-0.6
Surkhandarya province, Uzbekistan	1.17	1.03	89	-0.1
Middle reaches	**15.70**	**15.04**	**96**	**-0.7**
of which:				
Turkmenistan	10.13	9.77	96	-0.4
Republic of Uzbekistan	5.57	5.27	95	-0.3
Lower reaches	**14.91**	**9.61**	**64**	**-5.3**
of which:				
Turkmenistan	4.87	3.24	66	-1.6
Republic of Uzbekistan	10.04	6.37	63	-3.7
5. **Additionally:**				
Emergency and environmental water releases to canals in lower reaches	0	0		
of which:				
Turkmenistan	0	0		
Republic of Uzbekistan	0	0		
Supply to the Aral Sea and Prearalie **	2.10	0.46	22	-1.6

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

**) including the discharged collector-drainage water

Table 2.2

Amudarya River channel water balance for the growing season 2018

Balance item	Water volume, km^3		Deviation (actual-plan)
	Forecast/Plan	Actual	
1. Water content in the Amudarya River - non-regulated flow at Atamyrat g/s nominal	39.37	37.19	-2.18
2. Flow regulation in the Nurek reservoir: accumulation (+) or withdrawal (-)	-3.87	-3.89	-0.03
3. Water withdrawal in the middle reaches (-)	-15.70	-15.04	0.66
4. Return flow (collector-drainage) in middle reaches (+)	1.46	1.23	-0.23
5. Water losses (-) or unrecorded inflow to the channel (+)	-2.97	-4.23	-1.26
% of flow at Atamyrat g/s nominal	7	10	3
6. River flow at Bir-Atal g/s	18.30	15.26	-3.04
7. Flow regulation in Tuyamuyun hydroscheme: accumulation (+) or withdrawal (-)	-1.77	-1.70	0.08
8. Releases from Tuyamuyun hydroscheme (including withdrawal from reservoir)	16.52	13.57	-2.96
9. Withdrawal in lower reaches, including withdrawal from Tuyamuyun hydroscheme (-)	-14.91	-9.61	5.31
10. Return flow (collector-drainage) in lower reaches (+)	0.00	0.00	0.00
11. Emergency and environmental water releases to canals (-)	0.00	0.00	0.00
12. Flow losses (-) or unrecorded inflow to the channel (+)	-0.94	-3.83	-2.89
% of flow at Tuyamuyun g/s	8	40	31.17
13. Supply to Prearalie and the Aral Sea (Samanbay g/s)	0.67	0.13	-0.54
TOTAL losses:	-3.91	-8.06	-4.15
% of river water content	10	22	11.73

Table 2.3

Water balance of the Amudarya River basin reservoirs for the growing season 2018

Balance item	Water volume, km^3		Deviation (actual-plan)
	Forecast / plan	Actual	
1 Nurek reservoir			
2.1 Inflow to the reservoir	18.11	16.24	-1.86
2.2 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	6.64	6.64	0.00
– end of the season (1 October 2018)	10.53	10.55	0.02
2.3 Water releases from the reservoir	14.24	12.35	-1.89
2.4 Lateral inflow (+) or water losses (-)	0.02	0.02	0.00
% of inflow to the reservoir	0	0	0.00
2.5 Flow regulation: accumulation (+) or withdrawal (-)	-3.87	-3.89	-0.03
2 TMHS reservoirs			
2.1 Runoff at Bir-Ata g/s	18.30	15.26	-3.04
2.2 Water volume in the reservoirs:			
– beginning of the season (1 April 2018)	2.78	2.78	0.00
– end of the season (1 October 2018)	2.24	2.20	-0.04
2.3 Water releases from the hydroscheme	16.52	13.57	-2.96
of which:			
– releases into the river	11.27	9.69	-1.57
– withdrawal	5.26	3.87	-1.39
2.4 Unrecorded inflow (+) or water losses (-)	-2.32	-2.28	0.04
Including % of inflow to the reservoir	13	15	2
2.5 Flow regulation: accumulation (+) or withdrawal (-)	-1.77	-1.70	0.08
TOTAL flow regulation by the reservoirs: accumulation (+) or withdrawal (-)	-5.64	-5.59	0.05
TOTAL losses (-),unrecorded inflow (+)	-2.29	-2.26	0.04

Table 2.4

Country water availability in the Tuyamuyun-Samanbay reach, growing season 2018

Balance item		April			May			June			July			August			September			mcm growing season
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
Total for reach	Limit, m^3/s	**461**	**521**	**572**	**592**	**673**	**776**	**845**	**1,000**	**1,096**	**1,123**	**1,145**	**1,259**	**1,075**	**972**	**1,058**	**745**	**582**	**419**	**14,914**
	Actual, m^3/s	**253**	**245**	**236**	**262**	**272**	**613**	**433**	**587**	**667**	**747**	**759**	**851**	**685**	**598**	**695**	**648**	**651**	**403**	**9,606**
	Water availability, %	**55**	**47**	**41**	**44**	**40**	**79**	**51**	**59**	**61**	**67**	**66**	**68**	**64**	**62**	**66**	**87**	**112**	**96**	**64**
Turkmenistan	Limit, m^3/s	228	233	237	242	246	237	232	266	275	285	290	323	297	307	382	321	262	207	**4,870**
	Actual, m^3/s	120	116	112	100	91	187	148	178	193	218	228	264	221	201	237	229	230	163	**3,236**
	Water availability, %	**53**	**50**	**47**	**41**	**37**	**79**	**64**	**67**	**70**	**76**	**79**	**82**	**74**	**66**	**62**	**71**	**88**	**79**	**66**
Uzbekistan	Limit, m^3/s	233	288	334	350	428	539	613	734	821	838	855	936	778	665	676	423	320	212	**10,044**
	Actual, m^3/s	132	129	125	163	182	426	285	410	474	529	531	587	463	397	458	419	421	240	**6,370**
	Water availability, %	**57**	**45**	**37**	**47**	**42**	**79**	**46**	**56**	**58**	**63**	**62**	**63**	**60**	**60**	**68**	**99**	**132**	**113**	**63**

2 Syrdarya River Basin

The actual inflow to the upstream reservoirs (Toktogul, Andizhan, and Charvak reservoirs) in the Syrdarya basin was 17.0 km³ or 102 % of the forecast and 92% 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 9.9 km³.

By the beginning of the growing season, the upstream reservoirs (Toktogul, Andizhan, and Charvak) have accumulated 16.35 km³. By the end of the growing season, the total capacity in the upstream reservoirs was 21.93 km³ or 106% of the value scheduled by BWO Syrdarya. In the Toktogul reservoir, the total capacity was 14.46 km³ and active capacity - 8.96 km^3. Water releases from the Toktogul reservoir were 5 km³ or 96 % of the BWO Syrdarya schedule. Analysis of operation of the Toktogul reservoir shows that water supply to the reservoir was 1.1 km³ more than the forecast and amounted to 102% of the norm during the growing season. Water releases from the reservoir were 0.21 km³ less than scheduled (planned) by BWO Syrdarya. An amount of 18.5 km³ was accumulated in the reservoir by the end of July, whereas by the end of September, the total capacity was 19.3 km³.

Water storage in the Bakhri Tochik reservoir was 3.41 km³ by the beginning of the growing season and 2.11 km³ by the end of the growing season. The inflow to the Bakhri Tochik reservoir and water releases into the river were 6.84 km³ and 7.32 km³, respectively. Analysis of operation of the Bakhri Tochik reservoir showed that water supply to the reservoir was 0.77 km³ more than planned by BWO Syrdarya, and water releases from the reservoir were 0.35 km³ more than scheduled by BWO Syrdarya. Consequently, higher inflow to the Bakhri Tochik reservoir allowed fulfilling the plan on water releases.

In the Shardara reservoir, water storage was 4.27 km³ by the beginning of the growing season and 0.95 km³ by the end of the growing season. The inflow to the Shardara reservoir was 3.54 km³; water releases from the reservoir were 5.48 km³, including 4.77 km³ into the river. According to BWO Syrdarya (KazHydromet), water was not released into the Arnasay reservoir from the Shardara hydroscheme. Water losses were 1.37 km³ in the reservoir.

According to the Aralo-Syrdarya Basin Water Administration, the Koksarai reservoir accumulated water in the amount of 60 mcm only in April, while in other months, it discharged the earlier accumulated flow in the amount of 2,555 mcm.

The total water withdrawal from the Naryn and Syrdarya Rivers was 10.7 km³ or 92% of the limit in the reaches up to the Shardara reservoir. Over the growing season 2018, water withdrawal was 0.95 km³ less than planned by BWO Syrdarya. Water shortage was 9 mcm in the Republic of Kazakhstan (along the Dustlik canal), 50 mcm in the Kyrgyz Republic, 299 mcm in the Republic of Tajikistan, and 505 mcm in the Republic of Uzbekistan. Water availability was uneven by state and river reach (Table 1.1). The highest relative water shortage (% of the limit) was observed in the middle reaches of the Bakhri Tochik reservoir-Shardara reservoir – 9%. The situation with water shortage was as follows by ten-day:

- In Kazakhstan, water shortage amounted to 49% and 14% in the first and third ten-day, respectively. From the beginning of June till the third ten-day of August, water shortage varied between 29% and 35%.
- Water shortage in Tajikistan varied from 9 to 24% in June-August;
- In Uzbekistan, water shortage varied from 10% to 44% in June, 21% to 25% in July, and 20% and 6% in the first and second ten-day of August, respectively.

Water availability was 94% in the Republic of Uzbekistan and 87% in the Republic of Kazakhstan. The lowest water availability was in the Kyrgyz Republic – 80%. Water availability in the Republic of Tajikistan was higher than in the Kyrgyz Republic but very uneven by river reach: 1) Toktogul-Uchkurgan – 53%; 2) Uchkurgan-Bakhri Tochik – 116%; 3) Bakhri Tochik-Shardara – 79% (Tables 1.4 and 1.5).

Analysis of water balance in basin's reservoirs (Table 1.3) has revealed unrecorded inflow of 0.27 km³ to the Charvak reservoir, losses in other reservoirs in the total amount of 2.06 km^3, including 1.37 km^3 in the Shardara reservoir and 0.66 km³ in the Bakhri Tochik reservoir.

Open channel water losses in the Toktogul-Shardara reach were 1.3 km³ or 8% of regulated runoff in the growing season. No water losses were predicted in this reach.

In the lower reaches, runoff utilization was 6.22 km³ (including water withdrawal and losses minus lateral inflow).

In the growing season, water supply to the Aral Sea and Prearalie (Karateren GS) was 0.81 km³ by KazHydroMet's data and 1.15 km³ according to the Kazakh Committee for Water Resources.

Table 1.1

Water availability for the Syrdarya River basin countries over the growing season 2018

Water user	Water volume, km^3		Water availability %	Deficit (-), surplus (+) km^3
	BWO schedule/ limit	Actual	Season	Season
1 Total water withdrawal up to Shardara reservoir	11.66	10.71	92	-0.946
2 By state:				
– *Kyrgyz Republic*	0.25	0.20	80	-0.050
– *Uzbekistan*	8.80	8.30	94	-0.505
– *Tajikistan*	1.91	1.61	84	-0.299
– *Kazakhstan*	0.71	0.61	87	-0.09
3 By river reach				
3.1 Toktogul reservoir – Uchkurgan hydroscheme	3.95	3.58	91	-0.37
including:				
– *Kyrgyz Republic*	0.16	0.13	80	-0.03
– *Tajikistan*	0.24	0.13	53	-0.11
– *Uzbekistan*	3.55	3.33	94	-0.22
3.2 Uchkugran hydroscheme – Bakhri Tochik reservoir	1.08	1.12	104	0.04
including:				
– *Kyrgyz Republic*	0.08	0.07	79	-0.02
– *Tajikistan*	0.45	0.52	116	0.07
– *Uzbekistan*	0.54	0.53	98	-0.01
3.3 Bakhri Tochik reservoir – Shardara reservoir	6.63	6.01	91	-0.62
including:				
– *Kazakhstan*	0.71	0.61	87	-0.09
– *Tajikistan*	1.22	0.96	79	-0.26
– *Uzbekistan*	4.71	4.44	94	-0.27
4 Additionally:				
– Inflow to Shardara reservoir	5.09	3.54	70	-1.55
– Discharge into Arnasay	0.00	0.00		0.00
– Water supply to the Aral Sea and Prearalie	1.36	0.81	60	-0.55

Table 1.2

Syrdarya River channel water balance for the growing season 2018

Balance item		Water volume, km^3		Deviation (actual-plan)
		Forecast/plan	Actual	
1	Inflow to the Toktogul reservoir	8.75	9.85	1.10
2	Lateral inflow in the river reach of Toktogul reservoir – Shardara reservoir (+)	9.56	9.88	0.32
	including:			
	– *Discharge from the Karadarya river*	1.60	1.72	0.12
	– *Discharge from the Chirchik river*	0.96	0.29	-0.67
	– *Lateral inflow from CDF and small rivers*	7.00	7.88	0.88
3	Flow regulation in the reservoirs: inflow (+) or withdrawal (-)	-2.46	-4.21	-1.75
	including:			
	– *Toktogul reservoir*	-3.54	-4.84	-1.31
	– *Bakhri Tochik reservoir*	1.08	0.63	-0.44
4	Regulated flow (1+2+3)	15.86	15.53	-0.33
5	Water withdrawal in the Toktogul – Shardara reach (-)	-11.66	-10.71	0.95
6	Water losses (-) or unrecorded inflow to the river (+) in the Tокtogul-Shardara reach	0.89	-1.28	-2.17
	Including % of regulated flow	6	8	
7	Inflow to the Shardara reservoir	5.09	3.54	-1.55
8	Flow regulation in the Shardara reservoir: inflow (+) or withdrawal (-)	3.40	1.95	-1.45
9	Water releases from the Shardara reservoir	8.48	5.48	-3.00
10	Including water releases into the river	7.28	4.77	
11	Flow regulation in the Koksaray reservoir: inflow (+) or withdrawal (-)	1.68	2.27	0.58
12	Runoff utilization (water withdrawal-lateral inflow+losses)	7.60	6.22	-1.37
13	Water supply to the Aral Sea and Prearalie	1.36	0.81	-0.55

Table 1.3

Water balance of the Syrdarya River basin reservoirs for the growing season 2018

Balance item	Water volume, km^3		Deviation (actual-plan)
	Forecast/plan	Actual	
1. Toktogul reservoir			
1.1 Inflow to the reservoir	8.75	9.853	1.10
1.2 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	14.46	14.456	0.00
– end of the season (1 October 2018)	17.94	19.298	1.36
1.3 Water releases from the reservoir	5.22	5.011	-0.21
1.4 Unrecorded inflow (+) or losses (-)	-0.0537	-0.001	0.05
% of inflow to the reservoir	1	0	1
1.5 Unrecorded inflow (+) or losses (-)	-3.54	-4.84	-1.31
2. Andizhan reservoir			
2.1 Inflow to the reservoir	2.59	2.49	-0.10
2.2 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	1.22	1.22	0.00
– end of the season (1 October 2018)	1.11	0.88	-0.23
2.3 Water releases from the reservoir	2.69	2.80	0.11
2.4 Unrecorded inflow (+) or losses (-)	-0.01	-0.03	-0.02
% of inflow to the reservoir	0	1	1
2.5 Flow regulation: inflow (+) or withdrawal (-)	0.09	0.31	0.21
3. Charvak reservoir			
3.1 Inflow to the reservoir	5.34	4.67	-0.66
3.2 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	0.68	0.68	0.00
– end of the season (1 October 2018)	1.59	1.75	0.16
3.3 Water releases from the reservoir	4.40	3.87	-0.54
3.4 Unrecorded inflow (+) or losses (-)	-0.02	0.27	0.29
% of inflow to the reservoir	0	6	5
3.5 Flow regulation: inflow (+) or withdrawal (-)	-0.93	-0.81	0.13
4 Bakhri Tochik reservoir			
4.1 Inflow to the reservoir	6.07	6.84	0.77
4.2 Lateral inflow	0.30	0.21	-0.09
4.3 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	3.41	3.41	0.00
– end of the season (1 October 2018)	1.78	2.11	0.33
4.4 Water releases from the reservoir	7.45	7.68	0.23
including*:*			
– *Water releases into river*	6.97	7.32	0.35
– *Water withdrawal from reservoir*	0.48	0.36	-0.12
4.5 Unrecorded inflow (+) or losses (-)	-0.55	-0.66	-0.11
% of inflow to the reservoir	9	10	1
4.6 Flow regulation: inflow (+) or withdrawal (-)	1.08	0.63	-0.44
5 Shardara reservoir			
5.1 Inflow to the reservoir	5.09	3.54	-1.55
5.2 Lateral inflow	0.00	0.00	0.00
5.3 Water volume in the reservoir:			
– beginning of the season (1 April 2018)	4.27	4.27	0.00
– end of the season (1 October 2018)	1.15	0.95	-0.19
5.4 Water releases from the reservoir	8.48	5.48	-3.00
including:			
– *Discharge into Arnasay*	0.00	0.00	0.00
– *Water releases into river*	7.28	4.77	-2.51

Balance item	Water volume, km^3		Deviation (actual-plan)
	Forecast/plan	Actual	
– *Water withdrawal from reservoir*	1.21	0.71	-0.49
5.5 Unrecorded inflow (+) or losses (-)	0.28	-1.37	-1.65
% of inflow to the reservoir	5	39	33
5.6 Flow regulation: inflow (+) or withdrawal (-)	3.40	1.95	-1.45
TOTAL Flow regulation by reservoirs: inflow (+) or withdrawal (-)	0.10	-2.76	-2.86
TOTAL losses (-), unrecorded inflow (+)	-0.36	-1.79	-1.43

Table 1.4

Country water availability in the Toktogul-Uchkurgan reach, growing season 2018

Balance item		April			May			June			July			August			September			mcm growing season
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
Total for the reach	Limit, m^3/s	164	193	216	244	235	237	263	283	300	332	347	343	321	277	242	191	152	148	**3,946**
	Actual, m^3/s	196	204	216	238	223	218	244	259	281	272	288	284	256	235	225	173	132	129	**3,581**
	Water availability, %	**120**	**106**	**100**	**98**	**95**	**92**	**93**	**91**	**94**	**82**	**83**	**83**	**80**	**85**	**93**	**91**	**87**	**87**	**91**
Kyrgyz Republic	Limit, m^3/s	4	4	4	6	8	10	13	13	14	15	15	15	15	13	13	9	7	6	**162**
	Actual, m^3/s	2	2	3	5	5	5	10	9	11	12	13	14	13	12	12	10	5	4	**130**
	Water availability, %	**50**	**36**	**72**	**75**	**63**	**49**	**74**	**74**	**80**	**84**	**91**	**90**	**88**	**94**	**96**	**105**	**69**	**76**	**80**
Tajikistan	Limit, m^3/s	11	13	14	15	16	16	17	17	17	17	17	17	17	17	15	13	11	9	**237**
	Actual, m^3/s	6	9	8	8	8	9	7	12	11	8	8	9	8	9	6	5	6	5	**126**
	Water availability, %	**52**	**69**	**61**	**53**	**47**	**56**	**42**	**72**	**62**	**48**	**50**	**52**	**48**	**51**	**42**	**38**	**55**	**61**	**53**
Uzbekistan	Limit, m^3/s	149	175	198	222	211	211	233	253	269	300	315	311	289	247	215	169	133	133	**3,548**
	Actual, m^3/s	188	193	204	225	211	204	227	237	259	251	267	261	235	214	207	159	121	119	**3,326**
	Water availability, %	**126**	**110**	**103**	**101**	**100**	**97**	**98**	**94**	**96**	**84**	**85**	**84**	**81**	**87**	**96**	**94**	**91**	**90**	**94**

Table 1.5

Water releases from the Bakhri Tochik reservoir and country water availability in the Bakhri Tochik reservoir – Shardara reservoir reach, growing season 2018

Balance item		April			May			June			July			August			September			mcm growing season
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
Water releases from the reservoir	Plan, m^3/s	520	520	520	390	390	390	500	500	500	550	550	550	432	432	432	250	250	250	**6,967**
	Actual, m^3/s	661	640	569	447	395	429	350	678	541	512	539	550	496	471	447	270	187	145	**7,318**
	Deviat.from limit, %	**27**	**23**	**9**	**15**	**1**	**10**	**-30**	**36**	**8**	**-7**	**-2**	**0**	**15**	**9**	**3**	**8**	**-25**	**27**	**5**
Kazakhstan	Limit, m^3/s	15	10	10	10	15	20	45	55	70	90	90	100	100	90	65	13	0	0	**705**
	Actual, $м^3/с$	20	18	12	20	24	35	23	57	60	64	64	67	65	60	71	31	3	0	**613**
	Deviat.from limit, %	**33**	**83**	**23**	**95**	**63**	**75**	**-49**	**3**	**-14**	**-29**	**-29**	**-33**	**-35**	**-34**	**9**	**138**		**33**	**-13**
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	4	25	38	63	60	74	71	73	78	80	80	86	82	84	75	62	40	16	**961**
	Deviat.from limit, %	**-56**	**-59**	**-53**	**-24**	**-27**	**-17**	**-23**	**-24**	**-19**	**-17**	**-17**	**-10**	**-15**	**-12**	**-9**	**3**	**0**	**-56**	**-21**
Uzbekistan	Limit, m^3/s	225	244	255	265	269	293	388	439	447	455	456	455	384	295	208	131	88	60	**4,708**
	Actual, m^3/s	325	371	368	342	279	286	219	395	377	340	360	359	309	276	215	113	71	44	**4,435**
	Deviat.from limit, %	**45**	**52**	**44**	**29**	**4**	**-2**	**-44**	**-10**	**-16**	**-25**	**-21**	**-21**	**-20**	**-6**	**3**	**-13**	**-19**	**45**	**-6**

8TH SESSION OF THE MEETING OF THE PARTIES TO THE UNECE CONVENTION

The eighth session of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) was held from 10 to 12 October 2018 in Astana, at the invitation of the Government of Kazakhstan. This was the first session of the Meeting of the Parties, with the participation of countries and Parties outside the pan-European region, marking a turning point in the global opening of the Convention. This Meeting of the Parties was the first one held in Asia. 93 UN countries and 33 Parties to the Convention participated in the event.

The Meeting consisted of a general segment and a high-level segment.

During the high-level segment, such issues were addressed as those related to the opening of the session and adoption of the agenda; status of ratification of the Convention and its Protocols; adoption of revised rules of procedure, as well as a special high-level session "Transboundary water cooperation: Sharing water for people, planet, prosperity and peace".

The general segment covered items 5 to 20 of the provisional agenda, including reporting under the Convention and on Sustainable Development Goal indicator 6.5.2; opening of the Convention, promotion and partnerships; implementation and compliance; support to implementation and application of the Convention through field projects and capacity development; European Union Water Initiative and National Policy Dialogues; water-food-energy-ecosystems nexus in transboundary basins; identifying, assessing and communicating the benefits of transboundary water cooperation; adaptation to climate change in transboundary basins; water and industrial accidents; International Water Assessment Center; Program of work for 2019-2021; date and venue of the ninth session of the Meeting of the Parties to the Convention.

The session was chaired by Mr. Peter Kovacs from Hungary.

High-level segment

The high-level segment was opened by the video message of Mr. Nursultan Nazarbayev, President of Kazakhstan. He underlined the importance of efficient management and protection of transboundary waters and called to increase interaction and scientific cooperation to solve the current problems.

Ms. Olga Algayerova, United Nations Under-Secretary-General and Executive Secretary of the United Nations Economic Commission for Europe, first delivered a message by the UN Secretary General Mr. Antonio Guterres and then on behalf of UNECE. She noted that the SDG indicator 6.5.2 monitoring exercise demonstrated that the average proportion of the transboundary basin area covered by an operational

arrangement is 59 per cent, while only 17 countries have all their transboundary basins covered by operational arrangements. Consequently, there is still an intensive work ahead.

Statements were made by Mr. Umirzak Shukeyev, Deputy Prime Minister and Ministry of Agriculture of the Republic of Kazakhstan, and Mr. Peter Szijjarto, Minister of Foreign Affairs and Trade of Hungary.

The Meeting of the Parties approved the agenda and was informed about the status of ratification of the Convention, the Protocol on Water and Health, the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (Protocol on Civil Liability) and the amendments to articles 25 and 26 of the Convention, and adopted the draft revised rules of procedure of the Meeting of the Parties.

Special session "Transboundary water cooperation: Sharing water for people, planet, prosperity and peace"

The special session "Transboundary water cooperation: Sharing water for people, planet, prosperity and peace" consisted of two parts.

The first part of the session was held under the theme "Transboundary water cooperation and water allocation: Preventing conflict and ensuring peace and stability" under the chairmanship of Dr. Monika Weber-Fahkr, Executive Secretary of the Global Water Partnership.

The session was addressed by Mr. Mansour Faye, Minister of Water and Sanitation, Senegal; Mr. Shavkat Khamraev, Minister of Water Resources, Uzbekistan; Mr. Khan Mohammad Takal, Deputy Minister of Water, Ministry of Energy and Water, Afghanistan; Mr. Danilo Türk, Chair of the Global High-Level Panel on Water and Peace, former President of Slovenia, Lead Policy Advisor to the Geneva Water Hub; Mr. Mamman Nuhu, Executive Secretary, Lake Chad Basin Commission; Ms. Astrid Schomaker, Director for Global Sustainable Development, Directorate General for the Environment, European Commission, and Isabel Pagotto, Senior Policy Advisor and Programme Manager of the Swiss Agency for Development and Cooperation.

The participants focused on water diplomacy (Senegal), climate change (Afghanistan), cooperation tools (Global High-level Panel on Water and Peace), decision making processes with involvement of stakeholders (Chad), involvement of all sectors and expansion of cooperation framework beyond water (EU), and financing of water cooperation (Switzerland). Mr. Sh.Khamraev (Uzbekistan) highlighted measures implemented in Uzbekistan to diversify agriculture, improve land condition, implement IWRM principles, and promote water-saving technologies. In the next five years, the third of all irrigated land will be covered with advanced water-saving technologies. He also underlined a particular attention paid to mitigate the Aral catastrophe, maintain good-neighbor relations, and search trade-off decisions on water and other issues among the Central Asian countries.

The second part of the special session was held under the theme “Sharing waters in the context of growing water scarcity: how can transboundary water cooperation make a difference?” under the chairmanship of Sybille Vermont, Bureau member of the Water Convention, Federal Office for the Environment, Switzerland.

The session was addressed by Mr. Nazar Issa Abdulkhadi Al-Khirullakh, Deputy Minister of Foreign Affairs of Iraq, Mr. Yerlan Nysanbayev, Vice Minister of Agriculture of Kazakhstan, Mr. Mahamat Alifa Moussa, Secretary General, Ministry of Environment, Water and Fisheries of Chad, Ms. Tatiana Bokova, Deputy Head, Federal Agency for Water Resources of the Russian Federation, Mr. Nuno Lacasta, President of the Environment Agency of Portugal, Mr. Lansana Fofana, High Commissioner, Organization for Gambia Development, and Mr. Grigory Mazmaniants, Director for Central Asia, World Wide Fund for Nature.

Particularly, Vice Minister of Agriculture of Kazakhstan Mr. Y.Nysanbayev highlighted the need for automation of gauging stations in the transboundary river basins and search for appropriate mechanisms for cooperation in water and energy, including exploring the potential for establishment of an international water and energy consortium.

General segment

During the general segment, the Meeting reviewed progress under the current Program of work and examined proposals for activities under the Program of work for 2019–2021.

Reporting under the Convention and on Sustainable Development Goal indicator 6.5.2

At its seventh session, the Meeting of the Parties to the Convention decided to introduce a regular reporting mechanism under the Convention starting with a pilot reporting exercise in 2017. The introduction of the reporting under the Convention coincided with the adoption of the Sustainable Development Goals and their targets in 2015. UNECE and UNESCO have been designated as "custodian agencies" for indicator 6.5.2 (proportion of transboundary basin area with an operational arrangement for water cooperation).

In order to maximize synergies and efficiencies, at the eleventh meeting of the Working Group on Integrated Water Resources Management (Geneva, 18–19 October 2016), it was decided to combine the reporting under the Convention and the reporting on indicator 6.5.2 and to send only one template to all Parties to gather this information.

Based on responses of the countries, UNECE prepared a synthesis report on the Progress on Transboundary Water Cooperation under the Water Convention[2], which was discussed during the Session, and decision was made to approve a revised reporting template under the Convention, as well as to develop the guidelines to assist countries in this process.

Representatives from ECE and UNESCO then introduced the publication "Progress on transboundary water cooperation: Global baseline for SDG indicator 6.5.2",[3] and UN-Water with partners – "Sustainable Development Goal 6 Synthesis Report on Water and Sanitation 2018".[4]

Analyzed data reveals that the average proportion of the transboundary basin area covered by an operational arrangement is 59 per cent, while only 17 countries have all their transboundary basins covered by operational arrangements.

Opening of the Convention, promotion, and partnerships

The triennium 2016–2018 was marked by the global opening of the Convention, beginning with the accession of the first countries from Africa – Chad and Senegal. New Parties and countries in the process of accession were invited to inform the Meeting about their progress and lessons learned from the accession process.

The Meeting was informed about activities carried out by the Secretariat, Parties and partners in 2016–2018 in order to build capacity and raise awareness on the Water Convention and the Convention on the Law of the Non-navigational Uses of International Watercourses at the national, basin, regional and global levels.

The Meeting of the Parties discussed and approved the Strategy for the implementation of the Convention at the global level (ECE/MP.WAT/ 2018/6), the development of which was entrusted at its seventh session. The Meeting also adopted the decision on the designation and responsibilities of focal points (ECE/MP.WAT/2018/7).

The question of cooperation with partners was thoroughly discussed as it is essential for implementation of the Convention and its Program of work. Representatives of global and regional organizations informed about their ongoing and planned activities in support of implementation of the Convention and opportunities to cooperate with the Meeting within the framework of the strategy for the implementation of the Convention at the global level.

The representative of GEF informed about activities on international waters and cooperation with UNECE according to Decision VI/4. Moreover, he highlighted that the GEF entered its seventh replenishment cycle (GEF-7) in July 2018. It is focused on three areas of strategic action: 1) strengthening national Blue Economy opportunities to reduce threats to marine and coastal waters; 2) improving management in the Areas

[2] Progress on Transboundary Water Cooperation under the Water Convention (ECE/MP.WAT/51)
[3] https://www.unece.org/fileadmin/DAM/env/water/publications/WAT_57/ECE_MP.WAT_57.pdf
[4] www.unwater.org/publications/highlights-sdg-6-synthesis-report-2018-on-water-and-sanitation-2/.

Beyond National Jurisdiction (ABNJ), and 3) enhancing water security in freshwater ecosystems.[5]

Implementation and compliance

Mr. Attila Tanzi, Chair of the Implementation Committee, informed about activities of the Committee over the last three years. The meeting discussed and approved the report of the Committee and decision on general issues of implementation, which were developed based on results of activities by Committee, including analysis of national reports.

The Meeting of the Parties confirmed the credentials of Mr. Stephen McCaffrey, Mr. Kari Kinnunen, and Mr.Ivan Zavadsky for the next five-year term and elected two new members of the Committee - Mr. Pedro Cunha Serra and Mr. Martins Paparinskis for the same term.

The Meeting was informed about diverse capacity-building and assistance activities implemented over the past three years in order to promote implementation of the Convention in Eastern and South-Eastern Europe, the Caucasus and Central Asia.

European Union Water Initiative and National Policy Dialogues

The Meeting discussed progress on the European Union Water Initiative, National Policy Dialogues on Integrated Water Resources Management (facilitated by ECE) and Water Supply and Sanitation (facilitated by OECD). The decision was made to continue this work, and it was mentioned that there was a positive trend in potential contined funding of activities in Central Asia.

Water-food-energy-ecosystems nexus in transboundary basins

The Chair of the Task Force on the Water-Food-Energy-Ecosystems Nexus, the Secretariat and representatives of the riparian countries and basin organizations involved presented activities carried out in this area, including main findings of the basin assessments in the Drin, Drina and North-Western Sahara Aquifer System, policy briefs prepared, general conclusions and lessons learned.

The Meeting endorsed the synthesis publication on the methodology and lessons learned from the assessments. It was agreed that work in the next three years would be carried out in two key areas: 1) support to intersectoral dialogues and nexus-based assessments; 2) support to equitable and sustainable water allocation in a transboundary context.

[5] More detailed information is available on: https://www.thegef.org/documents/gef-7-programmingdirections

Identifying, assessing and communicating the benefits of transboundary cooperation

The Meeting was informed about the activities carried out since 2016 in a number of basins worldwide, such as the Okavango-Cubango, Sio-Malaba-Malakisi and Drina rivers.

The Meeting endorsed the synthesis publication "Identifying, assessing and communicating the benefits of transboundary water cooperation - Lessons learnt and recommendations" and agreed to include "Promoting and communicating benefits of transboundary water cooperation" in areas of the future Program of work.

Adapting to climate change in transboundary basins

The Meeting of the Parties was informed about work on adaptation to climate change in transboundary basins carried out since 2016 within the framework of the program of pilot projects on water and adaptation to climate change, the global network of basins working on climate change adaptation and the platform for exchanging experience on adaptation to climate change in a transboundary context. This work was based on the Strategy for future work on climate change adaptation in transboundary basins under the Convention (ECE/MP.WAT/2015/4), which the Meeting of the Parties has considered at its seventh session, and the Working Group on Integrated Water Resources Management has adopted at its eleventh meeting.

The Meeting adopted the Words into Action Implementation Guide for Addressing Water-Related Disasters and Transboundary Cooperation (ECE/MP.WAT/56) and welcomed commenced activities on financing of projects on adaptation to climate change in transboundary basins. It was also agreed to continue work on adaptation to climate change in transboundary basins in the future Program of work.

Water and industrial accidents

2018 marks the 20th anniversary of the Joint Ad Hoc Expert Group on Water and Industrial Accidents under UNECE Water Convention and UNECE Convention on the Transboundary Effects of Industrial Accidents (UNECE Industrial Accidents Convention) to support activities in the area of accidental water pollution. Co-chairs of the Group presented information on achievements, products, and lessons learned.

The Meeting discussed and took note of the "Draft safety guidelines and good practices for the management and retention of firefighting water: general recommendations" and recommended their use and implementation by countries in order to prevent accidental pollution of soil and water, including pollution causing transboundary effects.

International Water Assessment Center

The representative of Kazakhstan briefly presented the terms of reference and resources and reported on the activities implemented by the International Water Assessment Center (IWAC), which was established in Astana. The Meeting approved the draft work plan of IWAC for 2019-2021, which incorporates the following activities:

A. Activities related to program area 2 of the Convention: supporting monitoring, assessment and information sharing in transboundary basins

1.1. Development of an information monitoring database for the transboundary river basin of the Ural (Zhayik) River

1.2. Development of cooperation in the field of water quality assessment

1.3. Training in hydrometeorological services

B. Activities related to program area 3 of the Convention: Promoting an integrated and intersectoral approach to water management at all levels

2.1. Identification of good practices and approaches for supporting water allocation in a transboundary context

2.2 Training on the safety of hydraulic structures

C. Activities related to program area 4 of the Convention: Adapting to climate change in transboundary basins

3.1. Integrated drought management in a transboundary context

The implementation of the program of work will depend on the availability of resources. The Government of Kazakhstan will finance certain activities of the Centre. Moreover, the Centre will endeavor to attract funding from the Slovak development program, SlovakAid, and from the North Atlantic Treaty Organization (NATO) Science for Peace and Security Program to implement its program of work. To enhance the effectiveness of the planned activities, IWAC will strive to strengthen cooperation on complementarity of its activities with relevant initiatives on transboundary waters in the Central Asian region and in neighboring countries.

Program of work for 2019-2021

The Secretariat informed about consultation process, which allowed developing the draft Program of work for 2019-2021. The Meeting of the Parties, having discussed each program area, approved the Program consisting of 7 program areas:

A. Program area 1: Increasing awareness of and accession to the Convention and application of its principles drawing on the benefits of cooperation

B. Program area 2: Supporting monitoring, assessment and information sharing in transboundary basins

C. Program area 3: Promoting an integrated and intersectoral approach to water management at all levels

D. Program area 4: Adapting to climate change in transboundary basins

E. Program area 5: Facilitating financing of transboundary water cooperation

F. Program area 6: Reporting on Sustainable Development Goal indicator 6.5.2 and under the Convention

G. Program area 7: Partnerships, communication and knowledge management

The Parties to and partners of the Convention were invited to signify their interest in financing or other form of participation in the implementation of the Program. The Netherlands, Switzerland, Germany, France, Estonia, Finland, Luxemburg, and European Union reaffirmed their commitment to continuing financing of activities under the Convention.

Election of officers

In accordance with its rules of procedure, the Meeting will elect its officers, who will remain in office until the next elections at the ninth session of the Meeting of the Parties.

The Meeting elected the Bureau members, who will perform their functions until the next Meeting of the Parties.

Date and venue of the 9th session of the Meeting of the Parties

At the suggestion of Estonia, it was agreed to host the ordinary ninth Meeting of the Parties in Tallinn in October 2021.

Side events

Day 1

1. Water-Food-Energy-Ecosystem Nexus: Benefits for resource security across borders (CAREC and IUCN)
2. Learn more about Water Convention
3. Opportunities for Water Diplomacy in Conflict-prone Regions

Day 2

4. Transboundary water governance in Africa
5. Transboundary water governance in Latin America
6. National Policy Dialogues under the EU Water Initiative
7. The GEF7 Replenishment – Enhancing cross sectoral cooperation
8. Hot topic: Sharing experiences on climate change adaptation in transboundary basins
9. Youth in transboundary cooperation

10. Results of the Summit of the Heads of State of Central Asia

Day 3

11. Biodiversity and transboundary water cooperation
12. The role and relevance of the Implementation Committee
13. Kick-starting Transboundary Cooperation: Establishing sound institutional and legal frameworks
14. Transboundary Water Cooperation and the Global Observatory on Water and Peace
15. An impactful relationship: Fostering Source-to-Sea of Management of Transboundary Basins
16. Side Event for the Parties to the (1997) UN Watercourses Convention (by invitation only)

Deputy Director of SIC ICWC participated in three side events: 1) Results of the Summit of the Heads of State of Central Asia; 2) The role and relevance of the Implementation Committee; and 3) Transboundary Water Cooperation and the Global Observatory on Water and Peace.

Side event "Results of the Summit of the Heads of State of Central Asia: practical solutions and prospects for regional water cooperation"

The side event "Results of the Summit of the Heads of State of Central Asia: practical solutions and prospects for regional cooperation" was organized by the Executive Board of IFAS in Kazakhstan on behalf of EC IFAS. The purpose of the Summit was further strengthening and developing international cooperation, drawing attention of the world community to the pressing issues of the Aral Sea basin in the context of the IFAS Summit results and determining future directions of transboundary cooperation.

Chairman of EC IFAS Mr. G.Baydjanov delivered the welcoming speech. He presented basic items of the Joint Communiqué and areas of activity of IFAS to implement them.

The Minister of Water Management of Uzbekistan Mr. Sh.Khamraev, Vice-Minister of Agriculture of Kazakhstan Mr. Ye.Nysanbaev and Head of the Department of the Ministry of Agriculture and Water Resources of Turkmenistan Mr. B. Mommadov focused on the main initiatives proposed by their respective Heads of State and measures for their implementation.

Deputy Head of the UN Regional Centre for Preventive Diplomacy for Central Asia Mr. Philipp Saprykin stressed the importance of a systematic approach to partnership and improvement of the coordination mechanism.

Deputy Director of SIC ICWC Ms. D.Ziganshina spoke about systematic work carried out by SIC ICWC on implementation of initiatives of the Heads of State voiced at the Summit. Particularly, SIC ICWC summarized experience on implementation of ASBP-3 in order to incorporate unfinished interventions into ASBP-4. The work is

ongoing on generalization of experience of joint institutions all over the world so that their lessons could be used while reforming the IFAS system, as well as on the "Implementation Plan on strengthening ICWC activities in key directions". The innovative application of satellite images for better water resource management at SIC ICWC was especially noted.

Representative of EC IFAS from Kazakhstan Mr. S. Begmaganbetov highlighted the activities of the ICSD Secretariat. Director of the Regional Environmental Center for Central Asia Mr. I. Abdullayev informed about close cooperation with EC IFAS on implementation of the IFAS Work Plan and tasks arising from the Summit of the Heads of State of Central Asia.

Side event "The role and relevance of the Implementation Committee"

This side event was organized by the Convention Secretariat with active involvement of the Implementation Committee members (Attila Tanzi, Kari Kinnunen, Ivan Zavadsky, and Dinara Ziganshina). The session was organized interactively and allowed all stakeholders to learn more about work of the Committee and personally communicate with its members. At the beginning of the session, Ms. D.Ziganshina made a presentation on mandate, basic tasks, and activity of the Committee over the last three years. There has been a significant interest in work of the Committee on collection of information on the status of cooperation in the Ili and Irtysh River basins based on request of NGOs from Kazakhstan.

Side event "The Global Observatory for Water and Peace: Towards Effective Transboundary, Intersectoral and Local Water Cooperation"

This side event was organized by the Geneva Water Hub as a step to implement recommendations of the Global High-level Panel of Water and Peace. The participants discussed feasibility of establishment of the Global Observatory for Water and Peace and its potential role in every part of the world. It is significant that the Global Observatory does not imply the establishment of an individual institution (center) under that name. It is rather a platform gathering different stakeholder organizations and individuals and promoting ideas of water, peace, and security.

The representative of Senegal informed about the established Dakar Water Center as a regional unit of the Observatory, which will promote its ideas and serve as a focal point on organization of the World Water Forum to be held in Senegal in 2021. The representative from Jordan highlighted the potential role of such Center in promotion of cooperation in the Middle East through the so called "safe space" for negotiations between sectors and/or countries.

The Geneva Water Hub seeks potential partners in Central Asia and is ready to support "safe" space, where stakeholders may exchange opinion informally, jointly search solutions and carry out research on the most pressing issues.

As to the potential role of the Global Observatory for Water and Peace in

Central Asia, Ms. D.Ziganshina told that this matter should be carefully considered by all countries of the region, taking into account that ICWC member from Kazakhstan Mr. Ye.Nysanbayev participated in the work of the Global Panel and development of recommendations. The Observatory may play a vital role in the region, if some features are taken into account. Firstly, regional focus should be properly aligned with the global agenda, for instance, through the interregional and interbasin experience exchange (Central Asia as a region with millennial history of irrigation under arid climate conditions may not only follow but also share its substantial experience). Secondly, more attention should be paid to coordination between existing regional institutions and international programs. Thirdly, new regional dynamics of relations requires a new format of interactions between countries. Here, the Observatory can play a role, especially for promotion of intersectoral and interdisciplinary research.

High-level workshop on Financing Transboundary Basin Development

The High-Level workshop on Financing Transboundary Basin Development was held on 9 October 2018 and organized under the leadership of Kazakhstan, the Netherlands and Switzerland and in cooperation with the Asian Development Bank, European Investment Bank, GEF's International Waters Learning Exchange and Resource Network (GEF IW:LEARN), and UNECE.

The workshop was opened by H. E. Mr. Umirzak Shukeyev, Deputy Prime Minister and Minister of Agriculture of the Republic of Kazakhstan. He highlighted that water resources were a common asset in the region, and transboundary waters and financing issues have become of particular importance.

H.E. Mr. Pio Wennubst, Ambassador, Vice Director General of the Swiss Agency for Development Cooperation, Ms. Olga Algayerova, UNECE Executive Secretary, and Mr. Ato Brown, World Bank Country Manager for Kazakhstan made the introductory strategic remarks on financing water cooperation and links with other sectors. Particularly, Ms. Algayerova mentioned that global needs for water-related investments to achieve SDG 6 will be estimated at US $ 6.7 trillion by 2030 and US $ 22.6 trillion by 2050. Investments are needed not only for infrastructure development but also for O&M of existing structures and systems.

Ms. Francesca Bernardini, UNECE Secretary to the Water Convention stressed that substantial resources were required to implement the Convention, including measures for prevention, control, and reduction of transboundary impact (articles 2 and 3); fulfillment of monitoring programs (article 4) and research (article 5); development of cooperation mechanisms and joint bodies (article 9); cooperation on available and planned types of use and existing structures (article 9); information exchange (article 13) and early warning systems (article 14). Despite the relevance of the above topics, they have lacked sufficient attention yet.

Ms. Susanne Schmeier, UNECE consultant, made a presentation on the theme "Financing Transboundary Basin Development".[6] She classified needs for financing to

[6] Discussion paper "Financing Transboundary Basin Development" is available in English on:

better information access, work of institutions, construction, and maintenance of infrastructure. As to funding sources for transboundary cooperation, national sources (both public and private) and international sources (donor-countries, IFS, and climate funds) were classified.

Then the session discussed different sources and funding modalities for transboundary basin development in the form of ministerial roundtables.

The Russian-speaking roundtable discussed the theme "What kind of domestic public sources are available and which innovative mechanisms can be used to tap them?". The session was moderated by the representative of the Asian Development Bank. Two case studies were presented - Chu Talas Water Management Commission and Afghanistan with respect to the Panj basin. When discussing the Chu Talas Water Management Commission, difficulties were mentioned related to legal seat of the Commission's Secretariats in the countries, as well as financial support to their operation. In fact, the countries fund operation and maintenance of water structures in the basin but do not allocate funds for operation of the Secretariat. Poor fulfillment of the Commission's decisions and lack of IWRM approach to basin management were mentioned. The representative of SIC ICWC shared experience in operation of the ICWC executive bodies, 90% of funds for which are allocated by the hosting states themselves. This fundamentally differs from those commissions established with the intensive support of international partners. Consequently, stronged focus should be put on positive experience of regional bodies when reforming IFAS.

D.R.Ziganshina

www.unece.org/fileadmin/DAM/env/documents/2018/WAT/10Oct_9_HLWS_Astana/Background_Document_Workshop_on_FinancingTBCoop_9Oct_Astana_FINAL.pdf

"EUROPE-INBO 2018" - 16th INTERNATIONAL CONFERENCE FOR IMPLEMENTATION OF THE EUROPEAN WATER DIRECTIVES

The 16th "Europe-INBO 2018" conference took place in Seville, Spain, from 17 to 20 October 2018. It gathered more than 200 representatives of national administrations, basin organizations, NGOs, international and regional institutions and research institutes from 42 countries.

The work of this conference was organized around a workshop on Invasive Alien Species and 4 roundtables on:

- Prevention of drought: Adaptation planning at the basin level, reuse and desalination.
- Efficiency and multiple benefits: The interest of combining hydraulic infrastructure and nature-based solutions to face the issues of climate change.
- International cooperation: Twinning and peer-to-peer exchanges, neighbourhood area, transboundary waters.
- Revision of the Water Framework Directive (WFD): Improve coordination with other European Directives (Marine SFD, Flood, Renewable Energy Directives…).

Mr. Joaquin Paez, President of the Hydrographic Confederation of the Guadalquivir welcomed the conference and showed the Guadalquivir River basin as a model of water management. Mayor of Seville underlined public participation in water management in his welcoming speech. Representative of Regional Government of Andalusia and many others had their words in welcoming addresses as well.

A live videoconference with the DG Environment of the European Commission was held. Representative of the DG Environment presented the evaluation of the 2nd cycle Basin Management Plans and made preliminary conclusions on implementation of water directives. In particular, he underlined the targets to be achieved by 2027 and a need for revision of certain targets and for fitness check of European legislation on water. Representatives of countries and basin organizations showed progress on some of targets and the underachievement on others and indicated to difference of targets between upstream and downstream parts of basins. The participants demonstrated the achievement of good ecological status in some watercourses. At the same time, they raised concerns about impossibility to achieve the set targets by 2027, especially on water quality and in the context of climate change, which was already felt, for instance, in form of drought in the Netherlands. The key open question is about when

and how the good status of freshwater and aquatic ecosystems can be achieved. In particular, Peter Glas, President of Netherlands' Association of Regional Water Authorities in his presentation on the WFD review criticized the «one out, all out» system, which cannot give an unbiased assessment of the ecological status since if one indicator is not satisfactory then the whole status is considered to be unsatisfactory. The participants agreed that in view of impossibility to achieve the goals of water directives by 2027, realistic, attainable and affordable goals should be established beyond 2027.

Representatives of basin organizations from different countries reported on implementation of Basin Management Plans. The current water use will be difficult to maintain in the long term. It is necessary to adjust measures developed as part of the basin plans in the context of climate change impacts. Greater focus should also be paid to water demand management.

The case-study of the Guadalquivir River basin management was presented at the conference. Water is critical for people's well-being in Spain. Spanish basin management is characterized by 22 years of successful management. However, in the Guadalquivir basin, the usage of groundwater and non-regulated water grows and this needs to be stopped. Olives, rice, berries and fruits, cotton, beet and citrus plants are grown in the basin and irrigation consumes 88% of the basin's water. In this context, investments in modernization of the irrigation sector have increased recently. Among key management tools the presenter stressed strict control over water use, prevention of water thefts, remote sensing of water use and crop acreage, on-line control of water use, and drought monitoring. Minimum flow is maintained in all rivers in the basin. Generally, basin management is considered to be satisfactory.

To fight droughts that became more frequent, priority should be given to preventive measures and especially to water saving measures on all scales and in all sectors of activity. Water re-cycling was mentioned as an important element of management plans. Other solutions included augmentation of the resource base through desalination and re-use. Nature-based solutions were cited for flood prevention, with green infrastructure and river continuity as guiding principles.

Representative of SIC ICWC presented activities of the EECCA NWO network at the INBO World Liaison bureau preceding the conference and made a presentation during the roundtable on international cooperation. She presented the Amu Darya River basin and gave assessment of the future situation in the basin together with recommendations for adaptation based on the results of the USAID-supported research project "Transboundary water management adaptation in the Amu Darya basin to climate change uncertainties", which was carried out in 2015 till 2018.

At the end, the INBO Declaration of Seville was adopted and the Europe-INBO Group presidency was transferred from Ireland to Spain until the next conference in Lahti, Finland in 2019.

Prepared by O. Usmanova

EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA NETWORK OF WATER-MANAGEMENT ORGANIZATIONS (EECCA NWO) INTERNATIONAL CONFERENCE "WATER FOR LAND RECLAMATION, ECONOMIC SECTORS AND NATURAL ENVIRONMENT IN THE CONTEXT OF CLIMATE CHANGE"

The International Conference of the Eastern Europe, Caucasus, and Central Asia Network of Water Management Organizations on "Water for Land Reclamation, Economic Sectors and Natural Environment in the context of Climate Change" was held on 6-7 November 2018 in Tashkent.

The main topics addressed at the Conference included:

- strategy of survival in the face of imminent water scarcity,
- transboundary water cooperation: how to ensure irrigation, energy and nature nexus in the context of climate change,
- water conservation and rational nature use,
- cooperation of regional organizations in the Aral Sea Basin (IFAS-ICWC-ICSD) in searching for additional water reserves,
- building capacities of water-management, basin and land reclamation organizations.

PLENARY SESSION

Official opening

Welcome speeches:

- **Sh.Khamraev**, Minister of Water Management, Uzbekistan
- **Prof. D.Kozlov**, President of EECCA NWO
- **Yu.Videnina**, International Network of Basin Organizations
- **B.Hajiev**, UN Economic Commission for Europe

Key reporter:

Prof. V.Dukhovniy (SIC ICWC) "Prospects of available water supply and food security in the EECCA countries: Aral Sea Basin case-study"

SESSION 1: STRATEGY OF SURVIVAL IN THE FACE OF IMMINENT WATER SCARCITY

Moderatorp: **V. I. Sokolov**

Key reporter:

Prof. S.R. Ibatullin (Kazakhstan), Prospects for the 2040s – what is the scale of water scarcity we can expect?

Presentations of country representatives on key aspects: climate change challenges, increase of water withdrawal (Afghanistan, China, Iran), population growth; changes in economic structure and social needs; how can the region's countries oppose to those challenges?

Prof. N.B. Prokhorova (RosNIIVH) Modernization of water sector in Russia – priority for science and technology development?

A.G.Sorokin (SIC ICWC) Future of the Amu Darya Basin in the context of climate change and other global changes

S.E. Aganov ("Tebigi Kuvvat", Turkmemistan) Impacts of climate change on the water sector and adaptation measures for risk mitigation

A.R. Fazylov (IWP and HE of AS RT, Tajikistan) Importance of reservoirs for multipurpose water regulation and management under strained water budget in the Central Asian region

SESSION 2: TRANSBOUNDARY WATER COOPERATION: HOW TO ENSURE IRRIGATION, ENERGY AND NATURE NEXUS IN THE CONTEXT OF CLIMATE CHANGE?

Moderator: **Prof. V.A.Dukhovniy**

Key reporters:

Ch.M. Uzakbaev (Kyrgyzstan), Intersectoral and interstate integration – the basis for agreed actions for mutually beneficial water use

D.R. Ziganshina (SIC ICWC) Enhanced scientific cooperation on water and sustainable development

Presentations of country representatives on key aspects: Cooperation tools, joint regulation regimes: energy, irrigation, nature protection; cooperation-based nexus; clear obligations of the parties; public participation; excessive hydropower capacities – base for coordination; involvement of hydropower, hydrometeorological services and aquatic environment sector in activities of IFAS and ICWC

B. Hajiyev (UNECE) Water-Food-Energy-Ecosystem Nexus: implementation of decisions identified for the Syr Darya River Basin and national water policy dialogues in the countries

B. Libert (international expert, Sweden) Assessment of water-food-energy-ecosystem nexus

Prof. D.V.Kozlov (EECCA NWO President, Russia), Issues of transboundary water use in the Irtysh Basin and prospects of hydraulic engineering in the region

Prof.N.K.Kipshakbaev (Kazakhstan) Specific measures for climate change adaptation in the Aral Sea basin

S.A.Dubenok (CRICUWR, Belarus) Expericence in transboundary cooperation and basin management in the Republic of Belarus

V.Akhmadjonov (Information-Analytical and Resource Center at the MWM Republic of Uzbekistan) Topical issues related to the legal framework for water cooperation in Central Asia

Sh.G. Talipov (BWO Syrdarya) Ensuring stability and safety of hydraulic structures in Central Asia for climate change mitigation and adaptation

SESSION 3: WATER CONSERVATION AND RATIONAL NATURE USE

Moderator: **Acad. B.M. Kizyayev**

Key reporters:

Prof. Ya.E.Pulatov (IWPH&E of the AS of the RT, Tajikistan), Water conservation and joint actions of countries for efficient water use, regulation of natural resource use as the main tool of cooperation

N.A.Sukhoy (Association of land reclamation and water engineers, Russia) On land improvement in the Russian Federation and issues of water management in this context

Presentations of country representatives on key aspects: revision of water requirements; analysis of losses along main canals and systems; lowering of losses; improvement of water accounting and forecast accuracy; automation of flow metering and regulation; remote sensing in water accounting

Acad. B.M. Kizyayev (VNIIGiM, Russia) Agricultural water supply in the context of water shortage and water pollution problems

Sh.Sh.Mukhamedjanov (SIC ICWC) Water conservation in the Central Asian states: past experience and future targets

K.Murodov (Ministry of Water Resources of Uzbekistan) Achievements of the Republic of Uzbekistan in the field of land reclamation and water management

K.A.Anzelm (Turkestan Hydrogeological and Land Reclamation Expedition, Committee for Water Resources, Ministry of Agriculture, Kazakhstan) Experience in applying water-saving irrigation technologies in the Southern Kazakhstan

B. Askaraliyev (Kyrgyz National Agrarian University) Challenges of water resource management in irrigation systems of Kyrgyzstan

S.Alikhidjaeva (Uzbekistan) New "water-saving" varieties of cotton

N.N.Mirzaev (SIC ICWC) Problems and ways to improve the quality of irrigation services at the local level

V.Yu. Klochko (Design Institute Kazgiprovodkhoz) Involvement of used and newly irrigated lands in agriculture

SESSION 4: COOPERATION OF REGIONAL ORGANIZATIONS IN THE ARAL SEA BASIN (IFAS-ICWC-ICSD) – SEARCHING FOR ADDITIONAL WATER RESERVES?

Moderator: **Prof. S.R. Ibatullin**

Key reporter:

A. Redjepov (EC IFAS) Cooperation of EC IFAS with international organizations

Presentations of country representatives on key aspects: use of collector-drainage water, wastewater and return water for irrigation; achieving water-related Sustainable Development Goals; water conservation and sanitary-environmental releases; sustainability of delta ecosystems; adaptation to climate change

V.I. Sokolov (Agency GEF of IFAS, Uzbekistan) Fresh impetus for regional cooperation in the Aral Sea Basin

G.V.Stulina (SIC ICWC) Combatting desertification and conserving natural environment in Prearalie

R.M.Korobov (Eco-Tiras, Moldova) The status of small rivers in Moldova threatens water security in the context of climate change

N. Shakhimardonova (Institute of strategic and regional studies under the President of the Republic of Uzbekistan) Initiatives of the Republic of Uzbekistan for mitigation of the Aral Sea crisis

SESSION 5: BUILDING CAPACITIES OF WATER-MANAGEMENT, BASIN AND LAND RECLAMATION ORGANIZATIONS

Moderator: **Prof. D.V.Kozlov**

Key reporter:

Yu.Kh. Rysbekov (SIC ICWC) Unlocking scientific and technological capacities of water-management and land reclamation organizations as a big source of untapped water and land reserves

Presentations of country representatives on key aspects: professional development; improvement of information exchange; knowledge base; advisory service; water diplomacy, etc.

Yu.Videnina (INBO, France) EUWI+East Project: operational tasks in river basins, activities of basin committies and stakeholder participation

V.I. Sokolov (Agency GEF of IFAS, Uzbekistan) Economic and mathematical tool WHAT-IF developed by the World Bank to build and analyze different scenarios for the Aral Sea basin development: prospects for its application in our work

Sh.Zaitov (SIC ICWC) Capacities of basin organizations (BWO Amudarya and BWO Syrdarya) for development of a single modernized online information system for efficient and transparent operational activity

Sh.Kenjabaev (SIC ICWC) Improved data and information exchange between key organizations to develop capacity of land reclamation expeditions

RESOLUTION OF THE INTERNATIONAL CONFERENCE "WATER FOR LAND RECLAMATION, ECONOMIC SECTORS AND NATURAL ENVIRONMENT IN THE CONTEXT OF CLIMATE CHANGE"

The participants of the Conference held within the framework of the Eastern Europe, Caucasus, and Central Asia Network of Water Management Organizations (EECCA NWO) on 6-7 November 2018 in Tashkent addressed the current matters of land reclamation and water supply in economic sectors and for the natural environment in the context of climate change. They also summarized the results of the Network's activity over the past year and discussed tasks for the future.

The participants presented in-depth reports and exchanged opinions in the following focus areas:

- strategy of survival in the face of imminent water scarcity,
- assessment of the impacts of geopolitical changes;
- transboundary water cooperation: how to ensure irrigation, energy and nature nexus in the context of climate change,
- water conservation and rational nature use,
- cooperation of regional organizations in the Aral Sea Basin (IFAS-ICWC-ICSD) in searching for additional water reserves,
- building capacities of water-management, basin and land reclamation organizations.

Having summarized results of the discussion, the Conference participants have decided the following:

1. Stress that the *current challenges* that the EECCA countries face, including climate change, potential increase of river water withdrawal by neighboring countries (Afghanistan, China, Iran), population growth, and changing economic and social behavior patterns require that *appropriate and timely adaptation measures* be taken.

2. In this context, it is important to elaborate long-term (2030-2050) *water strategies* for each country and the region as a whole, proceeding from ongoing changes. Additionally, all EECCA countries need to develop a common line of conduct aimed at sustainable and peaceful development that would be based on the wider *science engagement* in the solution of pressing problems of sustainable development, including water, energy, environment and security, and the regular and systematic *building capacities* and raising awareness.

3. Support an initiative on the establishment of an *independent think-tank* involving experts from concerned sectors and disciplines to develop scientifically

grounded decisions and recommendations for decision makers. Organize a lead group for drafting of a roadmap for the establishment of such a think-tank and take poll among EECCA NWO members on topics and directions of future activity of this platform.

4. Unite efforts in inventing, adopting and developing environmentally friendly energy- and water-saving technologies, increasing regional and inter-regional cooperation in the sphere of water saving and sound transboundary water use, while simultaneously ensuring intersectoral harmonization.

5. Activate *climate change* direction at the global level, also as part of implementation of the Work program 2019-2021 of the UNECE Convention on protection and use of transboundary watercourses and international lakes and the activity of its Task Force on water and climate and the global network of basins dealing with adaptation. Given the complicated environmental and geopolitical situation, ask representatives of the Russian Federation in EECCA NWO to talk with the Russian leadership concerning consideration of a possibility of cooperation with a European Arctic Group for reopening of the discussion on possible diversion of a water share of Siberian rivers at expense of its discharge into the Arctic Ocean and usage of this share for Central Asia and desert areas in Mongolia, Eastern Siberia and China.

6. Underline the role of the Paris Pact on Water and Adaptation to Climate Change in the Basins of Rivers, Lakes and Aquifers that offers a number of practical adaptation measures, among which:

- adaptation in the water sector to climate change, including at the river basin;
- strengthening of governance;
- adequate financing.

7. Note with satisfaction *effective and fruitful activities of EECCA NWO* over the past 10 years. With the support of the UN Economic Commission for Europe (UNECE), the Government of the Russian Federation, the Scientific-Information Center of ICWC and the International Network of Basin Organizations, the Network contributed to exchange of ideas, information and best practices on different aspects of water related activity and promoted unity and mutual understanding among professionals from various sectors and countries in the region.

Key activities and events organized by the Network in 2017-2018 included:

- Conference of the EECCA water-management organizations “Challenges of River Basin Management in the context of Climate Change” (18-19 May 2017, Moscow, Russia);
- International science and practice conference “The 25 years of water cooperation in Central Asia: lessons learnt and future outlook” (23-24 November 2017, Tashkent, Uzbekistan);

- International science and practice conference “Transboundary cooperation in Central Asia – security, stability and well-being of the entire region” (7 September 2017, Almaty, Kazakhstan);
- All-Russian water congress “Water resources in Russia for sustainable development, ecological security and health” (27-30 June 2017, Moscow, Russia);
- First Aral International Forum of Sustainable Development (30-31 May 2017, Kyzylorda, Kazakhstan);
- Network’s publications, including the collection of scientific papers “Challenges of River Basin Management in the context of Climate Change”;
- maintenance of the Central Asian knowledge portal - CAWater-Info (cawater-info.net) - as part of the system of uniform tools for implementation of IWRM that are adapted to specific conditions of water management in river basins with different water stresses in arid and semi-arid zones of EECCA countries;
- Development of an on-line “Atlas of water-management and environmental organizations in Eastern Europe, Caucasus and Central Asia.”

8. Strengthen efforts of the Network’s members in the following focus areas:

- Organization of joint interdisciplinary research in the spheres of water management, land reclamation and nature protection;
- Further development of information space in the above mentioned spheres, including exchange of information on best practices and sharing lessons and knowledge;
- Organization of training workshops and study tours to explore best practices and share experience and knowledge in the area of water management and land reclamation,
- Development of extension services and knowledge hubs (regional and national ones) to render assistance to water users at different hierarchical levels;
- Taking advantage of cooperation, coordination and exchange of information with National water policy dialogues in the EECCA countries;
- Engagement of other basin organizations in the Network’s activity.

9. Note that the exchange of knowledge would be more productive and the knowledge base on water, economy and irrigated agriculture would be strengthened if donors provide wider support.

10. The next conference of the Network is to be held in 2019 on “Science and innovations for water security” at part of the XV International scientific-practical symposium and exhibition “Clean Water of Russia 2019”, which will be held in Yekaterinburg under the slogan “Water security as a factor of sustainable development”.

11. Acknowledge:

- UNECE and the International Office for Water/International Network of Basin Organizations (INBO) for assistance provided to the Network, including in organization of this Conference;
- The Government of Russia for its long-term support of the Network's activity;
- SIC ICWC, IFAS Agency for implementation of the Aral Sea Basin projects and National Water Partnership of Uzbekistan for assistance in organization of the Conference.

Tashkent

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