Interstate Coordination Water Commission of Central Asia	BULLETIN № 2 (58)	April 2012

CONTENT

MINUTES OF THE 58TH MEETING OF THE INTERSTATE COMMISSION FOR WATER COORDINATION (ICWC) OF THE REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC, THE REPUBLIC OF TAJIKISTAN, TURKMENISTAN AND THE REPUBLIC OF UZBEKISTAN

February 17, 2012 Almaty

Chairman: Abishev Islam Almakhanovich – Chairman of the Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan

Attended:

ICWC members:

Uzakbaev Chyngysbek Makeshovich	Acting Chairman of the State Committee for Water Management and Land Reclamation, Kyrgyz Republic
Bobokalonov Rakhmatjon Bobokalonovich	Minister of Land Reclamation and Water Resources, Republic of Tajikistan
Mukhammedov Akhmet	Deputy Minister of Water Resources, Turkmenistan
Khamraev Shavkat Rakhimovich	Deputy Minister, Head of Central Water Administration at the Ministry of Agriculture and Water Resources, Republic of Uzbekistan

ICWC Executive agencies:

Dukhovny Victor Abramovich	Director of SIC ICWC, Professor, Honorable ICWC member
Kdyrniyazov Burkitbay Tadjiniyazovich	Head of BWO “Amudarya”
Khamidov Makhmud Khamidovich	Head of BWO “Syrdarya”
Mukhitdinov Khayrullo Ergashevich	Head of ICWC Secretariat

Invited:

Nurmahanbetov Demesin Sheralievich	Vice-Chirman of the IFAS Executive Committee
Kipshakbaev	Director of Kazakh branch of SIC ICWC, Honorable

Nariman Kipshakbaevich	ICWC member
Rakhmatullaev Rakhmonkul	Expert of the Ministry of Land Reclamation and Water Resources, Republic of Tajikistan
Zhienbaev Musilim Rysmakhanovich	Chief expert of the Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan
Imasheva Gulmira Sagimbaevna	Chief expert of the Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan
Karlykhanov Adilkhan Karlykhanovich	Head of the Aral-Syrdarya Basin Inspectorate on Regulation of Water Resources Use and Protection, Republic of Kazakhstan
Beglov Iskander	Key specialist of SIC ICWC

Agenda

1. Regarding results of vegetation period 2011 for the Amudarya and Syrdarya river basins.

2. Regarding water delivery, operation regimes of reservoir cascades, and withdrawal limits for non-vegetation period 2011-2012 in the Amudarya and Syrdarya river basins.

3. Regarding organization of the Central Asian International Research and Practical Conference "Twenty Years of Cooperation in the Field of Joint Management of Transboundary Water Resources in Central Asia: Methodical Approaches, Outcomes, Outlook".

4. Regarding the "Concept of development of information exchange and communication mechanisms between Central Asian actor".

5. Regarding agenda and venue of the next 59th ICWC meeting.

Having approved the agenda and having heard participants of the meeting, and having exchanged opinions, the members of the Interstate Commission for Water Coordination of Central Asia have decided the followings:

First item:

1. Take into consideration information on the results of the vegetation period of 2011 provided by BWO "Amudarya" and BWO "Syrdarya" with comments and suggestions.

2. BWO "Amudarya" and BWO "Syrdarya" should provide data on releases from reservoirs and on compliance with interstate water sharing limits by state by 10th day of each month.

Second item:

1. Take into consideration information on the results of non-vegetation period of 2011 provided by BWO "Amudarya" and BWO "Syrdarya" with comments and suggestions.

2. Each party should prepare suggestions on reducing inflow to the Shardara reservoir and take measures to prevent emergency in Shardara, Arnasay and Kairakkum reservoirs.

3. BWO "Syrdarya" should prepare suggestions on operation mode of Shardara reservoir and water distribution upstream the Shardara reservoir up to 22 February.

4. Because of existing water-related situation in the Syrdarya river basin, water as a result of reducing inflow to the Shardara reservoir should be considered as a transit water and not to be considered as a water withdrawal.

5. Taking into consideration the expected high water level and mudflows along the rivers of the Aral Sea Basin, ICWC's members should take all necessary measures for technical, material and financial support provided to each other in order to mitigate flood-related disasters.

Third item:

1. Hold the Central Asian International Research and Practical Conference "Twenty Years of Cooperation in the Field of Joint Management of Transboundary Water Resources in Central Asia: Methodical Approaches, Outcomes, Outlook" in September, 2012 in Almaty.

2. Approve the draft agenda of the Central Asian Central Asian International Research and Practical Conference "Twenty Years of Cooperation in the Field of Joint Management of Transboundary Water Resources in Central Asia: Methodical Approaches, Outcomes, Outlook" presented to ICWC's members.

3. Set up the Organizing Committee consisting of the following members:

Abishev I. A. – Chairman of the Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan

Uzakbaev Ch.M. – Acting Chairman of the State Committee for Water Management and Land Reclamation, Kyrgyz Republic

Bobokalonov R. – Minister of Land Reclamation and Water Resources, Republic of Tajikistan

Yazmyradov A.O. – Minister of Water Resources, Turkmenistan

Khamraev Sh.R. – Deputy Minister, Head of Central Water Administration at

the Ministry of Agriculture and Water Resources, Republic of Uzbekistan

Ibatullin S.R. – Chairman of EC IFAS

Mukhitdinov Kh.E. – Head of ICWC Secretariat

Dukhovny V.A. – Director of SIC ICWC

Kipshakbaev N.K. – Director of Kazakh branch of SIC ICWC

Sokolov V.I. – Regional coordinator of GWP CACENA.

4. The Organizing Committee members should provide proposals regarding the conference program and themes at the next ICWC meeting.

5. Entrust to SIC ICWC to collect reports and speeches and to publish the "Anniversary Edition".

Fourth item:

1. Recognizing the significance of the "Concept for development of information exchange and communication mechanisms between Central Asian actors" that was submitted to ICWC members for consideration, the parties should submit comments and suggestions to SIC ICWC until 15 March 2012. They should be reviewed at the next ICWC meeting.

Fifth item:

1. Conduct the next 59th ICWC meeting during the third ten-day period of May, 2012, in Ashgabad city.

2. Approve the agenda of the next 59th ICWC meeting.

Agenda

1. Regarding results of non-vegetation period 2011-2012, approved measures for flood water control, withdrawal limits, and operation regimes along the Amudarya and Syrdarya rivers for vegetation period 2012;

2. Regarding work progress on the regional project "Integrated Water Resources Management in the Fergana Valley" (IWRM-Fergana) (responsible: SIC ICWC, Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, State Committee for Water Management and Land Reclamation of the Kyrgyz Republic, Ministry for Water Resources and Land Reclamation of the Republic of Tajikistan).

3. Regarding work progress on the regional project "Ferghana Valley Canal Automation" (responsible: SIC ICWC and BWO “Syrdarya”).

4. The organizing committee’s information on progress in preparing the

Anniversary Central Asian International Research and Practical Conference "Twenty Years of Cooperation in the Field of Joint Management of Transboundary Water Resources in Central Asia: Methodical Approaches, Outcomes, Outlook";

5. Consideration of updated version of the "Concept of development of information exchange and communication mechanisms between Central Asia actors";

6. Regarding agenda and venue of the next 60th ICWC meeting

For the Republic of Kazakhstan	I.A Abishev
For the Kyrgyz Republic	Ch.M.Uzakbaev
For the Republic of Tajikistan	R.B.Bobokalonov
For the Turkmenistan	A.Mukhammedov
For the Republic of Uzbekistan	Sh.R.Khamraev

RESULTS OF VEGETATION PERIOD 2011 IN THE AMUDARYA AND SYRDARYA RIVER BASINS [1]

I. Amudarya river basin

The water content of the Amudarya river at the conventional Atamyrat gauging station (GS) (upstream of the Garagumdarya river mouth) was 69.7% of the norm during vegetation period. The actual water content is 33 192 million m^3 at the norm of 47 592 million m^3.

During vegetation period the water withdrawal control was performed on the basis of water withdrawal limits for the Amudarya river basin that were agreed but not officially approved at ICWC's meeting.

The use of fixed water withdrawal limits in the vegetation reporting period by the states is as follows:

- 70.6 % of fixed water withdrawal limit was used in total in the basin; under the limit of 39, 542 million m^3, the actual use was 27, 903 million m^3, including:

- The Republic of Tajikistan used fixed water withdrawal limit up to 89.2 %; under water withdrawal limit of 6 billion 822 million m3 the actual use was 6 billion 82 million m^3;

- Turkmenistan used fixed water withdrawal limit up to 68.1 %; under water withdrawal limit of 15 billion 500 million m^3 the actual use was 10 billion 552 million m^3;

- The Republic of Uzbekistan used fixed water withdrawal limit up to 65.4 %; under water withdrawal limit of 17 billion 220 million m^3 the actual use was 11 billion 269 million m^3.

Water delivered to Prearalie and the Aral Sea amounted 523 million m^3 for the vegetation period.

The use of fixed water withdrawal limits by river reach is as follows:

1. Upper reaches – 86.5%, including: Tajikistan - 89.2%, Republic of Uzbekistan - 71.7%.

2. Middle reaches – 79.9%, including: Republic of Uzbekistan - 89.4%, Turkmenistan - 74.6%.

3. Lower reaches – 52.3%, including: Republic of Uzbekistan - 51.3%, Turkmenistan - 54.3%.

[1] Materials on 1st item of 58th ICWC Meeting Agenda, Almaty, February,2012.

The actual water storage of reservoirs as of October 1, 2010 is as follows:

- Nurek reservoir - 10 530 million m^3 (data of the Ministry of Energy, RUz)
- Tuyamuyun reservoir - 2 359 million m^3.

According ti the approved "Agreement between Turkmenistan and Uzbekistan on water sharing in the lower reaches of the Amudarya river", 12 meetings of the commission on water allocation were held with participation of heads of production association "Dashoguzsuvkhojalyk", NABISA (Karakalpakstan and Khorezm), BWO "Amudarya" and TMHS Management office during the reporting period. At these meetings the operation modes of TMHS were developed and water withdrawals were determined for water users for various time period.

At last, BWO "Amudarya" suggests:

1. Approve BWO "Amudarya"'s report for vegetation period 2011.

2. Syrdarya river basin

According to the forecast updated by Hydrometeorological Service as of April 4, 2011 for vegetation period 2011, water content in the Naryn and Vakhsh river basins, and rivers in the south of the Fergana Valley was expected to be within 80-95 %, in the Surkhandarya and Zarafshan river basins, and rivers in the north of the Fergana Valley - 70-80 %, in the Kashkadarya and Karadarya river basins - 50-70% of the norm. Inflow to Toktogul reservoir was expected to be 96 %, to Andizhan reservoir - 52 %, and to Charvak reservoir - 79 % of the norm, and the total lateral inflow was predicted to be 92 % of the norm.

As a whole, water content of the rivers in the Syrdarya basin was expected to be 24.8 billion m^3 or 84% of the norm.

The total available water resources for vegetation period 2011, including water storage in reservoirs (excluding dead storage) amounted to 43.2 billion m^3.

The operation mode of the Naryn-Syrdarya reservoir cascade (NSRC) for vegetation period was considered in Tashkent at the 57th ICWC meeting on 11th May 2011. The scheduled plan of the NSCR operation and the water withdrawal limits from the Syrdarya river for vegetation period 2011 were approved at that meeting. Therefore, the NSCR operation mode depended on the unfolding water management situation during the vegetation period. Water intake to the main canals was made based on water users' requests and actual water availability.

The results of the vegetation period 2011 are generally characterized by the following indicators.

From April 1 to October 1, the inflow to upper reservoirs (Table 1) reached 17 billion 391 million m^3 of water (94 % of the norm), which is 2.03 billion m^3

more than expected. The inflow to Toktogul reservoir was 9 billion 888 million m^3 (103% of the norm), to Charvak reservoir - 4 billion 108 million m^3 (79% of the norm), and to Andijan reservoir - 2 billion 386 million m^3 (210% of the norm).

The lateral inflow amounted to 9 billion 41 million m^3 (81 % of the norm).

The total inflow to the basin reached 26.4 billion m^3 (89 % of the norm) compared to predicted 24.8 billion m^3 (84% of the norm), i.e. by 1 billion 582 million m^3 or 6% higher.

Releases from reservoirs for vegetation period as a whole exceeded the planned ones as stipulated in the operation schedule of the Naryn-Syrdarya reservoir cascade by 26 % (Table 2). Releases from the Toktogul reservoir amounted to 5 billion 714 million m^3. In July-August, the Republic of Kazakhstan imported 975 million kilowatt-hour of electricity from Kyrgyzstan.

In October 1, 2011, water volume in reservoirs was as follows: Toktogul reservoir - 19.5 billion m^3, Andizhan reservoir - 672 million m^3, Charvak reservoir - 1.2 billion m^3, Kairakkum reservoir - 1.5 billion m3, and Chardara reservoir - 1.1 billion m^3 (Table 3).

As a whole, water demands of the states for vegetation period 2011 were completely satisfied according to water requests.

Water delivery was performed in the following volumes (Tables 4 and 5):

Kazakhstan	607,22 million m^3
Kyrgyzstan	177,8 million m^3
Tajikistan	1451,43 million m^3
Uzbekistan	8433,96 million m^3

Inflow to Chardara reservoir was 2 billion 733 million m^3 (Table 6).

According to the data of BWO "Syrdarya", inflow to the Aral Sea and Prearalie should be 1.9 billion m3.

According to the data of Uzhydromet, inflow to the Aral Sea and Priaralie for vegetation period 2011 amounted to 1.6 billion m3 of water.

The actual operation mode of the Naryn-Syrdarya reservoir cascade for vegetation period from April 1 till October 1, 2011 is given in the Table 7.

Table 1

Parameters	Norm	Volume, million m^3 (from 01.04. to 01.10.2011)		Percentage (%) of the norm		Actual (percentage of predicted)
		predicted	actual	predicted	actual	
Inflows to upper reservoirs:						
Toktogul	9588	9192	9887,7	96	103	108
Andizhan	3046	1582	2987,54	52	98	189
Charvak	5188	4117	4107,99	79,3	79,2	99,8
Ugam river	584	474	408,15	81	70	86
Total:	18406	15365	17391,38	83	94	113
lateral inflows:						
Toktogul–Uchkurgan	1184	1184	1184	100	100	100
Uchkurgan, Uchtepe-Kayrakkum	3354	3004	2883	90	86	96
Andizhan – Uchtepe	2574	1897	2882	74	112	152
Kayrakkum – Chardara	3167	2688	1390	85	44	52
Gazalkent-g/s. Chinaz-Chirchik	892	712	701,85	80	79	99
Total:	11171	9485	9041	85	81	95
GRAND TOTAL:	29577	24850	26432	84	89	106

Table 2

Reservoir	Releases (from 01.04.2011 to 01.10.2011), million m^3		Percentage (%)
	planned	actual	
Toktogul	5034,81	5714,07	113
Andijan	1982,02	3763,43	190
Charvak	3831,84	3420,31	89
Kayrakkum	4514,16	7871,38	174
Chardara	5515,78	5620,75	102
TOTAL:	20878,6	26389,94	126

Table 3

Reservoir	Water volume, million m3			
	as of 01.04.2011	planned as of 01.04.2011	actual as of 01.10.2011	actual as of 01.10.2010
Toktogul	15398	19500	19541	19509
Andizhan	1426,96	1016,25	672,2	1419
Charvak	747	1014,06	1182	1858
Kayrakkum	3331	3075,25	1529	3379
Chardara	4973	1071,26	1118	1043
TOTAL:	25875,96	25676,82	24042,2	27208

Table 4

River reach, country-water user	Actual water withdrawal, million m^3
Toktogul–Uchkurgan hydroscheme	
Kyrgyzstan	128,43
Tajikistan	97,45
Uzbekistan	3719,93
Uchkurgan–Kairakkum hydroscheme	
Kyrgyzstan	49,38
Tajikistan	518,07
Uzbekistan	496,33
Kayrakkum hydroscheme–Shardara reservoir	
Kazakhstan	607,22
Tajikistan	835,91
Uzbekistan	4217,7

Table 5

Republic – water user	Actual water withdrawal for 01.10.11, million m^3
Republic of Kyrgyzstan	177,8
Republic of Uzbekistan	8433,96
Republic of Tajikistan	1451,43
Republic of Kazakhstan (Dostlik canal)	607,22

Table 6

Parameters	Planned, million m3	Actual, million m3
Water delivery to the Aral Sea (calculated data)	1898,2	1915,95
Discharge to Arnasay depression	0	0
Inflow to Chardara reservoir	3361,04	2733,62

Table 7

Schedule
of the Naryn-Syrdarya reservoir cascade operation
for April 1, 2011 – September 30, 2011

	Unit	April actual	May actual	June actual	July actual	August actual	September actual	Total *million* m^3
Toktogul reservoir								
Inflow to the reservoir	m^3 /sec	499,60	769,97	885,27	717,84	503,58	372,07	9887,70
	mln m^3	1294,96	2062,28	2294,61	1922,66	1348,79	964,40	
Volume: beginning of the period	*mln* m^3	**15398,00**	**15828,00**	**17027,00**	**18436,00**	**19166,00**	**19341,00**	5714,07
End of the period	*mln* m^3	**15828,00**	**17027,00**	**18436,00**	**19166,00**	**19341,00**	**19541,00**	
Release from the reservoir	m^3 /sec	333,73	319,00	345,33	433,90	436,74	296,13	
	mln m^3	865,04	854,41	895,10	1162,17	1169,77	767,58	
Kayrakkum reservoir								
Inflow to the reservoir	m^3 /sec	457,57	421,03	391,97	449,52	443,58	409,20	6782,41
	mln m^3	1186,01	1127,70	1015,98	1203,99	1188,09	1060,65	
Volume: beginning of the period	*mln* m^3	**3331,00**	**2601,00**	**2353,90**	**1973,00**	**1564,00**	**1276,00**	7871,38
End of the period	*mln* m^3	**2601,00**	**2353,90**	**1973,00**	**1564,00**	**1276,00**	**1529,00**	
Release from the reservoir	m^3 /sec	716,49	445,01	512,29	538,42	499,24	275,93	
	mln m^3	1857,13	1191,93	1327,85	1442,12	1337,15	715,20	
Chardara reservoir								
Inflow to the reservoir	m^3 /sec	716,41	95,05	60,04	37,61	47,46	92,06	2733,62
	mln	1856,9	254,58	155,62	100,73	127,11	238,64	

	Unit	April actual	May actual	June actual	July actual	August actual	September actual	Total *million* m^3
	m^3	4						
Volume: beginning of the period	*mln* m^3	**4973,00**	**4922,00**	**4351,00**	**3439,00**	**1540,00**	**905,00**	5620,75
End of the period	*mln* m^3	**4922,00**	**4351,00**	**3439,00**	**1540,00**	**905,00**	**1118,00**	
Release from the reservoir	m^3 */sec*	492,83	323,55	411,00	629,68	198,06	75,00	
	mln m^3	1277,42	866,59	1065,31	1686,53	530,50	194,40	
Release to Kizilkum canal	m^3 */sec*	52.33	15,00	35,50	137,10	28,58	8,00	732,33
	mln m^3	135,65	40,18	92,02	367,20	76,55	20,74	
Discharge to Arnasay depression	m^3 */sec*	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	mln m^3	0,00	0,00	0,00	0,00	0,00	0,00	
Inflow to the Aral Sea	m^3 */sec*	120,57	118,68	116,20	131,39	126,67	113,12	1915,95
	mln m^3	312,52	317,87	301,19	351,90	339,27	293,20	
Charvak reservoir								
Inflow to the reservoir	m^3 */sec*	230,90	394,13	375,40	254,06	179,16	123,64	4107,99
	mln m^3	598,49	1055,64	973,04	680,48	479,87	320,47	
Volume: beginning of the period	*mln* m^3	**747,00**	**994,70**	**1438,00**	**1843,00**	**1720,00**	**1379,00**	3420,31
End of the period	*mln* m^3	**994,70**	**1438,00**	**1843,00**	**1720,00**	**1379,00**	**1182,00**	
Release from the reservoir	m^3 */sec*	125,73	192,71	220,70	288,65	286,23	179,97	
	mln m^3	325,90	516,15	572,05	773,11	766,63	466,47	
Andizhan reservoir								
Inflow to the reservoir	m^3 */sec*	183,33	315,78	300,37	172,39	82,94	78,77	2987,54
	mln m^3	475,20	845,77	778,55	461,72	222,14	204,16	
Volume: beginning of the period	*mln* m^3	**1426,96**	**1541,36**	**1802,40**	**1771,30**	**1059,67**	**672,21**	3763,43
End of the period	*mln* m^3	**1541,36**	**1802,40**	**1771,30**	**1059,67**	**672,21**	**672,20**	
Release from the reservoir	m^3 */sec*	136,40	220,88	311,42	436,39	238,81	78,17	
	mln m^3	353,54	591,61	807,21	1168,82	639,64	202,61	

WATER DELIVERY PROCESS, OPERATION MODES OF THE CASCADE OF RESERVOIRS AND WATER WITHDRAWAL LIMITS FOR NON-VEGETATION PERIOD 2011-2012 IN THE AMUDARYA AND SYRDARYA RIVER BASINS[2]

1. Amudarya river basin

The water management situation at the beginning of non-vegetation period of 2011-2012 was not favorable for the Amudarya river basin as a whole, namely:

- Low water content during vegetation period didn't give possibility to reach optimal storage in the Tuyamuyun reservoir (usable storage amounted to 159 million m^3 only) and in the Amudarya basin's intrasystem reservoirs;

- Unfavorable forecast of water content in the Amudarya river basin - 80-85% of the norm.

Water content at the conventional Atamyrat gauging station (GS) (upstream of the Garagumdarya river mouth) for the reporting non-vegetation period 2011-2012, including natural discharge of the Vaksh river, was only 85.4%: in October - 72.8%, in December - 90.0%, in January - 97.0% of the norm. In fact, gradual increase in water content is observed.

It should be noted that only 52.3% of water withdrawal limits in the lower reaches of the river were used during vegetation period. Therefore, deficit of water needed to irrigate wheat in September 2011 was covered in October 2011 under agreement of three main water users in the lower reaches of the Amudarya river.

In order to irrigate winter wheat in time in the lower reaches in October, it was decided to decrease volume in the Tuyamuyun reservoir down to the dead storage and to start inflow-oriented operation mode of the Tuyamuyun reservoir.

After finishing irrigation of winter wheat in November, Tuyamuyun reservoir started to accumulate water.

Leaching irrigation across the Republic of Karakalpakstan and partly in Khorezm and Dashoguz provinces was implemented owing to favorable weather and preparedness of irrigated lands in the north zone of the republic and due to enough good inflow to Tuyamuyun in December (water content amounted to 90% of the norm). Drawdown of the Tuyamuyun reservoir in December was insignificant; storage volume during December was within 3 billion m^3.

In order to create optimal water storage in Tuyamuyun reservoir, which was

[2] Materials on the second item of the Agenda of the 56th ICWC meeting, Shymkent, January 12, 2011.

needed to complete leaching irrigation in the lower reaches, in the beginning of January 2012, measures were taken to reduce and stop water intake and to perform the required minimum releases into the river, in order to maintain uninterrupted water intake for the Takhiatash state district power plant under strong frost conditions.

Water volume in the Tuyamuyun reservoir amounted to 3719 million m^3 as of 01.02.2012. During January, 700 million m^3 of water was accumulated in the reservoir (water content was 97% of the norm).

The main task of BWO "Amudarya" for current non-vegetation period is timely water supply to water users in the region and finishing non-vegetation period 2011-2012 at the required level.

The states of the Amudarya basin have set the water withdrawal limits (at the normal water content in the basin) as follows:

Republic of Tajikistan	2 850,7 million m^3
Turkmenistan	6 500 million m^3
Republic of Uzbekistan	6 350 million m^3
including Surkhandarya province	370 million m^3

The water withdrawal limit for the whole Amudarya river basin was stated 15700.7 million m^3.

Water delivery to Priaralie and the Aral Sea is proposed at1 billion m^3 for non-vegetation period.

(More information in Annexes 2.1, 2.2, 2.3, 2.4)

At last, the BWO "Amudarya" suggests:

1. Approve the corrected operation modes of the reservoirs cascade, water withdrawal limits, water delivery to the Aral Sea and to the Amudarya delta for non-vegetation period 2011-2012 as submitted for consideration of the ICWC's members.

2. Syrdarya river basin

Water discharge forecast by Uzhydromet for non-vegetation period for the rivers of Uzbekistan was delivered only for two sites of lateral inflow; according to this forecast, water discharges amounted to about 96% of the norm.

The actual water-related situation for last non-vegetation period is characterized as follows:

The inflow to upper reservoirs (Table 1) actually was 4.1 billion m^3.

The inflow to Toktogul reservoir was 2498 million m3 that is 215 million m^3 more than the average annual (2283 million m3), to Andizhan reservoir - 695 million m^3 that is 57 million m^3 more than the average annual (638 million m^3), to Charvak reservoir - 833 million m^3 that is 102 million m^3 more than the average annual (935 million m^3).

The overall inflow to the basin amounted to 12.2 billion m^3, including 8.1 billion m^3 of the lateral inflow.

Water releases from the reservoirs amounted to 22.8 billion m^3 (Table 2).

As of 1 February 2012, water volume in the reservoirs was: Toktogul - 15.8 billion m^3 (long-term annual average - 13.1 billion m^3), Andizhan - 945 million m^3 (long-term annual average - 961million m^3), and Charvak - 676 million m^3 (long-term annual average - 969 million m^3). As a whole, the water storage in the upper reservoirs is 25 billion 24 million m^3 (long-term annual average - 22.391 billion m^3, Table 3).

Water supply to the states-water users as of February 1, 2012 is as follows (Table 4 and 5):

Kazakhstan (through Dostyk canal)	0 million m3
Kyrgyzstan	26,94 million m3
Tajikistan	11,67 million m3
Uzbekistan	2536 million m3

The delivered water to Shardara reservoir amounted to 9.2 billion m^3 (long-term annual average- 7.6 billion m^3).

According to calculated data by BWO "Syrdarya" as of 01.02.2012, the Aral Sea and Priaralie were supposed to receive 1254.42 million m^3 of water. Releases from Shardara reservoir to Arnasay amounted to 371.5 million m^3 of water (Table 6).

The Aral Sea and Priaralie received 730 million m^3 of water according to the data of Uzhydromet as of 01.01.2012.

BWO "Syrdarya" has elaborated the operation mode of NSRC for the period till April 1, 2012 (Table 7), having considered the water-related situation and forecasts of Hydrometeorological Services and actual water withdrawals during last 4 non-vegetation months. According to calculations by BWO "Syrdarya", the cascade of reservoirs would accumulate enough water by the end of non-vegetation period. This is an important storage for forthcoming irrigation period.

Table 1

Parameter	Water volume (from 01.10.2011 till 01.02.2012), million m^3		
	predicted	actual	%
Inflows to upper reservoirs:			
Toktogul	2176,56	2498,35	115
Andizhan	668,27	694,67	104
Charvak	979,62	833,3	85
Ugam river	112,28	104,4	93
Total:	3936,73	4130,72	105
lateral inflows:			
Toktogul–Uchkurgan	262,83	262,83	100
Uchkurgan, Uchtepe-Kayrakkum	2843	2914,81	103
Andizhan – Uchtepe	1822,81	1909,31	105
Kayrakkum –Chardara	1782	1821,96	102
Gazalkent-g/s. Chinaz-Chirchik	583,71	1184,71	203
Sub-total:	7294,35	8093,62	111
TOTAL:	11231,08	12224,34	109

Table 2

Reservoir	Releases (from 01.10.2011 to 25.12.2012), million m^3		Percentage (%)
	scheduled	actual	
Toktogul	4596,48	6254,59	136
Andizhan	374,38	417,65	112
Charvak	1143,07	1193,53	104
Kairakkum	5869,24	8711,01	148
Chardara	4970,59	6293,37	127
TOTAL:	16953,76	22870,15	135

Table 3.

Reservoir	Water volume, million m3			
	as of 01.10.11.	scheduled as of 01.02.2012	actual as of 01.02.2012	actual as of 01.02.11
Toktogul	19541	17109,1	15772	17107
Andizhan	672,2	964,35	945,22	1494
Charvak	1182	1107,78	676	1211
Kairakkum	1529	3418	3496	3485
Chardara	1118	3454,32	4135	3149
TOTAL:	24042,2	26053,55	25024,22	26446

Table 4.

River reach, country-water user	Actual water withdrawal, million m^3, as of 01.02.12.
Toktogul–Uchkurgan hydroscheme, including	1097,64
Kyrgyzstan	24.84
Tajikistan	8.45
Uzbekistan	1064,34
Uchkurgan–Kairakkum hydroscheme, including	265,37
Kyrgyzstan	2,1
Tajikistan	0,11
Uzbekistan	263,16
Kairakkum hydroscheme–Shardara reservoir, including	1212,11
Kazakhstan	0
Tajikistan	3,11
Uzbekistan	1209

Table 5

Country-water user	Actual water withdrawal as of 01.02.12, million m^3
Republic of Kyrgyzstan	26,94
Republic of Uzbekistan	2536
Republic of Tajikistan	11,67
Republic of Kazakhstan (Dostlik canal)	0

Table 6

Indicators	Actual on 01.02.12, million m^3
Water delivery to the Aral Sea (calculated data)	1254,42
Discharge to Arnasay depression	371,52
Inflow to Shardara reservoir	9289,41

Table 7

Schedule
of the Naryn-Syrdarya reservoirs cascade operation
for October 1, 2011 – March 31, 2012

	Unit	October actual	November actual	December actual	January actual	February actual	March actual	Total *million* m^3
Toktogul reservoir								
Inflow to the reservoir	m^3 /sec	**283,16**	**252,53**	**227,10**	**178,13**	**163,53**	**174,44**	3375,29
	mln m^3	758,42	654,57	608,26	477,10	409,73	467,21	
Volume: beginning of the period	*mln* m^3	**19541,00**	**19361,00**	**18555,00**	**17242,00**	**15772,00**	**14552,21**	9356,35
End of the period	*mln* m^3	**19361,00**	**18555,00**	**17242,00**	**15772,00**	**14552,79**	**13546,56**	
Release from the reservoir	m^3 /sec	**350,10**	**557,63**	**720,45**	**725,00**	**650,00**	**550,00**	
	mln m^3	937,70	1445,39	1929,66	1941,84	1628,64	1473,12	
Kayrakkum reservoir								
Inflow to the reservoir	m^3 /sec	**514,03**	**996,31**	**1101,36**	**1007,26**	**942,01**	**733,52**	13931,90
	mln m^3	1376,77	2582,44	2949,89	2697,84	2360,30	1964,67	
Volume: beginning of the period	*mln* m^3	**1529,00**	**2045,00**	**2859,00**	**3511,00**	**3496,90**	**3418,00**	13213,42
End of the period	*mln* m^3	**2045,00**	**2859,00**	**3511,00**	**3496,90**	**3418,00**	**3418,00**	
Release from the reservoir	m^3 /sec	**279,51**	**810,82**	**1018,60**	1169,55	**996,10**	**749,16**	
	mln m^3	748,65	2101,65	2728,22	3132,52	2495,83	2006,56	
Chardara reservoir								
Inflow to the reservoir	m^3 /sec	**183,33**	**871,32**	**1201,92**	**1239,80**	**1240,14**	**975,89**	15010,52
	mln m^3	491,04	2258,47	3219,23	3320,67	3107,29	2613,82	
Volume: beginning of the period	*mln* m^3	**1118,00**	**1363,00**	**2647,00**	**3752,00**	**4135,00**	**4596,38**	9637,06
End of the period	*mln* m^3	**1363,00**	**2647,00**	**3752,00**	**4135,00**	**4596,38**	**5303,78**	
Release from the reservoir	m^3 /sec	**137,10**	**421,83**	**807,42**	**996,93**	**800,00**	**500,00**	
	mln m^3	367,20	1093,39	2162,60	2670,19	2004,48	1339,20	
Release to Kizilkum canal	m^3 /sec	**5,00**	**5,00**	**5,00**	**41,29**	**5,00**	**6,77**	181,01
	mln m^3	13,39	12,96	13,39	110,59	12,53	18,14	
Discharge to Arnasay depression	m^3 /sec	**0,00**	**0,00**	**0,00**	**138,71**	**250,00**	**200,00**	1533,60
	mln m^3	0,00	0,00	0,00	371,52	626,40	535,68	

	Unit	October actual	Novemb er actual	Decemb er actual	January actual	Februar y actual	March actual	Total *million* m^3
Inflow to the Aral Sea	m^3 /sec	73,79	131,01	135,16	135,89	134,32	135,20	1961,87
	mln m^3	197,65	339,59	362,00	363,96	336,55	362,12	
Charvak reservoir								
Inflow to the reservoir	m^3 /sec	**94,07**	**96,66**	**85,77**	**76,71**	**74,79**	**111,68**	1424,22
	mln m^3	251,97	250,54	229,73	205,46	187,40	299,12	
Volume: beginning of the period	*mln* m^3	**1182,00**	**1011,00**	**943,00**	**797,00**	**676,00**	**611,84**	1738,72
End of the period	*mln* m^3	**1011,00**	**943,00**	**797,00**	**676,00**	**611,84**	**616,07**	
Release from the reservoir	m^3 /sec	**133,90**	**104,97**	**115,65**	**94,49**	**100,00**	**110,00**	
	mln m^3	358,65	272,07	309,75	253,07	250,56	294,62	
Andizhan reservoir								
Inflow to the reservoir	m^3 /sec	**54,52**	**97,07**	**58,45**	**52,45**	**52,86**	**70,90**	1017,00
	mln m^3	146,01	251,60	156,56	140,49	132,44	189,91	
Volume: beginning of the period	*mln* m^3	**672,20**	**581,80**	**777,26**	**833,00**	**945,22**	**1032,49**	604,71
End of the period	*mln* m^3	**581,80**	**777,26**	**833,00**	**945,22**	**1032,49**	**1080,36**	
Release from the reservoir	m^3 /sec	**88,28**	**20,67**	**36,66**	**11,00**	**18,00**	**53,00**	
	mln m^3	236,45	53,57	98,18	29,46	45,10	141,96	

Proposed water withdrawal limits for non-vegetation period 2011-2012

River basin / state	Proposed water withdrawal limits for non-vegetation period 2011-2012, million m3
Total from the Syrdarya river	4520
including:	
Republic of Kazakhstan (Dostlik canal)	400
Kyrgyz Republic	40
Republic of Tajikistan	180
Republic of Uzbekistan	3900
Water delivery to the Aral Sea and Priaralie	2200

Expected water releasse to Arnasay till October, 1, 2012 - 1300 million m^3

THE SIXTH WORLD WATER FORUM IN MARSEILLE

(March 12-17, 2012)

The Sixth World Water Forum was organized in March 12 to 17 in Marseille by joint efforts of the World Water Council and the Government of France. Almost three years of preparation preceded the Forum itself. Hundreds of organizations coordinating and participating in thematic and political processes were engaged in this preparatory work. In his speech at the final plenary session the President of WWC Mr. Loic Fauchon underlined that 19 800 people from 168 countries, over 80 ministers and ministerial level officials, 1400 representatives of regional and municipal organizations from 60 countries, including 250 mayors took part at the Forum. In addition, 700 children and over 2000 representatives of the youth participated in different Forum events. More accurate data on participation will be given in the International Forum Committee's report to the WWC Board but, in general, it is evident that the scale of given Forum does not differ much from Istanbul and Mexico Forums.

However, representation at this Forum showed a significant difference: 200 and more people represented USA, Brazil, Mexico, South Korea, China, and Japan each. Large delegations from Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan, as well as one representative from Turkmenistan (Mr. Balliyev K.B.) took part in the Forum from Central Asia.

SIC ICWC was represented at the Forum by its Director, Governor of WWC Board and regional Coordinator Prof. Dukhovny V.A., Deputies Director Mr. Sokolov V.I. and Ms. Ziganshina D.R., Head of International communications division Ms. Usmanova O.K., SDC project managers Mr. Mukhamedjanov Sh.Sh., Mr. Beglov I.F., Mr. Umarov Kh.U., and Mrs. Stulina G.V.

All the above-mentioned representatives were invited to the opening ceremony, which was held in a specially constructed pavilion for 2500 seats in the Parc Chanot on 12th of March. The ceremony was opened by Mr. Jean-Claude Gaudin, Senator Mayor of Marseille city. He, among others, noted that the city of Marseille knows what shortage of water means since the rapidly growing population and industry in the city and in the Aix-en-Provence as a whole are very limited in water sources. This is engraved for ever in the minds of our society. In order to solve water problem, a general recognition of this and financing are needed. It became evident that even for developed countries the time of easy water finished. Marseille will support activities of the World Water Council and keep an image of the world's water capital in the future as well.

Prof. Ben Braga, President of the International Forum Committee presented efforts that were undertaken in preparation to the Forum.

It was expected that Mr. Nicolas Sarkozy, President of the French Republic

would welcome the Forum; however, for unknown reasons, Mr. Francois Fillon, Prime-Minister of France took the floor instead of him. Mr. Fillon underlined that France is provided with centralized water supply and sanitation for 89%. By 2030, the total country population will be 100% covered. The French Government sees its mission in assisting the developing countries in the solution of water problem. Annually, France allocates 600 millions Euros in form of assistance in these issues to Senegal, Bangladesh and other countries. For example, a water treatment plant of 10 millions was build in Gaza strip. The global water policy should be radically changed. We are facing new industrial revolution in area of water. He has called for transition from the model of response to water challenges to the model of proactive measures and global water saving. In this context, a new International environmental entity with water focus should be created. The upcoming Rio+20 conference should make respective decision. Francois Fillon also called the countries that have not yet become the parties of UN Convention 1997 on watercourses to join this global instrument and expressed willingness of France to organize fist meeting of the Parties, when the Convention is entered into force.

The welcome speech of Mr. Ban Ki-moon, UN Secretary General was shown on video an supported by the speech of Mr. Michel Jarraud, WMO Secretary General. Mr. Hwang-Sik Kim, Prime Minister of South Korea and Mr. Mikhail Gorbatchev also delivered their speeches.

After a break, the floor was given to Peter Vosel, CEO of Royal Dutch Shell (the necessity of associating and solving jointly the water and energy issues and looking for low water-consuming sources); Prince Willem-Alexander of Orange, President of the Holland Water partnership (our experience in combating floods and natural disasters should be adopted everywhere); and, Peter Brabeck, Chairman of the Nestle Group (the nature pays dear for our errors - for example, disappearance of Lake Victoria repeating the Aral Sea disaster).

Angel Gurria, Secretary General of the OECD (Organization for Economic Cooperation and Development) underlined that, in 2020, 40% of the world's population will be living in river basins subjected to water stress. Major attention should be paid to sustainable financing of water supply. To this end, the Governments should increase financing in water supply to not less than 1% of GDP. Sustainable water supply can be achieved through a system of tariffs, taxes and transfers. Another prerequisite is to strengthen water governance at national, provincial, and local levels.

Julia Marton-Lefevre, Director General of IUCN (International Union for Conservation of Nature) called for increased focus on the observance of environmental requirements during construction of new infrastructures.

It also should be noted that the Istanbul Water Consensus Pact remained open for signature during the Forum. As a result, as Pierre Victoria, WWC Governor reported, the number of signatories increased to over 1000.

High Level Roundtable: Transboundary Waters

13 March 2012

The High-level roundtable dedicated to transboundary water problems was held on 13th of March. The introduction was given by a US' representative and Mr. Bobokalonov R.B., Minister of land reclamation and water resources of Tajikistan. He said that the development of transboundary water resources takes crucial part for many countries in the world. That is why the President of Tajikistan proposed in December 2010 to declare the year 2013 as the International year of water cooperation since water more often unites rather than divides. This proposal was accepted by the UN. Tajikistan is in the heart of transboundary water issues in Central Asia. The country supplies 60% of water to the region and uses only 10% - the remaining water is used by our neighbors. Although the countries in the region cooperate, there is great potential for deepening of this cooperation. The Minister underlined that Tajikistan will totally support this process of deepening and called for conclusion of feasible agreements.

"Zimbabwe is a member of SADC (South African Development Community)", said the Zimbabwe Minister of Water, a moderator, "which integrates the interests of several countries in the region. Our organization clearly shares responsibilities and views among the countries, whereby we improve effectiveness of cooperation through joint actions and agreements. We try to make our projects mutually beneficial. The first zonal protocol was signed in 1990 and further one attention was paid to identification of water deficit and its distribution". The representative of Angola - member of the Community - added that cooperation involves not only sharing of water but also sharing of problems (floods, droughts, etc.).

In opinion of a representative from Egypt, when addressing transboundary cooperation, the whole set of issues in the basin should be considered rather than only water. Representatives of Luxemburg, Mozambique, Palestine, Finland, Greece, Albania, Macedonia, Iran, Turkey, and France took part in the debate. Whereas representatives of Luxemburg, Mozambique, and France, which signed UN Convention 1997, advocated it, a representative from Turkey said that there is no need for a global Convention if we maintain trust, regional stability, and water conservation. In unison to him but counter to the spirit of the meeting the representative of Kyrgyz MFA said that UNECE Convention does not reflect the interests of arid countries, while regional agreement do not solve the issues of rational water use. IFAS should be reformed and re-organized, with strengthening of bilateral agreements. Only operation of reservoirs in winter releases regime suits us, and, moreover, flow regulation from our side should be paid by downstream countries. The head of Uzbek Delegation Mr. Khamraev Sh.R. in his speech underlined the leading role of the republic in strengthening regional cooperation.

"Since independence, Uzbekistan has been always active participant and driver

of cooperation in water and environmental issues among the region's countries, taking into account an importance of transboundary water for the future of the country and the region. While recognizing that currently the republic accounts for 50% of the total water withdrawals in the region, we have always approached responsibly to the development of water cooperation tools and instruments and supported joint activities among the countries. That is why in 1992 we initiated an Agreement about establishment of ICWC and joint water resources management in the Aral Sea basin. The republic was first country in the region that joined two Conventions 1992 and 1997. Uzbekistan, understanding its responsibility for cooperation among the countries in the region, put forward an initiative to dislocate the Executive Committee of IFAS, according to its conventional rotation, in Uzbekistan for 3 years. We fully support activities aimed to fulfill the decision of the Heads of State of April 28, 2009 concerning the creation of a mechanism for mutually beneficial cooperation among the region's countries and the implementation of the Aral Sea Basin Program 3 (ASBP-3).

The republic fulfills its obligation with respect to its neighbors in practice. By involving water users in management of water resources we develop the financial-economic mechanism through encouragement of higher contribution of the users to maintenance of the water sector (up to 5% of their net incomes) and creation of cross-sectoral incentives among all water actors for successful and efficient water supply. Uzbekistan has reduced water diversions from 65 km^3 to 52 km^3. Our water conservation program will be developed further so that to achieve unit irrigation water diversion at a level of 9 thousand m^3/ha. To this end, we are applying such means as reclamation of land, implementation of IWRM, installation of automation systems, and strengthening of water accounting in all chains of water hierarchy. We believe that the cooperative movement of all the countries in this direction would help to solve the problem of water scarcity in our region".

The Head of the World Wildlife Fund reported on efforts made to join countries to Convention 1997 and underlined that 25 countries already joined it and called other participants to ratify the Convention. The UN-Water Secretary proposed to pay more attention to positive examples of cooperation. A representative of UNECE noted that uncertainty is the main problem in water management for which a solution needs to be found. In his opinion, such a solution includes legal and institutional mechanisms. At the end of the second part of roundtable, Mr. Rakhimov S. underlined the difference in the interests of upstream and downstream countries and called to take them into account. He also stressed that since this Forum is the Forum of solutions and obligations, his country will take an obligation to sign a bilateral agreement with Kyrgyzstan on small rivers by 2013.

The US' representative finalized the meeting, underlining a need to involve all stakeholders in cooperation, a necessity for sustainability, openness and flexibility of mechanisms and institutes, political will, a need to joint UN Convention 1997 and ensure that the year 2013 becomes the year of real actions rather than simply declarations.

Ministerial Conference

13 March 2012

Later in this day the Ministerial Declaration was presented. The Declaration virtually reflected a variant of major points of the future water policy that would suit all. It should be noted that the French Ministry for Foreign Affairs thoroughly elaborated it in order to exclude all controversial points that could raise a protest of one or another party. Therefore, the Declaration is quite "smooth" since all contradictions were smoothed over.

While taking part in discussion of the Declaration, the Deputy Minister of Uzbekistan Mr. Khamraev Sh.R. underlined that Uzbekistan attaches great importance to water resources and attracts considerable budgetary and credit funds. Uzbekistan advocates international water cooperation on the basis of international water Conventions, and, at the same time, the Republic believes that the following priorities in water use should be clearly marked out: drinking water supply; food security; environment; and only then industry and energy. It is necessary to take concrete measures for water conservation and efficient water use. Uzbekistan is against breach of water-environmental regime of transboundary rivers, against causing harm and stands for separate understanding of water and energy resources.

The Minister of Tajikistan Mr. Bobokalonov R.B. underlined that Tajikistan is an initiator of the proposal adopted by the UN General Assembly that the year 2013 should be declared the International water cooperation year. The Republic is experiencing scarcity of clean drinking water, lack of electricity, and increased frequency of extreme events.

Finally, the Conference adopted the Ministerial Declaration in its initially presented version.

Session «Input of Central Asia to the World Water Progress»

15 March 2012

The regional session "Input of Central Asia to the World Water Progress" was held on 15th of March.

The session was opened by Prof. Ibatulin S.R., Chairman of EC IFAS, who briefly outlined the preparatory work at the regional level prior to the Forum. Then, the floor was given to ICWC members: from Kazakhstan - Mr. Abishev I.A., Chairman of Committee for Water Resources; from Tajikistan - Mr. Khasanov Kh., Deputy Minister (instead of R.B. Bobokalonov); and, from Uzbekistan - Mr. Khamraev Sh.R., Deputy Minister.

The Sub-regional coordinator Prof. Dukhovny V.A. in his welcome speech underlined that we all came to this event to take new ideas and solutions presented at the Forum from the entire world and share huge experience accumulated in the Central Asian region in addressing water problems and promoting continuous improvement of political, engineering, economic, and managerial mechanisms. This allows us overcoming successfully both dry and high-water years and developing capacities of our organizations, professionals, and end water users. Thanks to countries' aspiration and donors' support, we have developed many unique instruments - the training system, IWRM implementation system, and regional information system. In support of the Minister Bobokalonov's opinion, who stressed a potential for cooperation and willingness among all to develop it, at the last ICWC meeting in Almaty, measures were approved to overcome this year's high water content and are already being implemented along Amudarya river and Syrdarya river. The guarantee of successful water management in the future is our solutions. Therefore, the best solution lays in common solutions and common adherence to these decisions. For the development of cooperation, which our colleagues advocate, we should seek the points that unite us, look for consensus and avoid the points that separate us.

The session's participants were presented with the regional platform of priorities, targets, and solutions that was prepared on the basis of concept notes, comments received to these notes and following discussions during 5 workshops held among representatives of CA countries. The final version of the platform was approved at a workshop held in February 2012 in Shimkent.

Target coordinators reported on the results of their work on priorities: Narbayev M., representative of Kazakhstan in EC IFAS (priority «International cooperation on transboundary watercourses management to the benefit of all countries in the region»), Balliyev K.B., representative of Turkmenistan in EC IFAS (priority «Risk management and water security»), Mukhamedjanov Sh.Sh., manager of the Project "Water productivity improvement at plot level" (priority «Adoption of innovations in agriculture through agrarian reforms in order to achieve food security»), Sokolov V.I., regional coordinator of GWP for Caucasus and Central Asia (priority «Integrated water resources management – a tool for balancing multiple uses of water»), Sanginov S. (priority «Climate change and conserving environmental capacity»), and Dukhovny V.A., director of SIC ICWC (priority «Guaranteeing water for future generations»).

Ms. Strikelyova Ye., Regional environmental center of Central Asia, informed about on-going projects on IWRM implementation in Kazakhstan and about the results of pilot project aimed to adopt charges for ecosystem services in Chonaksu, Kyrgyzstan. Mr. Klimtchouk F., UN Center for preventive diplomacy, thanked for instructive and informative presentations and told about some projects initiated by the Center for strengthening of cooperation in the region, with involvement of Afghanistan. Mr. Kipshakbayev N.K. underlined a need for implementation of IWRM on a scale of transboundary basins and for fulfillment of ASBP-3 («We have plan of actions - now it's time to start acting»). Mr. Gafarov B., NGO from Tajikistan, stressed a need for addressing of water and energy harmonization issue.

Then, ICWC members took the floor. Mr. Abishev focused on work initiated in Kazakhstan for reconstruction of irrigation and collector-drainage systems and on subsidizing (up to 80%) of capital costs to those water users, who contribute to such work and to water conservation technologies. The Government also plans to develop an economic incentives policy for enlargement of private farms. Mr. Khasanov underlined efforts undertaken to develop solutions on the Central Asian priorities and made his proposals on their improvement (they were reflected in the protocol). Mr. Khamraev Sh.R. reported on achievements of Uzbekistan in implementation of IWRM, which covered 10% of the total irrigated area, and on the improvement of land conditions in the republic. He also noted the effective work of IFAS Executive Committee in Kazakhstan on implementation of the Joint Statement of the Head of IFAS State-Founders of April 28, 2009 (Almaty) and expressed willingness to take up the torch from Kazakhstan in strengthening cooperation within the framework of IFAS.

Asia-Pacific Synthesis and Commitment Session

The Asia-Pacific session dedicated to regional contribution to water security was held in the morning on 16th of March 2012. The main output of this session includes recommendations to be presented at the 2nd Asia-Pacific Water Summit in Bangkok. The session was chaired by Mr. Yoshiro Mori, former Japan Prime-Minister, President of the APWF (Asia-Pasific Water Forum). Representatives of the Asian Development Bank, ESCAP, FAO, UNESCO, and the Kuwait Water Fund took part in the session as panelists. Prof. Dukhovny V.A., as the coordinator of sub-regional process, reported on the results of Central Asian preparatory campaign, the resolution of Tashkent Regional Conference and presented the platform of Central Asian countries prepared by target coordinators and working groups.

In summary of the session, the focus was put on ensuring of water security, fight with natural disasters, and provision of growing population with food. Finally, a representative of Daegu city (South Korea) presented an ambitious program of preparation to the 7th World Water Forum, which is to be held in 2015 in this city.

Signature of the Basin Organizations' World Pact

Prof. Dukhovny V.A. on behalf of the Network of water-management organizations from Eastern Europe, Caucasus, and Central Asia (EECCA-NBO) and Dr. Sokolov V.I. on behalf of GWP for Caucasus and Central Asian signed the "World Pact for better water management".

Session «Transferring Water Research Outcomes in Practice»

Prof. Dukhovny was a panelist at the session dedicated to more intensive adoption of innovations in water practices. During the discussion it was emphasized that the main causes of disintegration of research and practice are the following:

- difference in mentality and purposes of research and practice (researchers often try to look far beyond and forget about the real-world problems, whereas practitioners prefer stand on the ground while forgetting about prospects);
- practitioners does not realize adequately the research capacity and the set of measures that science can offer for solving problems of the former;
- solutions offered by science very often do not pass testing in practice and approbations under concrete conditions and need considerable adaptation;
- researchers often focus on engineering solutions in isolation from political, social, economic, and human resources;
- any adoption in practice requires control and funds.

It was proposed to focus attention on practical demands and create conditions for researchers so that they could work on these demands and develop solutions together with practitioners. The phase of adoption should follow immediately after research solutions tested in small pilot conditions, with special financing, which is to be allocated on conditions that National water councils control this process. The plan of adoption should be a part of national water strategy. Integration of the interests of research and practice may create a good basis for continuous exchange between practitioners and researchers, will promote capacity building of practitioners, and will create necessary environment for joint discussions and work.

Participation of SIC's representatives in thematic sessions

The SIC's team tool part in various sessions held during the Forum week. The following directions were of particular interest:

Information systems and data maintenance

The information tools of cooperation - databases, information systems, and models -had wide coverage at the Forum. It was emphasized repeatedly that success of water cooperation policy depends on usage of effective management tools, where transparency and guaranteed access to data on water resources and their use are major.

The development of information systems in support of efficient water use and

transboundary cooperation is not simple since often data are dispersed, controversial and in different spatial and temporal scales.

The sessions on priority 1.5 “Contribute to cooperation and peace through water” demonstrated solutions implemented already and aimed to support cooperation among riparian countries sharing common water resources. In particular, the Mediterranean Information system EMWIS is formed by 16 multilingual national web-sites presenting water information and knowledge between and within the countries of the Euro-Mediterranean partnership.

It is good to note that the worldwide principles of information systems have been already implemented in IS CAREWIB in the Central Asian region:

- Aggregation of databases and GIS
- Data management
- Integration of water and other data (e.g. socio-demographic, etc.) into a single system.

UN offered a common global mechanism to measure, monitor, and exchange research and social data, among which the proposed format of data presentation and the method of data validation is of great interest.

The session on target 2.4.5 «*Green accounting and data improvement: critical tools for informed decision making and sustainable growth*», priority 2.4 «*Promote green growth and value ecosystem services*» was held on 13th of March under coordination of UNESCO WWAP. The target «By 20xx, green accounting methodologies fully incorporating the environmental, social, and economic dimensions of water are demonstrated in national accounting case studies for XX countries». This session was built on the current need for reliable data for informed decision making and coordinated water accounting systems. The session highlighted activities of the European Environmental Agency and the UN Statistical Division towards improvement of the System of Environmental-Economic Accounting for Water (SEEA-Water) and the International recommendations for water statistics (IRWS). Mr. Ivo Havinga from the UN Statistics Division made presentation on monitoring framework for water, where he emphasized that this monitoring framework should be included into the general information framework. Water information should contain also economic, energy and other natural resource data. It was also noted that statistics on the magnitude of water abstractions are often estimated rather than based on data that are measured. The level of uncertainty varies, but is particularly high for agriculture. Adequate historical datasets are rare, and the dates of available statistics are not always explicit. Besides, lack of agreed terminology, e.g. “green economy”, “sustainability”, etc. leads to discrepancies in data compilation and analyses. These problems should be overcome in order to create a common international framework on the basis of national information systems.

Then presentations were made by representatives from the Netherlands,

Mexico, and China (Z.Gao, ICID President) on national water information system and accounting and their role in decision and policy making.

This topic of accounting and data improvement had something in common with the priority 3.2 «*Adjust pressures and footprints of human activities on water*», particularly with the theme on decoupling economic growth from water resources use and impacts.

Water governance

A few sessions were held under "Enhancing good governance in the water sector". OECD - the coordinator of this direction - laid the basis for analyzing governance issues at different levels and focused attention on seven areas, such as: (i) administrative issues, (ii) lack of information (iii) policy and institutes, (iv) human capacity, (v) financing, (vi) competing interests, and (vii) accountability. Based on outcomes of the sessions dedicated to governance, the key recommendations were to enhance public governance, promote IWRM and openness in the water sector.

Legal mechanisms of cooperation

A necessity for strengthening of the legal mechanisms of cooperation at transboundary, regional, and global levels was emphasized everywhere. The World Wildlife Fund (WWF) together with the Dundee University, Green Cross, and the International Union for Conservation of Nature (IUCN) organized a number of sessions in order to raise political recognition and enhance enforcement of principles and regulations of the international water law. UNECE also held sessions to draw attention to UNECE Water Convention 1992, which soon could become the only global water instrument in force.

Water, energy and food

At the high level panel «Water, food and energy nexus» it was noted that the approach taking into account the inter-dependencies of these three constituents is useful, inter alia, in terms of tracing "integrated" success. A proposal to include the environment as the forth constituent was rejected since the environment is a basic – rather than additional – element for the development of water, energy and food provision. Various inter-dependencies between water and energy were considered under the 2.3. «Understanding the water-energy nexus and turning talk into action». Among others, it was underlined that particular attention should be paid to coordination of financing between water and energy sectors since the lack of funds in the water sector is obvious, whereas the energy sector as a whole does not suffer from financing problems.

Unfortunately, under this critical topic "Water, food and energy" discussed at the high level panel during the 6th WWF, all examples of successful solutions in this area were based on national case-studies, without presentation of transnational

projects. The only example of the ECOWAS region (basin of Senegal, Niger and Volta) did not find successful solution, same as the lower Niger delta.

Education and training

The issues of water education and training were in the focus of the Forum week as well. Particularly, the following issues were emphasized: improvement of knowledge quality, sustainability of educational programs, a need to consider innovations and continuous collaboration with the community experts and practitioners in order to get site-specific knowledge applicable in practice. The final session on the priority «Contribute to cooperation and peace through water» especially stressed the role of training for strengthening peace and cooperation.

Access to water and sanitation

The intro-session on the Priority 1.1 «*Guarantee access to water for all and the right to water*» was held under coordination of the Swiss Agency for Development and Cooperation (SDC) and the World Bank's Water and sanitation program on 12th of March.

The session's participants were welcomed by Mr. Muenger F., Head of the water initiatives (SDC), who briefly introduced the situation with the access to water and sanitation and emphasized that in one decade 1 billion people got access to improved water sources. This is significant progress towards the respective MDG target. During the Forum week under this priority the following issues were addressed: practical implications of national policies to the right to water, moving towards universal and sustainable access to drinking water by 2025, financial mechanisms which suit the local needs, etc.

Quality of water resources and ecosystem protection

The session on priority 3.1 «*Improve the quality of water resources and ecosystems*» was held under coordination of Wetlands International. The gap between recognition of the role of wetlands and aquatic ecosystems in theory and their consideration in decision making in all sectors was addressed as the main challenge. Services delivered by ecosystems are widely recognized as being of significant importance to millions of people and biodiversity. They are important economic resources and support resilience for communities in the face of increased disaster risk and a changing environment. However, it is still a major challenge to move from appreciating wetland ecosystem value to water management that can benefit from and maintain it. The presentations of speakers from Wetlands International, UNESCO and GWP and related sessions addressed the key issues and challenges in this sphere. Particularly, it was noted that wetlands should be considered as the natural infrastructure of water management. Therefore, the functions of wetlands and their role should be taken into account in dealing with water management options. The main problem is to value biodiversity in monetary terms so that to engage with policy

makers. On the other hand, efficient ecosystem management would help to solve many water-related problems. During discussion it was underlined that for valuing of wetlands we need multidisciplinary teams and multistakeholder approach. In this context, the lack of environmental economists was noted.

Improvement of land and water productivity

In order to achieve food security, it is necessary to improve productivity of irrigated agriculture. During the Forum's sessions, measures for improvement of land and water productivities were discussed. Those included improvement of O&M of irrigation systems, better water management, modernization of irrigation and drainage canals, and enhancement of financing, increased attention to soil preparation, selection of seed, fertilizer application and control of plant pests. Particularly, at the session «Sustainable food security through increased productivity of rainfed and irrigated agriculture» conducted on 14th of March Mr. Muller highlighted the general situation with food security in the world and voiced a wish to pay more attention to different specific conditions in various region during discussion. The heads of such large organizations as the World Bank, IFAD, FAO made their presentations at the session. Next session "Sustainable food security through increased productivity" by using treated wastewater dealt with more technical issues. Representatives from different countries took the flow at this session. It is interesting that 8 out of 10 reports addressed development of management mechanisms at farm and field levels. A representative from Mali focused on organization of water accounting system, the participant from India Mr. Maro highlighted problems caused by the lack of management mechanisms for small-scale farms. During discussions Mr. Mukhamedjanov Sh. shared his experience in Central Asia. In particular, he cited the Kyrgyzstan case-study, where they have experience in managing irrigation water for small plots, and proposed to collaborate in this direction with Indian experts. Prof. Kulkarni, ICWC Secretariat member, expressed an opinion that many issues and problems all over the world are similar, especially the insufficiently developed WUA system. Dr. Bart Schultz and Prof. Kulkarni offered to present the results of our work in next issues of ICID journal.

The session «Sustainable productivity and lower costs of water management for food security at affordable prices for all» was chaired by Mr. Gao, ICID President. The panelists included Bart Schultz, Pasquale Steduto from FAO and others. The reports addressed the topic of mechanisms, including economic incentives that play an important role for sustainability of developed mechanisms. A need for consideration of legal aspects was also raised.

As a whole, the Forum showed that water issues all over the world are very similar and the main lines of their solution are close, if not the same, to those that we are adopting in our projects and trying to implement in practice. The Forum demonstrated that our region and our professionals are not behind the world experts and we could not only adopt their experience but also share our developments. One example is an approach developed for the Sokolok canal (Kyrgyzstan) to irrigation

water management for small-scale farms. Since SIC ICWC implements a number of successful projects aimed at improving land and water productivities in the region, potential lines of collaboration were discussed with the technical adviser of the International Fund for Agricultural Development (IFAD).

Gender and water

The Forum paid great attention to involvement of women in water resources management. Three sessions were dedicated to this topic.

The session «Water resources and gender equality. What is the link?» was organized on 13th of March by UNESCO WWAP. The participants cited examples of woman participation in water saving, adaptation to different conditions, including climate change, application of different irrigation techniques, and production of various crop varieties. Irina Bokova, Director General of UNESCO underlined that gender and water is a priority for development of our society.

On 14th of March, the session «Women leadership in water: presenting new thinking new challenges» was organized by «Women Water Partnership» with participation of active woman-leaders, including four water and environmental ministers from France, Uganda, Sri-Lanka, and South Africa. This is was very lively session. The participants in national costumes of their respective countries held broadsheets with messages.

The session identified 11 key messages:

- Let us move from talking to action.
- Needs-based approach! We know the what, involve us in the how.
- Empower women to play central role in the provision, management and safeguarding of water!
- Sustainability of watsan provision and management is a social issue, not a technical issue!
- Involve us as opportunities for rapid change! Promote women's leadership!
- Dare to let go and delegate responsibility to local level!
- In times of crisis, put your money where your mouth is!
- From policies to implementation, the principal actors change!
- 30 years of technical expertise but nobody told me about women – involve me and I will change!
- Include community and gender issues in water curriculum at all levels!
- This is the only way I know how to do it – now I realize it's time to change, let's work it out together!

The non-governmental organization «Gender and Water Alliance» held its session on 15th of March. The participants discussed GWA's plan of future actions: organization of work and financing of Steering committee, as well as potential sources of financing for local initiatives.

A need for gender-integrated approach to water management was stressed. At the institutional level, a gender perspective means generating strategies for changing the unequal relations of men and women to resources, decision-making and rights.

We presented a newsletter prepared to the Forum on “Involvement of women in water resources management in Central Asia” and leaflets on Gender and Water translated into Russian, Uzbek, and Tajik.

CONCLUSIONS

Such events as the World Water Forum is necessary and useful since the present water professional needs to collaborate with colleagues from different countries, take part in discussions, and share experience. At present, there is no local water problems - all water-related problems are of global nature and therefore no cameral solution can be found for them.

The present water problems can be solved only through an international platform. Water has no borders, except for hydro-geographical ones within hydrological cycle. It is almost impossible to solve all problems and achieve water security in a single state, especially in transboundary basins. In the real world, this can be achieved only by moving jointly in the spirit of cooperation at basin level.

Broad experience in solving transboundary water issues was accumulated. Here the main factor is political will and a desire of all parties to discuss and make mutually acceptable decisions. Everything hinges on honor and conscience of the parties’ representatives - if these qualities are available, there would be not problematic to implement achieved agreements, provided that joint mechanisms are available. Therefore, the key factor of practical solution of water problems is professional personnel with skills of diplomacy, on the one hand. On the other hand, available platform for dialogue and cooperation is not so much important as mutually acceptable mechanisms for implementation of solutions.

The main lessons learnt by our delegation during the Forum week in Marseille in terms of future ways for improvement of water management in Central Asia are the following:

1. It is necessary to enhance water governance, including through the legal framework (legal mechanisms) and strengthen water-management organizations (staff and finances), especially at national level. Priority should be given to strengthening of integrated basin entities, covering coordination and development of all water-related organizations, including water supply (urban centralized one as well),

irrigation and other entities responsible for recreation, hydropower, navigation, and ecology. Moreover, it is important to consider also groundwater use issues.

2. All stakeholders should be involved in the development of basins and sub-basins.

3. Sustainability of the water sector will depend on clear sharing of responsibilities and financing mechanisms: state subsidizing, clear and easy-understand mechanisms of water service charges (depending on profitability of water consumers), practical implementation of water charges mechanisms depending on used water quality. At the same time, in no case water should take the form of commodity.

4. The level of Water User Associations (WUA) begins to take important place in the current water management hierarchy in the Central Asian countries. The mechanism of financing WUAs needs to be elaborated further and strengthened in organizational, legal, financial-economic, and technical terms.

5. The government should pay due attention to support of modern irrigation and water conservation technologies. As the world's experience shows, the development of drip irrigation and mist irrigation on a large scale is possible only when the state subsidizes no less than 50% of costs.

6. Sustainable water management can be achieved only with reliable and accurate information. One of the main national priorities is to develop water information systems everywhere, down to water consumer (farmer).

7. Solutions on transboundary water management and use should be based mainly on economic mechanisms and relations that include sharing of costs and benefits, as well as joint construction of new structures.

8. In terms of capacity building in the water sector, particular attention should be paid to young generation, especially to involvement of young professionals in water governance. The government should take organization of public awareness campaigns aimed at supporting sustainability of management mechanisms and ensuring water security for future generations.

HIGHLIGHTS OF THE ASIA-PACIFIC SYNTHESIS AND COMMITMENT SESSION AT THE 6TH WORLD WATER FORUM ON 16 MARCH 2012, MARSEILLE, FRANCE

Mr. Yoshiro Mori, President of the APWF opened the session thanking all for their support and participation for Asia Pacific Regional Process and preparation the Second Asia Pacific Water Summit. He noted that water related disaster has played a big role in the Asia Pacific Region underscored by the recent events in Japan and Thailand and that the impacts of the events had regional and global impacts. He appreciated that water related disaster would be highlighted at the coming Second Asia Pacific Water Summit and that APWF members needed to continue to emphasize the importance of disaster risk management.

Mr. Ravi Narayanan, Vice Chair of the APWF Governing Council thanked the President for his support and co-chaired the meeting.

Regional synthesis: presentations by the target coordinators

Mr. Bert Diphoorn from UN-Habitat noted that good progress had been made with access to drinking water and that the MDG has been reached ahead of schedule, however, it was also noted that the absolute number of people without access was going up. Urbanization is a trend that will continue and provides an opportunity to provide better services for people who will be in a more dense living environment. However, big issues still remain including improved demand management, reducing non-revenue water, waste water treatment, and a pro-poor rights based approach to services.

Mr. Thierry Facon from FAO explained that a very interactive process took place with regard to discuss and development of the theme and target. A few key issues emerged: (i) hunger is more complex and price are volatile so that a multi-sector approach is needed; (ii) the complexity needs to be explored in a detailed manner and not avoided; and (iii) and there cannot be overall water security until agricultural water security is solved due to the importance of food security and the impact of agricultural water use on the environment and overall water use.

Dr. Ramesh Vaidya from ICIMOD highlighted the work under disaster risk management focusing on the Hindu Kush due to its importance for water throughout Asia and the risks that it poses. There are three key messages from the work where improvements and solutions can be made and these include: (i) improved technology and analytical tools; (ii) enhanced regional cooperation, and (iii) capacity development for all activities.

Dr. Sang young Park from KWF highlighted the work focusing around the condition for success for capacity development featured activities ongoing in

Northeast Asia and included case studies from China, Korea and Japan. The goal of this work is that by 2018, Asia Pacific countries will have centers for climate change research and water resources management training. Korea is committed to providing this through development of a water education center.

Mr. Toshihiro Sonoda from UNESCO emphasized that promotion of IWRM is an important goal that needs continuous development in the Asia Pacific Region and there was a preparatory meeting in February 2012 in Bangkok to discuss this. Establishing the institutional foundation is critical and this can come directly through strengthening river basin governance throughout Asia Pacific, which is being supported through such organizations as NARBO. Lessons include the need to recognize the overall variability of water not just climate change; using traditional knowledge for solutions: and looking beyond a sector approach.

Prof. Victor Dukhovny from ICWC explained that Central Asian countries face particular challenges which include the coming challenges of climate change; the demographic, economic and social changes taking place in Central Asia; and the need to resolve water resources management issues from the Amu Darya River, especially in light of the growing needs for Afghanistan. To address all of these issues, improved regional cooperation; improved data and its management; and an adaptive approach especially for climate change is needed.

Dr. Kim Tae Hyung and Ms. Ermina Sokou from UNESCAP emphasized that there must be an overall transformative approach to the economy on the way business is conducted to address water challenges and a simple sector approach will not be enough. There were many good solutions presented as a part of the work and the important lesson is that the local context and local resources need to be taken into to consideration. Universal access to water supply and sanitation is achievable by 2025; however, financing is needed even though the overwhelming economic benefits are clear.

Presentation on the Asia Water Development Outlook (AWDO)

Ms. Naomi Chakwin from ADB gave an overview of AWDO that will be officially released later this year. This is the second version of the AWDO produced under the ADB and APWF. The AWDO highlights water security across five key dimensions (i) Household Water Security - satisfying household needs for safe drinking water services and hygienic sanitation; (ii) Economic Water Security - maximizing productive use of water in agriculture, energy and industry, (iii) Urban Water Security - making cities vibrant and livable; (iv) Environmental Water Security - restoring healthy rivers; and (v) Water-Related Disaster Resilience - building resilient communities. An index has been developed to help measure water security in each of these dimensions. The AWDO also has 10 key messages for decision makers: (i) setting and implementing policies for demand management; (ii) water, food and energy are inextricably linked and setting clear productivity targets are needed; (iii) introducing groundwater regulation and self-management; (iv) adopting a service-oriented model can deliver better results from public investments

in irrigation for sustainable O&M and management; (v) implementing a process and institutions for integrated water resources management (IWRM) in river basins will increase the return on public investment in water storage, productivity, and conservation and are best matched to the emerging challenges of increasing water scarcity and climate change; (vi) investing $1 in clean water and comprehensive sanitation "from toilet to river" can unlock as much as $8 to $12 dollars in health and economic benefits; (vii) eighty percent of the region's rivers are classified as being in poor health, and engaging the private sector in stewardship of water resources and market-based approaches can reduce pollution; (viii) investing in flood forecasting and early warning systems that reach the "last mile" helps save lives; (ix) make water everybody's business by promoting local collective action in rural communities to increase access to safe drinking water and sanitation, and (x) implementing a combination of structural and non-structural approaches for disaster risk management can significantly reduce the cost of public investment.

Announcement about 2nd Asia-Pacific Water Summit

Mr. Chaiporn Siripornpibul of the Thai Government greatly appreciates the support of APWF and the opportunity to host the second Asia Pacific Water Summit. Due to the recent floods in Thailand, however, the Thai government needs time to organize the summit and anticipates hosting the summit in 2013 with strong support from the prime minister.

Regional commitment: panel discussion

The Chair, Mr. Narayanan opened the panel and posed questions to the panelists. In general, the panel endorsed the targets, solutions and messages that have been put forward under the 6th WWF Asia Pacific Regional Process and that form the basis of the Message from Bangkok for the Second Asia Pacific Water Summit.

Some of the thoughts from the panelists included: (i) a need to focus on political will from decision makers is critical to getting reforms and providing indices and benchmarks are effective tool to influence decision makers; (ii) the importance of the water related disaster to the region and the fact that while disasters maybe local, they have regional and global impacts so that more emphasis must be placed on regional cooperation as the framework for disaster risk management; (iii) civil society plays an important role and needs to be included in all water related dialogue for sustainable solutions; (iv) women play a very important role for water resources and they need to have their profile raised in all water related issues; (v) the current dialogue and solutions for water resources management and water supply and sanitation encompass the needs of the Pacific island nations, however, the ability and options for these countries to adapt to climate change and pending water resources challenges are much more limited than other countries so they need special attention; (vi) cities will continue to grow and be the center of innovation and providing water services for much of the world's

population, and continued efforts are needed with regard to demand management through improved pricing, regulation and engaging stakeholders; and (vii) it is important that the environment and ecosystem services continue to play a central role in all water resources discussions.

The audience and panel had the following thoughts: (i) the original Message from Beppu is important, however, the Message from Bangkok should avoid repetition and be bold and forward looking in its approach, but there may be some messages that need to be repeated; (ii) it is very important to support leadership of not only today's leaders, but there has to be an emphasis on tomorrow's leaders for water issues and education and science have to play a key role for this; (iii) the message and solutions most support local actions but also have a regional dimension; and (iv) specific activities should be addressed but need to be done in an integrated fashion.

It was also agreed by all participants that the postponement of the Second Asia Pacific Water Summit presents an opportunity to keep the process alive for further discuss and refinement of the Message from Bangkok at events such as the Singapore Water Week; Stockholm International Water Week; and through upcoming APWF Governing Council meetings.

Presentation on the 7th World Water Forum in Daegu, Korea in 2015

Dr. Eun-Kyung Park closed the session and thanked the APWF for its strong efforts in organizing the 6th WWF Asia Pacific Regional Process. All agreed that APWF and Asia Pacific will play a very important leadership role for the upcoming 7th WWF that will be held in Korea and more importantly in it commitment to advancing solutions for the coming challenges in meeting water security for all.

INTRODUCTORY SEMINAR OF COLLABORATIVE FAO-ADB-IWMI-WB PROGRAM: "REVITALIZATION OF IRRIGATION AND WATER GOVERNANCE IN AGRICULTURE IN ASIA"

The seminar was attended by Mr. Konuma, Deputy Director General of FAO, Mr. Peter McCormick, Deputy Director of IWMI, representatives from Australia, China, Vietnam, Malaysia, Thailand, India, Indonesia, Pakistan, and SIC ICWC.

The main objective of the program is to prepare a development plan for capacity building of water management organizations and water users in order to ensure food security, poverty alleviation, environmental conservation, and readiness to climate change. This objective can be achieved if this sector shifts from the "business as usual" approach to adaptation to innovative, forward looking initiatives. In this case, there are five key areas:

Modernization of outdated systems for tomorrow's needs: it refers to repair and reconstruction of systems; while being improved and redesigned, they should be monitored and managed by users.

Encouragement of farmers who increase crop yields by using local irrigation technologies and all water sources - from wastewater to return flows.

Earlier promoted technologies of "management transfer" should be revised because they produced well lower results than expected since this transfer was not accompanied by capacity building of farmers.

Capacity and knowledge building, including resources directly invested in training and awareness of current staff, including new young talents through the development of program for the "forward thinking", offering them real support in capacity building of all stakeholders.

Finding directions for investments (non-irrigation) for the benefit of the whole associated economy influenced by external factors. This includes developing service capacities, marketing, cooperative development, etc.

Key activities should support, promote and enhance the existing capacity and rich experience and knowledge that already exist in Asian agriculture by means of:

- *Development of information exchange and communication* between decision-makers, leading agencies, water and irrigation managers, and farmers' organizations. Progressive intellectuals should be united into the network of water users and horizontally - from farmers to decision-makers of different levels. This should trigger generating knowledge and institutions needed for for implementation of social, economic and environmental strategies. Collaborative development of these strategies will help to reach a common understanding of real situation with land;

- *Creating knowledge base*, involving a network on irrigation and management of surface water and groundwater, including own set of basic initiatives, ensuring a possibility to select relevant methods of upgrading, and revision of training programs in local educational institutions for training leaders and managers of future generations;

- *Support actions in the basin* - selecting innovative and promotional agencies, organizations, systems, users to promote the network on capacity development. This network will be able to merge effective people who know local conditions and to integrate "local officials" to disseminate their successes;

- *Mobilization of professional community* in the region for analysis, assessment, selection, protection, dissemination and promotion of national and local initiatives through this professional platform. This initiative is not obliged to develop an "ideal" strategy, having limited opportunities it can support also "the second of the best".

Target group:

- politicians;
- policy makers;
- investors;
- financiers;
- managers;
- operators;
- local officials;
- farmers;
- universities and colleges;
- private sector.

ADB's program (reporter: Ian Makin) fully supports and covers all areas of "revitalization" of irrigation in Asia. Investments in water and food amounted to 12% of the ADB's total budget and should reach 2-2.5 billion USD per year in 2012 - 2020. These investments will be distributed as follows:

- agricultural production and market – 25%;
- rural development (roads, electrical energy, water supply) - 12%
- fish breeding, forestry and animal production – 13%;
- natural resources protection – 20%.

At the same time, ADB plans to increase investments for access of small farms to markets, including processing of their products, development of investment technologies and dissemination of their experience, to achieve the “water - food – energy” nexus.

The World Bank’s report on Indonesia holds, like ADB, the idea of multilateral development of rural areas, taking into account health, education, financial sector, food safety, processing, and employment. Market improvements are

accompanied by control of food prices and consideration of demand and supply. The diet of population is changed in the country, hence changing needs; transition from the "outdoors" markets to supermarkets. The need to reduce loss of production during transportation, storage, etc. The importance of modernizing all areas of current irrigation practices, including not only irrigation techniques but irrigated agriculture as a whole.

Prof. Gao Zhanyi, President of ICID, presented the future role of irrigation in solving the problems of Asia. The total number of undernourished people in the world amounted to 925 millions, including 578 millions in Asia; at the same time, it is expected that Asia will have the largest population growth by 2050.

The next 25-30 years will require increase of grain production by 70-100%, 80-90% of which should be achieved through existing irrigated land by increasing crop yields, double cropping, improving irrigation and drainage, water re-use and only 10-20 % - by irrigation of new lands in Asia, Africa and South America. New trends in agriculture of Asia (China, India, and Indonesia): economic growth presses farmers to move to urban areas; consumption growth and changes in dynamics; increasing the size of farms; increased production of highly efficient crops; part-time employment of rural people in agriculture.

Current priorities:

Development of national visions

Development of action plans

Setting priorities:

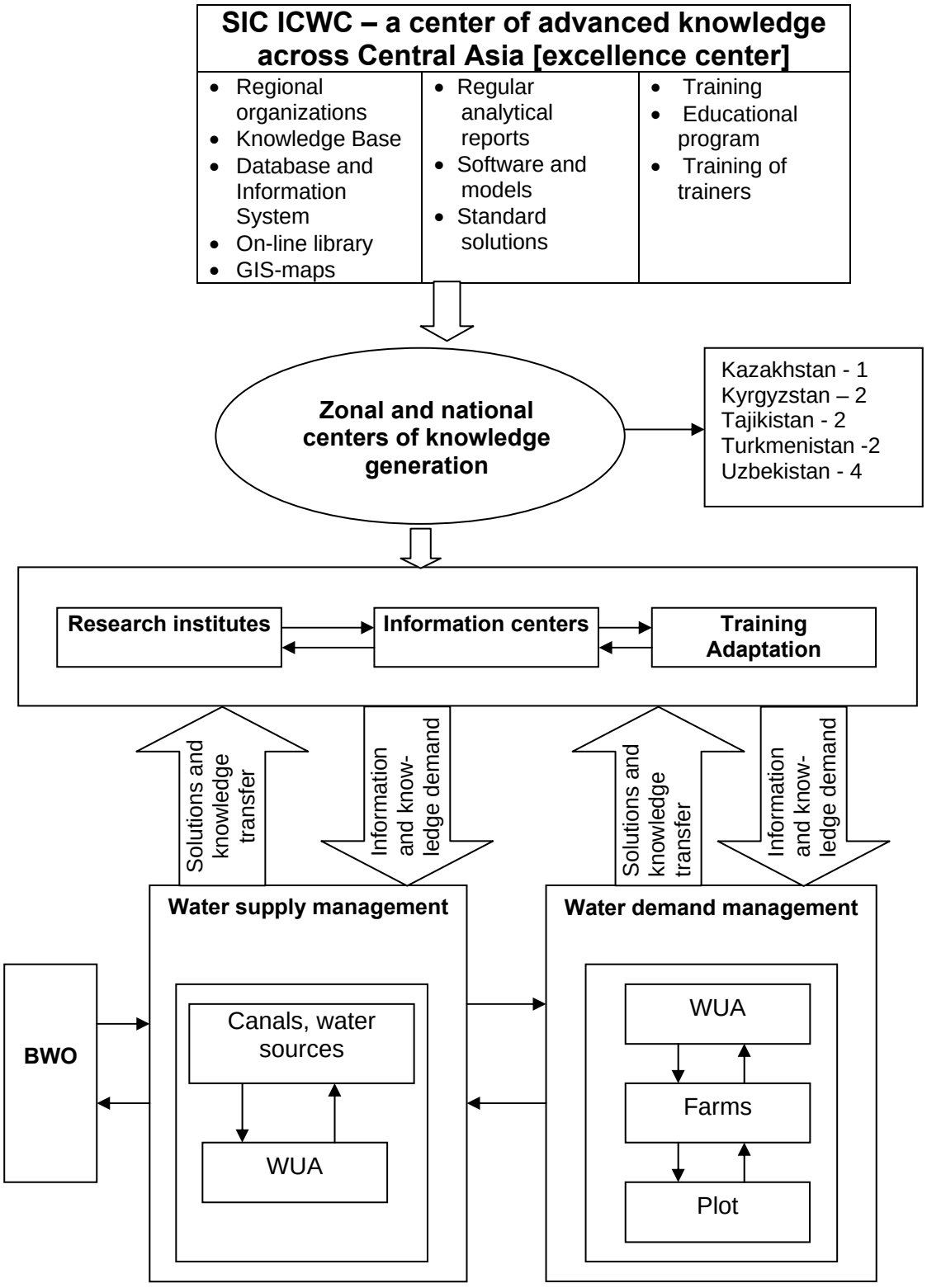
- rehabilitation of infrastructure;
- improving the management system;
- increasing investments;
- capacity building;
- support for small farmers;
- land consolidation;
- institutional reforms;
- promotion of cooperation.

The Report of the *People's Republic of China* stressed the need to overcome the problems at the river basin level, namely strengthening integrated water resources management and clear allocation of water rights between regions and sectors. Modernization and rehabilitation of irrigation networks should be enhanced at the irrigation district level and appropriate level of maintenance should be reached. The priority at farm level is to increase knowledge of water users about on-farm management and their active participation in innovation process. In order to overcome these problems, the Ministry of Water Resources of China implies a rapid assessment of irrigation districts and development of program aimed at: water users' training in public participation with special emphasis on women's participation; training in water saving technologies, including implementation of micro-irrigation and piped water distribution system.

In Malaysia the proposed activities are developed in the framework of NKEA (national key economic activities). The whole country is divided into 12 key national areas, integrated development of which requires the comprehensive development of infrastructures in rural areas, including financial services, healthcare, electrification and communications, marketing, mechanization, processing and irrigated agriculture itself. It is assumed that the comprehensive agricultural development will result in additional 6.7 billion dollars of net profit in four northern states of Malaysia by 2020. Despite the fact that today the rice yields are more than 4 tons per hectare on average in this area, it is expected to increase the average yield of up to 8 tons per hectare by improving knowledge, training and technologies. The average net income per hectare of irrigated land according to this program should exceed 2.5 thousand dollars per year.

Despite the fact that *India* has enhanced the development of grain production on irrigated land since 1950, now grain production has reached 240 million tons, using 108 million hectares of irrigated and rain-fed (by monsoons) lands. Today, the average water-use efficiency varies between 35-40%. Successive programs of on-farm development, of irrigation revenues, and commanded lands have not been completed properly, although the programs cover 29 million hectares. Irrigation potential has been increased by 15% only. The problem is that the program started in 1975, although not completed, is outdated already and it is required to restore the irrigation potential of 25.5 million hectares. Along with the canal lining, the priorities are the improvement of operational management and maintenance of the systems, creation of special loan fund for irrigation, further development of micro-irrigation and drip irrigation hypothetically on the area of 27 million hectares. The Center of excellence (Knowledge Center) established in Karnataka under support of UN and FAO in 2007 was assessed as quite successful: it regularly organizes seminars for water specialists, as well as for farmers and IWRM participants. The Center has begun introducing payments for water delivery services, based on volume indicators, and this helped to reduce water intake by 10%.

Prof. V.A.Dukhovny, Director of SIC ICWC, in his report presented the results of IWRM implementation in the Fergana Valley and simultaneously a proposal developed on the basis of IWRM for separate demand and supply management on the hydrographic basis. SIC ICWC's activity as the Regional center for dissemination of knowledge, training and information, as well as the knowledge generation system, which was developed within the “Water productivity improvement at plot level” project received wide approval and is recommended for follow up. Therefore, FAO jointly with ADB intends to develop two such zonal centers: one - in the Fergana Valley, the other one - in the southern part of Kyrgyzstan. SIC ICWC proposed to locate one center - in southern Kazakhstan, two ones - in Tajikistan, two centers - in Turkmenistan, and four centers - in Uzbekistan (scheme is attached).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Standard solutions
Training
Educational program
Training of trainers
Zonal and national centers of knowledge generation
Kazakhstan - 1
Kyrgyzstan – 2
Tajikistan - 2
Turkmenistan -2
Uzbekistan - 4
Research institutes
Information centers
Training Adaptation
Solutions and knowledge transfer
Information and know-ledge demand
Solutions and knowledge transfer
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WUA
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Plot

Address:
SIC ICWC
Karasu-4, B.11.
Tashkent 100187
Republic of Uzbekistan

e-mail: info@icwc-aral.uz

Internet:
sic.icwc-aral.uz

Editor:
N.D.Ananieva