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Minute No 26
of Interstate Coordination Water Commission's meeting

April 29, 2000 Dushanbe

ICWC members:

Amanbek Ramazanov	Chairman of the Committee for Water Resources of the Republic of Kazakhstan
Baratali Koshmatov	Deputy Minister, Director General of the Water Department of MAWR of Kyrgyz Republic
Abdukokhir Nazirov	Minister of Reclamation and Water Management of the Republic of Tadjikistan
Tekebay Altiyev	Deputy Minister of MAWR of Turkmenistan
Abdurakhim Jalalov	First Deputy Minister of MAWR of the Republic of Uzbekistan

From ICWC organizations:

Gayrat Negmatov	ICWC Secretariat Head
Yuldash Khudaiberganov	BWO "AmuDarya" Head
Oleg Lysenko	BWO "AmuDarya" Water Management Department Head
Makhmud Khamidov	BWO "SyrDarya" Head
Abram Leshansky	BWO "SyrDarya" Water Management Department Head
Victor Dukhovny	SIC ICWC Director
Pulatkhon Umarov	SIC ICWC Deputy Director

Invitees:

Kozidavlat Koimdodov	Vice-Prime-Minister of the Republic of Tadjikistan
Rakhimdjan Ikramov	SANIIRI SPA Director General
Abdumanap Kutjanov	"Kyzylordavodkhoz" Head
Musayabsho nazriev	First Deputy Minister of Reclamation and Water Management of the Republic of Tadjikistan
Abdybay Jailoobayev	MAWR of Kyrgyz Republic, Water Department Head
Sultanmurad Latipov	Head of Batkent Basin Board, Water Department, MAWR of Kyrgyz Republic
Nabi Nosirov	"TadjikNIIGiM" Director General, SIC ICWC Tadjik Branch Director
Anvar Kamolitdinov	Head of Department for science, technique and water resources of the Republic of Tadjikistan

Chairman - A. Nazirov, Minister of Reclamation and Water Management of the Republic of Tadjikistan

AGENDA

1. About BWO "AmuDarya" Head approval.
2. Consideration and approval of water reservoir cascades regime, water intake limits within the AmuDarya and SyrDarya basins for growing period of 2000 (responsible - BWO "AmuDarya" and BWO "SyrDarya").
3. About the project "Provision about BWOs, SIC ICWC and Secretariat financing" (responsible - ICWC Members, SIC ICWC, BWOs).
4. About Agreement of Central Asian governments "About information exchange and database establishing on water resources of the transboundary rivers of the Aral Sea basin" and base of knowledge development within IPTRID network (responsible - SIC ICWC).
5. About next 27th ICWC meeting's agenda.

Additional questions

1. Information about ICWC delegation participation in the Second World Water Forum and Inter-Ministerial Conference, March 17-22, 2000, Hague, the Netherlands.
2. Information about the regional project "Integrated management of irrigated farming in Fergana valley" to be implemented on the territory of Kyrgyz Republic, the Republic of Tadjikistan and the Republic of Uzbekistan.

Having heard participants' presentations and exchanging opinion ICWC Members have decided:

On the first question

1. In connection with Mr. I. Kalandarov evection to the Oliy Majlis of the Republic of Uzbekistan to dismiss him from his position. Under sides agreement Mr. Yu. Khudaiberganov is appointed as BWO "AmuDarya" Head.

On the second question

1. To approve BWO "AmuDarya" and BWO "SyrDarya" measures on intake limits realization and water reservoirs' cascade regime provision on non-growing period of 1999-2000.
2. To approve intake limits from AmuDarya and SyrDarya river taking into account average multi-year humidity, water reservoirs' cascade regime during growing period of 2000 and water release volume to the Aral Sea coastal zone and Aral Sea. Under shift from average multi-year humidity to give BWOs right to correct correspondingly water intake limits and cascades regime according to Agreement about water-energy resources utilization between Kyrgyz Republic and the Republic of Kazakhstan.
3. To agree that inflow to Chardara reservoir in May-June could be increased on 50 m^3/s under coordination between Kyrgyz Republic and the Republic of Kazakhstan

increased release from Toktogul reservoir with simultaneous acceptance by Kazakh side additionally generated electric energy BWO "SyrDarya" shall provide transit of this water under assistance of other ICWC Members.

On the third question

1. To ask ICWC Members according to the previous decision to accelerate coordination of the project "Provision about order of financing of ICWC executive bodies" with correspondent ministries and agencies of the Kyrgyz Republic, the Republic of Tadjikistan and Turkmenistan which did not submit their conclusions on the document.
2. SIC ICWC to finalize the project "Provisions…" taking into account comments and to submit it for approval to the next ICWC meeting.

On the fourth question

1. To accept SIC ICWC information, that according to IFAS meeting in Almaty in December 1999 comments from all countries have been received. To prepare final texts of Agreements No 1 and No 4 to the next IFAS Board meeting taking into account that the meeting of national coordinators will be held on May 12-13, 2000 in Nukus.
2. Taking into account emergency situation in the SyrDarya basin, to consider necessary to develop intergovernmental agreement on water resources management and use. To charge BWO "SyrDarya" and SIC ICWC to prepare Draft Agreement and submit it for ICWC Members consideration.
3. To approve SIC ICWC activity within IPTRID network. To broaden this activity inside the region ICWC Members to assist to the national SIC ICWC branches in development of information exchange at the level "State water management agency - provincial organizations".

On the fifth question

Next 27th ICWC meeting to be held in June-July 2000 in the Republic of Uzbekistan.

On the first additional question

1. To accept for consideration information about ICWC delegation participation in the Second World Water Forum and Inter-Ministerial Conference on March 17-22, 2000 in Hague, the Netherlands.

On the second additional question

1. To approve proposals on the joint regional project "Integrated management of irrigated farming in Fergana valley" to be implemented in Kyrgyz Republic, Tadjikistan and Uzbekistan and funded by Swiss Agency for International Development and Cooperation (SDC).

2. To note interest of Kazakhstan and Turkmenistan in the project broadening on their frontier systems. For that to define their representatives to be included in the Coordination Group of the project.

3. To commission SIC ICWC to prepare necessary documents and negotiate with SDC and IWMI to accelerate preparatory work.

Agenda of the next 27th ICWC meeting

1. Consideration of the growing period irrigations and refining of the water reservoirs' cascade regime on the SyrDarya and AmuDarya rivers (responsible - BWO "AmuDarya" and BWO "SyrDarya").

2. About the Program of ICWC activity development and strengthening (responsible - SIC ICWC).

3. About refining of the legal base of interstate relations in water resources regional use, taking into account discussions on the European Convention in Hague, the Netherlands (responsible - SIC ICWC).

4. ICWC Members information about ICWC decisions (1998, 1999, 2000) fulfillment (responsible - ICWC Members, SIC ICWC, BWO "AmuDarya", BWO "SyrDarya", ICWC Secretariat).

5. About the project "Provision on the order of financing of BWOs, SIC ICWC and ICWC Secretariat (responsible - SIC ICWC).

6. About preparation of interstate Agreement on management and use of water resources in SyrDarya river basin (responsible - BWO "SyrDarya", SIC ICWC).

7. About agenda and place of the next 28th ICWC meeting.

For the Republic of Kazakhstan	Ramazanov A.M.
For Kyrgyz Republic	Koshmatov B.T.
For the Republic of Tadjikistan	Nazirov A.A.
For Turkmenistan	Altiyev T.A.
For the Republic of Uzbekistan	Jalalov A.A.

Annex 1
to the second question of the Minute No 26
(ICWC meeting in Dushanbe on April 29, 2000)

Water intake limits from the rivers AmuDarya and SyrDarya for 1999–2000, vegetation period of 2000 and water supply to Aral Sea

River basin, state	Intake limits, km^3	
	Total for year since 1.10.99 till 1.10.2000	Including growing period (since 1.04.2000 till 1.10.2000)
Totally from SyrDarya	21.570	18.500
including:		
The Republic of Kazakhstan	8.200	7.700
Kyrgyz Republic	0.220	0.200
The Republic of Tadjikistan	2.000	1.800
The Republic of Uzbekistan	11.150	8.800
besides:		
Supply to the Aral Sea	3.000	1.260
Totally from AmuDarya	53.620	38.143
including:		
The Republic of Tadjikistan	9.170	6.946
Kyrgyz Republic	0.450	0.450
From the AmuDarya river at		
Kerki gauging station	44.000	30.747
Turkmenistan	22.000	15.500
The Republic of Uzbekistan	22.000	15.247
besides: -		
- water supply to the Aral Sea coastal zone taking into account irrigation releases and collector-drainage waters	5.000	3.000
- sanitary-epidemiological releases into irrigation systems	0.800	0.000
Dashkhovuz veloyat	0.150	0.000
Khorezm veloyat	0.150	0.000
Republic of Karakalpakstan	0.500	0.000
Totally to the Aral Sea and its coastal zone	5.000	4.260

Note. Water intake limits suppose water supply for irrigation, industrial, municipal and other needs. Under water availability changes water intake limits should be corrected correspondingly.

WATER MANAGEMENT COMPLEX OF THE SYRDARYA RIVER BASIN OPERATION WITHIN NON-GROWING PERIOD OF 1999-2000[1]

Water intake limits from SyrDarya river and Naryn-SyrDarya water reservoirs' cascade regime operation regime were approved on ICWC meeting in KzylOrda in October 1999 and were refined insignificantly in Bishkek in February 2000. Before starting description of the complex operation it is worth to compare foreseen and actual water resources in the region (table 1).

Table 1

Parameter (since 1.10.1999 till 31.03.2000)	forecast, mln m^3	actually, mln m^3	percentage
Inflow to upper reservoirs:			
Toktogul	3357	3470	103
Andijan	943	997	106
Charvak (3 river)	1269	1327	103
Ugam river	171	207	122
Sub-total	5740	6001	104
Lateral inflows:			
Toktogul – Uchkurgan	476	514	108
Uchkurgan, Uchtepe - Kayrakkum	4037	4393	109
Andijan – Uchtepe	2360	2988	127
Kayrakkum – Chardara	2673	2923	109
Gazalkent - Chirchik	815	837	103
Sub-total	10361	11655	112
Total	16101	17656	110

From table 1 is evident, that actual water availability accedes planned one on 10 %, that is it can not be a main reason for water release to Arnasay sink, which is practiced during last 8 years within Naryn-SyrDarya cascade. It is very serious that no interstate agreements were signed and realized on water-energy resources national management and use. As a result from Toktogul reservoir 8.76 km^3 were released and at the beginning of the growing period 11 km^3 remained in reservoir instead of 12.8 km^3.

General characteristic of water reservoirs' volume changes is presented in tables 2, 3.

[1] Information on the first question of the ICWC meeting agenda

Table 2

Water reservoir	Volume of reservoir, mln m^3			
	at 1.10. 1999	at 1.04. 2000		at 1.04. 1999
		forecast	actual	
Toktogul	16272	12585	10999	10336
Andijan	1043	1330	1376	1548
Charvak	1466	1274	694	788
Kayrakkum	2018	3418	3227	3119
Chardara	768	5400	5246	5103
Total	21567	24007	21542	20894

Table 3

Water reservoir	Releases, mln m^3		difference,
	according to schedule	actual	+/-
Toktogul	7031	8764	+ 1733
Andijan	653	614	- 39
Charvak	1451	1977	+ 526
Kayrakkum	10650	12769	+ 2119
Chardara	7323	6038	- 1285

Thus, increase of autumn-winter releases from Toktogul is a main cause of releases to Arnasay sink. Besides, in upper reservoirs is accumulated 2.1 km^3 less to compare with schedule approved in KzylOrda. As it was expected, Kayrakkum reservoir was filled up already in December 1999. Besides, release from Chardara appeared less than it was planned.

Water intakes during non-growing period for ICWC member-countries are presented in table 4. While water allocating water intake limits and applications of the republic-users were taken into consideration. There were not any reclamations. Other additional characteristics are presented in table 5.

Table 4

Republic, command zone	ICWC limit, mln m^3	Actual	Percentage
Kyrgyz Republic	20	43.7	218
The Republic of Uzbekistan	2350	2639	112.3
The Republic of Tadjikistan	200	111.7	56
The Republic of Kazakhstan (KMK)	373	285.0	76.5

Besides that:

Table 5

Parameters	According to schedule, mln m^3	Actual
Inflow to Chardara reservoir	12122	13214
Supply to the Aral Sea	1771	1735

Naryn-SyrDarya cascade operation regime for non-growing period of the current year is given in table 6.

Naryn-SyrDarya water reservoir cascade operation regime and water intakes limits from SyrDarya during growing period of 2000

Forecast of water resources for the growing period (since April 10, 2000) is a base for Naryn-SyrDarya cascade operation scheduling on the growing period. From table 7 is evident that water availability was 92 % of norm.

Table 7

Parameter (since 1.04.2000 till 30.09.2000)	Forecast, mln m^3	Norm, mln m^3	Percentage
Inflows to upper reservoirs:			
Toktogul	9960	9391	106
Andijan	2530	2909	87
Charvak (3 river)	4348	5107	85
Ugam river	474	521	91
Sub-total	17312	17928	96
Lateral inflows:			
Toktogul - Uchkurgan	1154	1154	100
Uchkurgan, Uchtepe - Kayrakkum	3004	3589	84
Andijan - Uchtepe	2213	2435	91
Kayrakkum - Chardara	2609	3178	82
Gazalkent - Chirchik	790	1012	78
Sub-total	9770	11368	86
Total	27082	29296	92

Other materials used under regime preparation were the following:

1. Protocol about water-energy resources of Naryn0sd cascade use in 2000 between the Governments of Kyrgyz Republic and the Republic of Uzbekistan, which defines releases from Toktogul reservoir in summer 2000 "over own consumption according to irrigation schedule" and electric energy acceptance by Uzbek side to provide irrigation releases from reservoirs, gas delivery to Bishkek and Osh as well as residual oil. Prices for energy and thermo resources are coordinated in this Protocol as well.

2. Similar document between Kyrgyz Republic and Kazakhstan on Toktogul reservoir regime provision, unfortunately, is not signed yet.

3. Intergovernmental Agreement between Tadjikistan and Uzbekistan about rational water-energy resources use in 2000, signed on January 14, 2000, contains sides' responsibilities on Kayrakkum reservoir operation regime in June-September and schedule of energy flows with indication of terms, volumes and tariffs.

Available water resources for current vegetation were determined using above materials (table 8). Calculations showed that limits should down by 0.886. Naryn-SyrDarya cascade operation regime for vegetation-2000 is presented in table 9. This regime and intake limits should be corrected according to water availability.

At present time focal point in the cascade operation is Kayrakkum reservoir operation in March-April of current year. Ignoring multiple applies of BWO "SyrDarya" water releases from the reservoir were continued that threatens to Tadjikistan's obligation to accumulate full volume by May 31, 2000 and irrigate lands in middle reaches during vegetation. Second obstacle arises if Agreement between Kyrgyz Republic and Kazakhstan about Toktogul reservoir regime would not be signed and compensations providing above regime.

To the end, only strict observance of all intergovernmental agreements could provide optimal functioning of water complex in SyrDarya river basin.

Table 6

Naryn-SyrDarya reservoirs' cascade operation regime
Since October 1, 1999 till March 31, 2000

	Unit	October	November	December	January	February	March	TOTAL
		a c t u a l						mln m^3
Toktogul water reservoir								
Inflow to reservoir	m^3/s	303	247	212	184	180	195	
	mln m^3	812	640	568	493	435	522	3470
volume: begin. of period	mln m^3	16272	16324	15606	14533	13215	11970	
end of period	mln m^3	16324	15606	14533	13215	11970	10999	-
Release from reservoir	m^3/s	298	540	612	674	675	556	
	mln m^3	798	1400	1639	1805	1633	1489	8764
Kayrakkum water reservoir								
Inflow to reservoir	m^3/s	478	920	1044	949	931	585	
	mln m^3	1280	2385	2796	2542	2252	1567	12822
volume: begin. of period	mln m^3	2018	2022	2454	3442	3389	3360	
end of period	mln m^3	2022	2454	3442	3389	3360	3227	-
Release from reservoir	m^3/s	465	736	776	1141	1082	696	
	mln m^3	1245	1908	2078	3056	2618	1864	12769
Chardara water reservoir								
Inflow to reservoir	m^3/s	374	922	1003	1154	1031	579	
	mln m^3	1002	2390	2686	3091	2494	1551	13214
volume: begin. of period	mln m^3	768	774	1908	3604	4713	4843	
end of period	mln m^3	774	1908	3604	4713	4843	5246	-
Release from reservoir	m^3/s	333	494	375	360	390	356	
	mln m^3	892	1280	1004	964	943	954	6038
Release to Kzylkum canal	m^3/s	5	2	3	3	5	2	
	mln m^3	13	5	8	8	12	5	52
Release to Arnasay sink	m^3/s	0	0	0	422	684	8	
	mln m^3	0	0	0	1130	1655	21	2806
Supply to the Aral Sea	m^3/s	*95*	*112*	*116*	*115*	*110*	*114*	1735
Charvak water reservoir								
Inflow to reservoir	m^3/s	107	94	84	72	68	80	
	mln m^3	287	244	225	193	165	214	1327
volume: begin. of period	mln m^3	1466	1295	1275	1188	1132	947	
end of period	mln m^3	1295	1275	1188	1132	947	694	-
Release from reservoir	m^3/s	164	103	90	106	131	160	
	mln m^3	439	267	241	284	317	429	1977
Andijan water reservoir								
Inflow to reservoir	m^3/s	75	75	70	59	54	47	
	mln m^3	201	194	187	158	131	126	997
volume: begin. of period	mln m^3	1043	973	1021	1243	1334	1455	
end of period	mln m^3	973	1021	1243	1334	1455	1376	-
Release from reservoir	m^3/s	102	48	3	3	4	71	
	mln m^3	273	124	8	8	10	190	614

Table 8

Available water resources for growing period of 2000
under actual situation

Balance components	Volumes, mln m^3
Positive components	
Releases from Toktogul reservoir	4814
Total lateral inflow	6444
Chinaz-Chirchik gauging station	909
Uchtepe gauging station	1858
Channel reservoirs release	6749
including:	
Kayrakkum	2327
Chardara	4422
Sub-total	20774
Negative components	
Losses from channel reservoirs	901
Channel losses and ecological releases in lower reaches	2211
Supply to the Aral Sea	1265
Sub-total	4377
Total, available water resources	16397
Water resources required water intake limits approved by ICWC for year of average multiyear humidity	18500
Correcting coefficient	0.886

Table 9

Schedule-forecast
of Naryn-SyrDarya reservoir cascade operation regime
since April 1, 2000 till September 30, 2000

	Unit	April	May	June	July	August	September	TOTAL mln m^3
Toktogul water reservoir								
Inflow to reservoir	m^3/s	265	644	1011	882	609	337	
	mln m^3	687	1725	2621	2362	1631	874	9899
volume: begin. of period	mln m^3	10999	10905	12037	14110	15176	15666	
end of period	mln m^3	10905	12037	14110	15176	15666	16029	
Release from reservoir	m^3/s	300	220	210	480	420	190	
	mln m^3	778	589	540	1286	1125	492	4814
Kayrakkum water reservoir								
Inflow to reservoir	m^3/s	428	494	308	438	423	330	
	mln m^3	1109	1323	798	1173	1133	855	6392
volume: begin. of period	mln m^3	3227	2804	2949	2273	1486	900	
end of period	mln m^3	2804	2949	2273	1486	900	928	
Release from reservoir	m^3/s	600	400	500	650	592	300	
	mln m^3	1555	1071	1296	1741	1587	778	8028
Chardara water reservoir								
Inflow to reservoir	m^3/s	574	426	209	219	207	296	
	mln m^3	1488	1141	542	587	556	767	5080
volume: begin. of period	mln m^3	5246	5078	4204	2701	1287	700	
end of period	mln m^3	5078	4204	2701	1287	700	931	
Release from reservoir	m^3/s	576	608	634	569	324	176	
	mln m^3	1493	1628	1643	1524	867	456	7612
Release to Kzylkum canal	m^3/s	24	94	102	118	78	14	
	mln m^3	62	252	264	316	209	36	1140
Supply to the Aral Sea	m^3/s	200	63	63	40	36	81	
	mln m^3	518	169	163	107	96	210	1264
Charvak water reservoir								
Inflow to reservoir	m^3/s	175	349	464	350	196	113	
	mln m^3	454	935	1203	937	525	293	4346
volume: begin. of period	mln m^3	694	836	1183	1504	1357	994	
end of period	mln m^3	836	1183	1504	1357	994	835	
Release from reservoir	m^3/s	120	219	339	403	330	173	
	mln m^3	311	587	879	1079	884	448	4188
Andijan water reservoir								
Inflow to reservoir	m^3/s	60	247	265	172	84	55	
	mln m^3	156	662	687	461	225	143	2332
volume: begin. of period	mln m^3	1376	1305	1387	1389	949	435	
end of period	mln m^3	1305	1387	1389	949	435	298	
Release from reservoir	m^3/s	87	216	264	335	275	107	
	mln m^3	226	579	684	897	737	277	3399

AMUDARYA RIVER BASIN'S WATER COMPLEX OPERATION DURING NON-GROWING PERIOD OF 1999-2000[2]

Favorable water conditions during non-growing period allowed to perform successfully leaching and recharge irrigation. Water intake limits use during non-growing period of 1999-2000 are given in table 1.

Table 1

Name	Limit for non-growing period, mln m^3	Actual	Percentage
The Republic of Tadjikistan	2887	2013.1	69.7
The Republic of Uzbekistan	5965	6948.5	116.5
Turkmenistan	6500	6599.2	101.5
TOTAL:	15352	15560.8	101.4
Totally sanitary release, including:	800	773.8	96.8
khorezm	150	123.8	82.5
Karakalpakstan	500	500	100.0
Dashkhovuz	150	150	100.0
Besides that, Surkhandarya province	200	315.7	157.9

More detailed information is given in table 2, 3.

Water intake established limits are as follow over the river sites:

upper reaches - 69.7 %;

middle reaches - 106.8 %, including the Republic of Uzbekistan - 119.8 %, Turkmenistan - 98,9 %;

lower reaches - 112.4 %, including the Republic of Uzbekistan - 113.0 %, Turkmenistan - 111.2 %.

Disproportion between upper and lower reaches is due water resources transfer through ABMC from AmuDarya into Zerafshan river basin because of lower water availability there.

Plan of water supply to the Aral Sea and adjacent zone is fulfilled on 209.5 %. Under plan of 2000 mln m^3 actually 4191 mln m^3 were provided (table 4), past year it was 4066 mln m^3.

Actual river runoff at Kerki gauging station during non-growing period 1999-2000 accounted for 20 426 mln m^3 (in past year - 19 696 mln m^3) or 103.7 %.

Water availability at Kerki gauging station, taking into account Vakhsh river's ordinary discharge, accounted for 15595 mln m^3 (20426 - 4831) under norm 14468 mln m^3 or 107.8 % of norm.

[2] Information on the first question of ICWC meeting agenda

By the beginning of the growing period of 2000 Nurek reservoir volume was 5773 mln m^3 under planned 5964 mln m^3 (last year 5725 mln m^3).

In spite of measures, undertaken by MAWR of Uzbekistan and BWO "AmuDarya" in March, due to very low actual running Tuyamuyun reservoir's volume by 01.04.2000 was 3611 mln m^3 (last year - 4452 mln m^3).

In main in-system reservoirs of the AmuDarya river basin total water volume was 3395 mln m^3 (last year - on 457 mln m^3).

Water availability at Kerki gauging station according to Gydromet prediction, taking into account Vakhsh river's ordinary discharge, is expected as 41.1-47.4 km^3 (88.4-99.7 %) or on average 44.3 km^3 (93.0 %) under norm 47.6 km^3.

But expected flow at Kerki gauging station (taking into account planned water accumulation in Nurek reservoir and water diversion by Surkhandarya province) will be within the limits of 35.4-41.7 km^3 or on average 38.6 km^3.

In 1997 dry year actual flow at Kerki gauging station was 35.7 km^3, in 1995 - 38.6 km^3. Water divertion downstream Kerki gauging station was 29.0 km^3 during vegetation. For current vegetation Uzbekistan and Turkmenistan applied for 30.747 km^3.

It is necessary to note, that conditions at the beginning of vegetation are critical regarding water availability.

BWO "AmuDarya" has developed water intake limits and reservoirs' cascade operation regime according to Gidromet prediction and results of non-growing period, which are submitted to ICWC Members consideration.

Specific volumes requested by states are given below:

- Kyrgyz Republic - 450 mln m^3 (level of 1999);
- the Republic of Tadjikistan - 6946 mln m^3 (last year 6357 mln m^3);
- Turkmenistan - 15 500 mln m^3 (level of 1999);
- the Republic of Uzbekistan - 15 247 mln m^3 (level of 1999).

Totally for AmuDarya river basin water intake limits are established as 38 143 mln m^3, including downstream Kerki gauging station – 30 747 mln m^3, that is on 835 mln m^3 less compared with last 11 years.

BWO "AmuDarya" jointly with Center "Energy" has developed regime of Tuyamuyun and Nurek water reservoirs on the growing period of 2000 (table 5). Taking into account water availability prediction on the growing period at Kerki gauging station is proposed to establish water supply to the Aral Sea and coastal zone 3000 mln m^3, including river runoff 2000 mln m^3.

BWO "AmuDarya" offers:

1. To approve submitted to ICWC reservoirs' cascades regime, water intake limits, supply to the Aral Sea and coastal zone on the growing period of 2000.
2. In case of water situation aggravation all water users will be limited in equal degree.
3. Strict control is necessary upon water resources utilization in all blocks of water consumption.
4. To achieve equal water availability over all river's sites BWO "AmuDarya", if necessary, makes 10 % correction of water intake.

Table 2

Established water intake limits utilization during
the non-growing period 0f 1999-2000

Name	Limit	Actual	Overuse	Saving	Percentage
The Republic of Tadjikistan	2887	2013.1		873.9	69.7
The Republic of Uzbekistan	5965	6948.5	-983.5		116.5
including: KMK	1700	1725.9	-25.9		101.5
ABMK	1380	1963.7	-583.7		142.3
Total for middle reaches	3080	3689.6	-609.6		119.8
Khorezm province	1235	1188.3		46.7	96.2
Karakalpakstan	1650	2070.6	-420.6		125.5
Total for lower reaches	2885	3258.9	-373.9		113.0
Turkmenistan	6500	6599.2	-99.2		101.5
including:					
Garagumdarya	3810	3829.3	-19.3		100.5
Lebap veloyat	1290	1213.5		76.5	94.1
Total for middle reaches	5100	5042.8		57.2	98.9
Dashoguz veloyat	1400	1556.4	-156.4		111.2
Total for basin	15352	15560.8	-208.8		101.4
including:				0	
upper reaches	2887	2013.1		873.9	69.7
middle reaches	8180	8732.4	-552.4		106.8
lower reaches	4285	4815.3	-530.3		112.4
Besides Surkhandarya veloyat	200	315.7	-115.7		157.9
Sanitary-ecological releases:	800	773.8		26.2	96.7
Uzbekistan including:	650	623.8		26.2	96.0
Khorezm province	150	123.8		26.2	82.5
Karakalpakstan	500	500		0	100.0
Turkmenistan including:	150	150		0	100.0
Dashkhovuz	150	150		0	100.0
Water supply to the Aral Sea and delta including	2000	4191	-2191		209.6
from the river	1500	3073	-1573		204.9

Table 3

Actual regime of Nurek and Tuyamuyun water reservoirs operation
since October 1999 till March 2000

Nurek water reservoir	Unit	Actual						Total
		October	November	December	January	February	March	
Inflow	m^3/s	364	288	234	172	105	221	3665
Water losses	m^3/s	2	8	-10	-12	8	4	-4
volume: at the beginning of the period	mln m^3	10541	10096	9335	8302	7117	5972	10541
at the end of the period	mln m^3	10096	9335	8302	7117	5972	5773	5773
accumulation (+), discharge (-)	mln m^3	-445	-761	-1033	-1185	-1145	-199	-4768
altitude: end of the period	m	906.10	898.58	886.93	872.46	857.11	854.18	
Release from reservoir	m^3/s	528	574	630	626	555	292	8437

Tuyamuyun water reservoir	Unit	Actual						Total
		October	November	December	January	February	March	
Inflow	m^3/s	807	801	1025	881	715	454	12351
Water losses	m^3/s	132	170	119	115	284	114	2437
volume: at the beginning of the period	mln m^3	3684	4044	4968	5476	6002	5275	3684
at the end of the period	mln m^3	4044	4968	5476	6002	5275	3611	3611
accumulation (+), discharge (-)	mln m^3	360	924	508	526	-727	-1664	73
altitude: end of the period	m	126.83	128.6	128.78	129.28	128.2	122.86	
Release from reservoir	m^3/s	541	275	717	570	722	961	9987

Table 4

Water supply to the Aral Sea and AmuDarya delta
during October-November 1999

Name	October	November	December	January	February	March	Water supply since 01.10.99 till 01.04.00		Percentage
							plan	actual	
Samanbai gauging station	876	397	686	761	256	97	1500	3073	204.9
Total release from Kyzketken and Suenly canals system	0	51	182	84	84	100		501	
Collector-drainage system	76	70	88	133	116	134	500	617	123.4
Total:	952	518	956	978	456	331	2000	4191	209.6
Incremental	952	1470	2426	3404	3860	4191			

Table 5

Schedule
of the Nurek and Tuyamuyun reservoir operation
since April 2000 till September 2000

Nurek water reservoir	Unit	Forecast						Total
		April	May	June	July	August	September	
Inflow	m^3/s	420	770	1160	1550	1330	670	15608
Water losses	m^3/s	0	0	0	0	-5	0	-13
volume: at the beginning of the period	mln m^3	5773	5903	6157	7220	9229	10500	5773
at the end of the period	mln m^3	5903	6157	7220	9229	10500	10500	10500
accumulation (+), discharge (-)	mln m^3	130	254	1063	2009	1271	0	4727
altitude: end of the period	m	856,10	859,8	873,78	897,4	910,00	910	
Release from reservoir	m^3/s	370	675	750	800	860	670	10894

Tuyamuyun water reservoir	Unit	Forecast						Total
		April	May	June	July	August	September	
Inflow	m^3/s	592	1362	2016	2760	2038	1047	25976
Water losses	m^3/s	132	314	293	511	443	357	5423
volume: at the beginning of the period	mln m^3	3611	3336	2588	2864	3473	3344	3611
at the end of the period	mln m^3	3336	2588	2864	3473	3344	3601	3601
accumulation (+), discharge (-)	mln m^3	-275	-748	276	609	-129	257	-10
altitude: end of the period	m	121,80	121,37	123,8	124,18	124,12	122,8	
Release from reservoir	m^3/s	566	1327	1617	2022	1644	592	20563

ABOUT AGREEMENT OF CENTRAL ASIAN GOVERNMENTS ON DATABASE ESTABLISHING ON TRANSBOUNDARY WATERS IN THE ARAL SEA BASIN AND BASE OF KNOWLEDGE DEVELOPMENT WITHIN IPTRID NETWORK[3]

Preparation of interstate agreement on information exchange and data base creation on transboundary rivers' water resources in the Aral Sea basin was started within the EU WARMAP-2 Project in the beginning of 1998. As a result of intensive activity of the working group at the end of 1999 draft agreement with necessary annexes has been prepared. In December 1999 it was discussed on the regional workshop in Almaty, all comments and amendments of the participants were taken into account. In February 2000 text of agreement was disseminated among all states for new round of discussion. Final discussion with participation of the national coordinators is planned for 12-13 May in Nukus. Results of this meeting will be sent to all states. SIC ICWC has prepared plan of measures regarding activity on agreement preparation in 2000.

Information exchange is very important for specialists in irrigation and drainage. Bases of knowledge formed by common principle within IPTRID network all over the world, are the foundation for advanced methods of water resources and irrigated lands efficiency increase. It has, at the same time, big significance for environment as it allows human beings to survive and satisfy their needs in resources not incrementing consumption, but managing demand and saving.

During two years SIC ICWC is one of IPTRID central grids, where purposeful selection and dissemination of information between regional and national centers are organized on the following directions:

- analysis of macroeconomic tendencies in the world and regions, connected with water and land resources dynamics, prediction of water consumption development, irrigation and drainage;
- advanced indicators of water and land resources use in different regions, including water productivity;
- advanced technologies for effective water saving, irrigated lands effective use, making water cheaper, reduction of expenses for operation and maintenance;
- new types of industrial products for water management and drainage;
- capacity building aimed at management sustainability increase, including perfection of legal, institutional and economic aspects;
- information about planned international conferences, workshops, training;
- information about donors' programs which could be used for scientific research development;
- experience in work on transboundary water sources.

It is necessary to organize regional information exchange both inside the countries and different zones on bilateral basis. For that national centers should be organized which process and transfer information from IPTRID central grids and disseminate it between own information grids in different countries of the region according to their peculiarities and, simultaneously, collect in common format and principle from these grids, aggregate it and transfer to central grids.

Such an approach determines following directions of the IPTRID regional grids activity:

a) preparation and dissemination within the region bulletins, including official documents and actions, performed by the regional organizations and national governments in

[3] Information on the third question of ICWC meeting agenda

water and land resources use management, development and perfection (agreements, minutes, official review, etc.);

b) collection, processing, analysis and dissemination of scientific research results in the region; information about projects implementation at expense of donors or for own means;

c) purposeful analysis of different projects and measures undertaken in the region and being of interest for following utilization;

d) publication of technical collections on world and the region's experience;

e) organization of reference information about publications abroad and within the region including newspapers and magazines;

f) collection of data and information dissemination about advanced technologies especially in water saving and water resources use productivity increase.

In this system of information exchange national and zonal centers of IPTRID shall play very important role. They shall organize broad network of information points, which shall collect and transfer information and, at the same time, accept information from regional center. Staff occupied by these questions should be highly skilled to select proper information.

Information exchange between all active grids could be built on free basis under conditions when all participants keep their obligations. Base for this exchange should be agreements between both central-regional and regional-national grids.

For this purpose IPTRID network leadership should prepare typical draft agreement about information exchange between IPTRID grid centers (ILRI, HR Wallingford, US Reclamation Bureau, Cemagref, IWMI, ICID) and regional (national) centers which will determine interrelations of all participants of exchange. In this case IPTRID networking center role will be as follow:

• periodical reporting about information exchange and its analysis;
• organization of seminars-training on information exchange;
• assistance in information centers computerization.

Regional and local organizations under information exchange should pay only for translation, mailing and duplication. Main users, who are not a participant of the system, could use information on payable basis.

Proposed agreements will make better information exchange system and increase its purposefulness. This should be particularly taken into account because of necessity to translate (from English, French, German) into language of user and vice versa.

In agreement should be mentioned:

• coordination of exchange themes between regional and national centers and IPTRID central grids depending on their area of interest;
• periodicity of exchange and information presentation (materials from newspapers, magazines, etc.);
• possibility of exchange trough Internet.

ICWC DELEGATION PARTICIPATION IN THE SECOND WORLD WATER FORUM AND INTER-MINISTERIAL CONFERENCE OF THE WORLD COMMUNITY'S GOVERNMENTS[4]

Second World Water Forum and Inter-Ministerial Conference was held in Hague, the Netherlands on 17-23 March 2000. ICWC delegation composed of:

A. Ramazanov – Chairman of the Committee for Water Resources of the Ministry for Natural Resources and Nature Protection of the Republic of Kazakhstan;

K. Beishekeyev – Deputy Director General of Water Department of MAWR of the Kyrgyz Republic;

A. Nozirov – Minister of Reclamation and Water Management of the Republic of Tadjikistan;

T.Altiyev – Chairman of EC IFAS, Deputy Minister of MAWR of Turkmenistan;

A.Jalalov – First Deputy Minister of MAWR of the Republic of Uzbekistan;

R.Giniyatullin – Leader of GEF Project Agency;

V.Dukhovny – SIC ICWC Director;

M.Khamidov – BWO "SyrDarya" Director;

has taken part in the Forum and Conference under invitation of the Government of the Netherlands and UNESCO and financial support from CIDA.

About 4000 persons from 186 countries participated in the Forum. Prince of Orange was a Chairman of the Forum. Queen of the Netherlands Beatrice attended opening and plenary sections.

Organizing Committee's Chairman Prince of Orange, the World Bank chairman D. Wufelson, UNESCO Director General Mr. Matsura, UNEP Director Mr. Topfer on behalf of UN Secretary General Kofy Annan, World Water Council Chairman Mr. Abu Zeid, "Water and XXI century" Commission and Global Water Partnership Chairman Mr. I. Serageldin, ex-President of USSR Mr. M. Gorbachev, ex-Prime Minister of Israel Sh. Peres, Queen of Jordan Her Majesty Noor made their presentations.

Main task of the Forum was to drawn attention of the world community to water problems, development of measures and common vision of the planet's water availability in XXI century, taking into account growing water deficit, threat of pollution, economic instability and global climatic changes.

Many international, legal and non-governmental organizations prepared "Water Vision 21" at the world, regions, countries and continents level.

Forum and Conference were conducted in the Building of Congress-hall simultaneously in different apartments named after famous rivers of the world. Plenary sessions, including ceremony of opening and closure as well as Inter-Ministerial Conference were conducted in Central Hall named "Amazon" with about 3000 places. Each day had own name: March 17 – Day of Europe; March 18 – Day of Africa and Middle East; March 19 – Day of Asia; March 20 – Day of Far East, Australia and Pacific; March 21 – Day of America; March 22 – World Water Day.

Themes of discussion were distributed over sessions: "Water for food production", "Water for people", "Water for nature", "Water for peace", "Water and urban planning", "Water and energy", "Water and right", "Water and history", "Water and ethic", "Water and education", "Water and religion", etc.

[4] Information on the first additional question of ICWC meeting agenda

In the Day of Asia special session was conducted dedicated to the Aral Sea basin problems where "Vision 21" developed by UNESCO jointly with Central Asian states was presented.

UNESCO Director General Koitiro Matsura presented report about "Vision 21" and talked about Aral Sea basin crisis on the plenary session.

Forum's participants noted that water impact on human beings is defined by its consumption growth compared with the beginning of the century by 6 times.

Main rivers of the planet: Yellow in China, Colorado in North America, etc. are drying up not achieving the sea. Many rivers passing cities are disappearing or disappeared.

Each fifth man on the planet has not access to safe drinking water and more than half of people – to sewage systems. Three-four millions of people die annually from water induced diseases. Daily four thousands of children die because of water deficit and quality. Fifteen per cent of world population, primarily women and children suffer from malnutrition. If now 11 countries have water deficit, their number could grow significantly if appropriate measures will not be undertaken. All this shows global scale of the problems, necessity to fight for survival, change attitude to water.

Inter-Ministerial Conference accepted special declaration reflecting governments commitment to provide mankind with safe water, food, ecosystems protection, water resources distribution, management of emergency situation risks, assessment of economic, social, ecological and cultural value of water.

Atmosphere of event reflected recognizing problems facing mankind and necessity to develop program of action on prevention of mitigation these problems through formation new understanding of group of people, their education towards careful attitude to water. That's why there were separate sessions for children and youngsters, NGO, etc. On the World Water Fair new achievements in science and techniques in water problem were demonstrated.

To achieve sustainable water availability it was proposed by participants: integrated management of water resources and their quality; institutional reforming of water sector and public involvement in water resources management, legal base and water law, financial mechanisms of water evaluation improvement.

During the Forum delegation met with representatives of international organizations and governmental bodies:

• Vice-President of CIDA Mr. E. Gauvrea together with CIDA officers Mr. Aly Shady and Mr. Nadjeeb Mirza. CIDA aspiration was confirmed to continue collaboration with IFAS, particularly in training, SCADA system introduction, etc.;

• Dutch Ministry of Foreign Affairs Department Director Mr. Lee van Maar. Ministry will continue to contribute to GEF and UNDP projects;

• Chairman of ADB Mr. Mione-Ho-Shin and Chief Specialist Mr. W. Linkline. ADB begins to understand possibility to participate in the regional problems solution and asks to submit proposals on two programs: "Drainage water reuse" and "Modernization of hydrostructures on AmuDarya and SyrDarya" which will be considered by the Bank Board;

• new Director General of UNESCO Mr. Matsura. Director of Hydrological Program Mr. Saloshi Nagy and their collaborators. EC IFAS Chairman Mr. T. Altiyev has put some questions:

- continuation of "Vision 21" and transition to the "Plan of action";
- development of scientific research and monitoring of the Aral Sea;
- forecast of global climate changes impact on Central Asian states.

• Vice-President of the World Bank, President of Global Water Partnership Mr. I. Serageldin who expressed his interest to the region, if political and financial organizations of five countries would support IFAS proposals about water sector development and Aral Sea problem solution;

• FAO Director General's Assistant Mrs. Fresco and Department Director Mr. H. Wolter. It is planned to develop activity on water and land productivity improvement in the Aral Sea basin;

• UNDP Department Director Mr. R. Lenton and Chief Specialist Mr. F. Reynolds who have invited Mr. Altiyev to UN Headquarters in New York to discuss the Aral Sea problems;

• Mr. D. Brisco – World Bank Chief Specialist.

Mr. T. Altiyev and other members of delegation reported on the section "International waters" under chairmanship of Mr. M. Gorbachev and explained their opinion about collaboration improvement and development.

THE REGIONAL PROJECT "INTEGRATED MANAGEMENT OF IRRIGATED AGRICULTURE IN FERGANA VALLEY", PLANNED TO PERFORMANCE ON THE TERRITORY OF KYRGYZ REPUBLIC, THE REPUBLIC OF TADJIKISTAN AND THE REPUBLIC OF UZBEKISTAN[5]

According to the program coordinated by MAWR of the Kyrgyz Republic, Republic of Tadjikistan and the Republic of Uzbekistan, the Swiss Agency of Development and Cooperation and International institute of Water Management in November 1999 in Tashkent a seminar was carried out, in which the representatives of the above-stated organizations have taken part, and also the representatives of Kazakhstan, USAID.WARMAP, etc. Participants have heard a number of the basic reports and have Carried out working discussion of the program of works aimed at realization of the project" integrated management of irrigated agriculture in Fergana valley". The meeting was preceded by working visit of the employees and advisers of the International institute of Water Management in Namangan area together with the representatives of SIC ICWC and MAWR of the Republic of Uzbekistan, during which the exchange of opinions and acquaintance of the foreign experts with features of work of managerial bodies in the Fergana valley on an example of the Namangan area was held.

As a result of discussions the participants of meeting have agreed on the following basic questions.

In view of available world experience in connection with transition of the agricultural enterprises and water users of the countries of Central Asia on the market relations the urgent necessity of change of principles of management of a water and agriculture at various levels of hierarchy. The main directions of this perfection is the transition to the integrated hydrographic (system) method of management within the limits of hydrographic (instead of administrative) unit, and also development of a network of water Users Associations (WUA) in their close interrelation among themselves. Though the development of WUA and course of market reforms in an agriculture at the countries of Central Asia is at a various level (in Kyrgyzstan and in Kazakhstan they are already organized and work, in Uzbekistan and Tadjikistan the governments of the countries are just discussing), nevertheless, the governments of Central Asian are complete of determination in realization of institutional perfection on the specified directions. Both these directions of institutional re-structuring should be accompanied by the third direction of works -increase of efficiency of water and land resources use, as on a basis more effective utilization irrigated lands, and by reduction of unproductive losses of water at all levels of hierarchy of water management. The participants of meeting with gratitude have noted the initiative of the International Institute of Water Management together with SIC ICWC, supported the Swiss Agency of Development and Cooperation, which agreed to finance the project "Integrated Management of irrigated agriculture in Fergana valley" under conditional name "KIRUZTAD-Fergana" during 3 years. The directions of activity of the given project are closely coordinated to other regional and national projects in Central Asia, in particular, with the project of the European Union "WARMAP-2", promoting perfection regional, at an interstate level, water resources management; the projects USAID, World Bank and Asian Development Bank, directed on development of WUA network and also Global Environmental Facility developing regional and 5 national strategy within the framework of the project "Improvement of an environment and water resources management in the Aral sea basin". It is supposed, that the planned joint project between IWMI and SICICWC will enter the certain contractual relations with the

[5] Information on the second additional question of ICWC meeting agenda

specified projects on mutual information exchange and cooperation in realization of all specified projects.

In the activity the offered project will be guided by basic legal and organizational rules working in the Aral Sea basin according to the agreements and the arrangements, made on a regional level between the countries. Organizational basis of the given project will be management of the project by the International Institute of Water Management (IWMI) with sub-contractor SIC ICWC, which on an equal basis will involve all three republics in separate aspects of activity. With this purpose the Coordination group on management of the project headed by the coordinator from IWMI, including on 1 representative from three interested states will be organized: Kyrgyzstan, Uzbekistan, Tadjikistan and SIC ICWC, and also representatives of Kazakhstan and Turkmenistan as the advisers and observers of this program. The Swiss Agency of Development and Cooperation, IWMI and departments of the countries and also EC IFAS will create an observant commission, which will supervise periodically and coordinate activity of the project. Is decided to ask EC IFAS and also the World Bank, Asian Bank of Development and UNDP to allocate of the representatives to this Commission. As object of the project the right coast of SyrDarya river on territory of the Fergana valley in command zone of Northern Fergana Canal and Large Namangan Canal, and also local sources crossing and contiguous to these canals. Thus, in sphere of the given project the most part of lands of the Namangan area of Uzbekistan, part of lands of Asht massiv of Tadjikistan and part of lands Jalalabad province of the Kyrgyz Republic are included.

The parties will choose on one WUA, including a number of farms, which will be organized on the territory of Kyrgyz Republic, Tadjikistan and Uzbekistan as typical objects of research and introduction according to criteria, which will be coordinated by the participating parties. In territory of each of these organizations of the party will pick up places for three pilot sites with the purpose of estimation of existing level water and land use and introduction of the programs of water monitoring. The remote methods and techniques of WUFMAS will be used for specification of an opportunity to avoid unproductive losses and to increase efficiency of water use in agriculture.

The parties have addressed to the appropriate ministries and government agencies of three countries for political and organizational support of the given project, and also coordination of basic provisions of the given project. The given project is supported by Minselvodhoz of the Kyrgyz Republic, the Republic of Tadjikistan and the Republic of Uzbekistan. The nominees to the Coordination group are determined.

The nominee of the adviser-observer from Republic of Kazakhstan is determined as well.

The project can be of interest and for Turkmenistan while solving similar question on the frontier with Uzbekistan systems.

The final offers and estimates of works necessary for opening of financing by the Swiss Agency of Development and Cooperation, are being agreed by the foreign partners of the project.

ABOUT MEETING BETWEEN IFAS, SIC ICWC AND OSCE AND BRITISH FOREIGN OFFICE DELEGATION MARCH 29, 2000 IN TASHKENT

Representative of the GEF Project (R. Giniyatullin, S. Aslov, K. Balliyev, M. Ospanov, S. Pernabekov) and SIC ICWC (V. Dukhovny, P. Umarov, N. Kipshakbayev) have met with OSCE delegation leaded by His Excellency Ambassador of the United Kingdom Mr. John de Fonblank including Mr. Wittebrod, TACIS Program's Deputy Director, Mr. D. Pearce, Mr. Michael Joder, US State Department representative, Mr. P. Heis, British Foreign Office Environmental Department Mrs. Elke Atzler, Austrian Ambassador in OSCE and others.

Mission's Leader has outlined the goal of the visit – to prepare the conference on the Aral Sea basin ecological problems under auspice of OSCE in London in order to prevent the conflicts related to water issues. This idea belongs to Mr. Kook, Foreign Affairs Head as a result of discussion in Istanbul. Mission has objective tax coordinate this conference with the Aral Sea basin countries in order to determine how to assist these countries in transboundary water resources management. It is necessary to take into account existing technical assistance (WARMAP-3, GEF Project, etc.) and creation of political atmosphere of support and collaboration particularly in agreements development.

GEF Project Agency Leader Mr. R. Giniyatullin has stated the following:

1. Organize or not London conference is up to Central Asia states.
2. Permanent reminders about possible conflicts from foreign specialists is unacceptable for us, it can only to provoke conflicts. During 8 years we avoided any conflicts and we believe that our collaboration will permit us to avoid them in the future.
3. There is some mistrust to conferences and workshops because their decisions are mostly not being fulfilled. Moreover, some donors interventions provoked bilateral negotiations instead of multilateral ones. It is understood that basin's development is impossible without concerted actions of all countries. Because of that bilateral agreements are possible only on base of multilateral ones.
4. To provide success of the London Conference it is necessary to prepare joint proposals by working groups from local and foreign specialists, agree them with the governments in order to demonstrate during the conference mutual understanding.

In his answering speech Mr. J. de Fonblank said, that conference's objective is to determine directions of political decisions and facilitate strengthening of political collaboration between 5 countries of the region.

We consider work within framework of WARMAP on agreements preparation as very important. Decision-makers awareness about this work strengthening necessity should stimulate political will to complete it.

SIC ICWC Director Prof. V. Dukhovny has underlinedthe following important aspects:

1. There is no contradiction in determination of organization, which should lead international collaboration. Head of states have assign IFAS as the highest entity making decisions, which includes Vice-Premier-Minister from 5 states, immediate water management is implemented by Interstate Coordination Water Commission (ICWC).
2. Conference preparation, if it would be coordinated by CAR governments? Should be carried out through EC IFAS. In my personal opinion, EC IFAS jointly with ICWC in this case should organize working groups on 3 issues: institutional, legal and financial

strengthening of cooperation on water resources, which jointly with involved foreign advisers could prepare proposals, which could be presented as a discussion item on this conference to our countries' governments.

3. Conference should be important not only for collaboration between countries, but also between donors. It is necessary to create such coordination of donors' efforts, which would provide necessary technical, consultative and financial assistance in the Aral Sea basin issues solution avoiding duplication and basing on consensus with IFAS.

4. While working on legal base strengthening weakness of international water right should be taken into account, because there are not examples of 5 countries collaboration, which immediate manage water allocation, operate and maintain hydrostructures. Besides, no one from international conventions gives strict recommendations on realization of 3 main principles of water right and their combination. In this direction work of local and foreign experts should be organized.

Mr. Witterbrod in his speech has stated, that European Union is ready to organize financial support of this conference. It has intention to support WARMAP Program's further development if all 5 countries wish to collaborate in this program. It would desirable to demonstrate IFAS further steps by signing of some agreements preliminary agreed. We do not insist on creation of some additional body, which would coordinate all activity in the region, because it is fully in competence of the region's countries.

Mr. R. Giniyatullin comments: Even in developed countries signing of agreements takes several years. Under conditions of new sovereignty and seach of own priorities are undisputedly reflected in terms of their signing.

THE WORLD BANK FOURTH SEMINAR ON RIVER BASINS INTEGRATED MANAGEMENT

The fourth seminar on river basins integrated management: basins' institutional development was held in Washington, in the World Bank headquarters on April 7, 2000. The annual seminars were organized by Economic Development Institute of and Thematic Water Group of experts at the World Bank Senior Adviser for water resources. Three previous seminars' participants discussed specific examples of integrated management problems in the largest river basins in various parts of the world.

In February 1997 Tennessee river valley (America) Murray-Darling (Australia) management problems were considered. In June 1998 Europe experience analysis was carried out. In particular, work experience of French Agences de l'Eau, Danish Council on Water Resources and Spanish Confederationers Hidrograficas, and also International Rhine Commission. In July 1999 at the seminar arising institutional structures' problems in East Asia were discussed: deltas of Mekong river (Vietnam), Mekongi and Tarim (China) basins, and also Indonesian Basin Corporation.

At the fourth seminar basic attention was paid to institutional structures' problems in basins with transition economy conditions: Volga river basin (Russia), the Aral sea basin and Danube river basin (Central and East Europe). The World Bank former Senior Adviser Guy Le Moigne headed seminar. The World Bank Thematic Water Group's leader Theodore Herman and also expert of this group and main organizer of the current seminar Guy Alaerts has made an introductory speech about seminar general tasks and institutional structures development problems in river basins.

Volga river basin problems were submitted by three lecturers: Vasily Rodionov, expert of Russian Ministry of Natural Resources Water Resources Department; Margarita Shevchenko, co-chairman of Volga basin problem group, who is also Director of Russian Ministry of Natural Resources Water Resources Department of; and also Prof. Janusz Kindler from Warsaw Technological University.

Four reports on the Aral Sea basin problems were submitted at the seminar. General regional report, and also report on SyrDarya river specific problems were submitted by prof. Victor Dukhovny, SIC ICWC Director. The report on AmuDarya river problems was presented by Vadim Sokolov, SIC ICWC Deputy Director; the report on Zerafshan river was submitted by Zair Jurabekov, Director of "Zerdolvodkhoz". It is necessary to note, that the World Bank for the first time especially concentrated its attention on Zerafshan river basin problems.

Danube basin program in Central and East Europe was submitted in the report of Ilia Natchikov, Danube Project Deputy Director (Vienna, Austria).

Within seminar framework, the discussions were developed on each basin, which were in conclusion generalized by Tony Garvey, leading water expert of the World Bank. According to four seminars' results the general analytical framework having common key characteristics of river basins structure is submitted:

- Role of high-level leaders;
- Policy and coordination;
- Planning;
- Financial aspects;
- Infrastructure development and operation;
- Interested parties' participation of the and/or realization of supervision by the third party;

- Increase of population self-consciousness.

Comparative analysis shows that between successfully working systems there are some similarities and many distinctions. All basin organizations really carry out coordinated and planned functions, have mechanisms for mutually beneficial and peaceful discussion of important questions of the interested parties and participate in work on increase of public knowledge. The precise understanding of successful basin structure's basic characteristics as well as their appropriate physical and institutional environment has been achieved. Institutional environment includes historical, administrative and cultural factors. Latter ones contain traditional mechanisms, which are involved in joint actions, conflicts resolution, hierarchy and power distribution. Understanding, how institutional structure develops in those or other basins, will help the World Bank to support initiatives and make contribution to development process promotion.

The World Bank plans to publish the special monograph including materials of all four seminars, with their generalization and comparative analysis.

REGIONAL WORKSHOP ON RESULTS OF THE FIRST STAGE OF "WATER SAVING" COMPETITION IN CENTRAL-ASIAN STATES

Regional seminar on summarizing of Water saving competition's first stage was held on May 12, 2000 in Shymkent (the Republic of Kazakhstan).

This competition was organized since April 1, 1999 within framework of sub-component A-2 "Participation in water saving" of the GEF Project "Water resources and environment management".

Objects-participants are located in 8 provinces of the Aral Sea basin, determined by National Coordinators of Central Asia states and represented by the following categories:

- district water organizations;
- water users associations;
- collective farms/cooperatives/farms associations;
- dekhkan and farmer farms.

Objects selected by Provincial Experts Councils to participate in the competition first stage

Republic	Province-participant	Total	including:			
			Vodkhozs	Water users associations	Kolkhozs, goskhozs, cooperatives	Farmers
Kazakhstan	Kzylorda	7	3		2	2
	South-Kazakhstan	21	3	4	6	8
Kyrgyzstan	Jalalobad	19	3	2	4	10
	Osh	23	3	6	3	11
Tadjikistan	Leninabad	12	4		6	2
	Khatlon	20	3		10	7
Uzbekistan	Fergana	20	3		9	8
	Kashkadarya	20	3		7	10
Total over theregion:		142	25	12	47	58

Objects-participants are located from watershed (Jalalobad, Osh provinces of Kyrgyzstan and Khatlon province of Tadjikistan), where there is necessity to demonstrate not only water saving but irrigation erosion prevention as well, to lower reaches (Kzylorda province), where soils are saline due to shallow ground waters.

In different countries irrigated lands privatization processes are at different stage (most active they are in Kyrgyzstan and Kazakhstan).

There are specific institutional (for instance, water users associations in Kyrgyzstan and Kazakhstan) and legal forms of interaction between agriculture and water sector (for

example, payment for unit water delivery in Kyrgyzstan and Tadjikistan and fine for irrigation water release in Uzbekistan).

Competition first stage's winners (01.04.1999-31.03.2000), national coordinators, chairmen of regional expert councils, provincial competition managers, GEF Agency leader and experts, the World Bank mission leader and experts in the Republic of Uzbekistan, competition monitoring group leader and experts, news agencies representatives from the Central-Asian states have taken part in the seminar.

Deputy Akym of South-Kazakhstan oblast Mr. R.S. Khalmuradov greeted seminar's participants. He noted importance and practical significance of works on water saving and wished success in seminar's work.

GEF project leader Mr. R. Giniyatullin has noted in introductory word, that competition purpose was to show in practice water saving ability without large capital expenses, taking the most available traditional water saving experience, inherent to dekhkans of the region. Then he has noted competition is first stage importance in public awareness formation, water saving processes development and expansion of processes in irrigated agriculture of the Central-Asian states. He said as follow:

"Our task is to show water saving sustainability at subsequent competition stages. We are grateful to the World Bank for support, but should understand clearly, that after the competition planned for three years, we should ensure sustainable water saving, as only we are responsible for what land and water we shall leave to our descendants".

Then in solemn conditions Mr. R.A. Giniyatullin handed certificates to the competition participants-winners and orders about their reward with premium. Memorable gifts were handed to provincial expert councils chairmen who has organized competition purposes and tasks practical realization.

After short break seminar's participants started to discuss competition's first stage lessons learned.

Further speakers have told about positive and negative moments accompanying realization of competition. Competition participants' reports were listened with big interest. The World Bank mission expert-adviser Mr. Roider has noted success of undertaken practical steps on water saving program implementation and thanked GEF Project Director for purposeful activity in public awareness formation of water resources rational use necessity and possibility.

In conclusion participants have been acquainted with recommendations on competition's next stage formation, basic task of which is to show stability of water saving positive effects, achieved at the first stage.

WORKSHOP "STRATEGY FOR WATER EFFICIENCY INCREASE"

Workshop "Strategy for water efficiency increase" took place on May 2-3, 2000 in SANIIRI for 2nd phase participants of the project "On-farm irrigation and management" (OIMP-2). Seminar purpose is preparation for agricultural production management on pilot plot during growing period of 2000.

The project is carried out within European Union TACIS program framework as technical and financial support of agriculture re-structuring policy realized by the Republic of Uzbekistan Government.

Project realization object are irrigated lands of one of Siddikov's farm branches. This farm is located in SyrDarya area of Uzbekistan, and organized in 60-es on Hunger steppe new developed lands and equipped with engineering types of irrigation and collector-drainage networks. In 70-es –80-es this farm steadily occupied leading position in oblast on raw cotton production. All these years raw cotton crop yield was 3.0-3.5 t/ha. Last years crop yield began to reduce. Irrigated lands meliorative state has got worse. On-farm irrigation network constructed mainly of reinforced concrete flumes, has been worn out. Irrigation water use efficiency indicators have decreased. As result irrigation efficiency has sharply reduced. On this farm example foreign partners in cooperation with local experts have begun development and practical realization of irrigation productivity increase strategy on background of agriculture re-structuring processes in Uzbekistan. Project implementation began in second half of February 2000. Research works have been carried out, the rough amounts of works on irrigated plots leveling, irrigation network reconstruction and collectors' mechanical cleaning have been determined. Project foreign partners have allocated a part of means on these works complex realization. Capital leveling has been carried out on 30 ha with laser equipment use.

One of project activity directions is local experts gradual training on water use and agricultural production rational methods, tested in developed countries. This seminar is the first stage ("training of trainers") of seminars cycle. Following practical aspects were high-lighted in reports of project foreign and local experts-advisers:

Concepts of farms' profitability, financial and economic prices, parameters of resources efficiency, water use losses and productivity;

Brief information on tasks of field, laboratory and soil researches, data interpretation and researches' results use for soil water and salt management;

Brief information on cotton development physiological features and necessary conditions creation to obtain maximum crop yield. Agrarian-technical methods: optimal terms and requirements;

Research results: irrigation and drainage network state on pilot plot and restoration works necessary volumes;

Irrigation schedules with regard for soil physical properties, groundwater table, plants development phase. Daily water balance method, irrigation norms determination on base of evaporation, precipitation and ground water-table measurement, etc.;

Water discharge control at the level of field, water discharge measurement technique;

Irrigation technique elements connected with infiltration, slopes and irrigation furrows shape, water discharges correction in furrow, and irrigation technique efficiency practical management on the field;

Water management problems on pilot plot is whole area. Water Users Association, legal and functional problems.

At subsequent stages local experts – seminar's participants jointly with farmers right on fields will demonstrate practical methods as well as effective water use and agricultural production abilities.

Leader of block "Reclamation and irrigated lands operation" of the Republic of Uzbekistan Agriculture and Water Management Ministry, Head of Main Reclamation Department Mr. M. Mirkhodjiyev has taken part in seminar's work. While summarizing seminar work he has noted importance and practical significance of works planned program, expressed wish to take into account local advanced experience and world community experience careful adaptation to our region peculiarities.

PROTOCOL OF COORDINATION COMMISSIONS EXPERTS' MEETING FROM IFAS AND WARMAP-2 PROJECT ON ESTABLISHING OF LEGAL BASE FOR WATER RESOURCES MANAGEMENT IN THE ARAL SEA BASIN

May 12-13, 2000 Nukus

Attendees:

From EC IFAS - U. Saparov, U. Ashirbekov
From Kazakhstan - N. Kipshakbaev
From Tadjikistan - A. Kamoletdinov
From Turkmenistan - T. Altiyev
From Uzbekistan - Sh. Rakhmatov
From BWO "SyrDarya" - N. Rakhmatov
From BWO "AmuDarya" - O. Lysenko
From SIC ICWC - V. Dukhovny, D. Abdurazakov
From WARMAP-2 Project - I. Alster

AGENDA

1. Correction of the texts of "Agreements" according to Meeting in Almaty of December 21-22, 1999 decision.
2. About Plan of actions on legal base of water resources management in the Aral Sea basin.

Based on Almaty Meeting's decision corrected texts of Agreements on institutional structure (No. 1) and database (No. 4) are initialed. On these texts official agreement of Uzbekistan and Kazakhstan Governments is received and from Ministry of Reclamation and Water Management of Tadjikistan with small comments. From Kyrgyzstan there is oral statement of the Minister Mr. A. Kostyuk on the meeting in Bishkek on February 11, 2000 that he agrees with text under condition of exclusion of word "transboundary" from text and title of Agreement No. 4.

After discussion participants have decided:

1. To correct Agreements' text according to comments submitted taking into account oral statement of the Minister Mr. A. Kostyuk, which are supported by all because database covers all water resources of the basin. SIC ICWC is charge to send immediately above mentioned texts to all members of ICWC, EC IFAS and submit for agreement to the next ICWC meeting.

To ask Mr. T. Altiyev (EC IFAS) to send these texts to all Leaders of Coordination Commissions for final subittance to IFAS meeting.

2. Accept SIC ICWC information about Plan of legal agreements preparation. To correct it according to comments and disseminate among participants.

To agree with SIC ICWC proposal about inclusion into the plan of "Provision on order of coordination, financing and expertise of international and regional projects on the Aral Sea basin problems".

Signatures:
:

From EC IFAS - U. Saparov
From Kazakhstan - N. Kipshakbaev
From Tadjikistan - A. Kamoletdinov
From Turkmenistan - T. Altiyev
From Uzbekistan - Sh. Rakhmatov
From BWO "SyrDarya" - N. Rakhmatov
From BWO "AmuDarya" - O. Lysenko
From SIC ICWC - V. Dukhovny
From WARMAP-2 Project - I. Alster

PROTOCOL OF WORKING GROUP MEETING ON PREPARATION OF PUBLIC COUNCIL UNDER IFAS ESTABLISHING

May 10, 2000 Nukus

According to Tashkent meeting of 1999 between NGOs and IFAS representatives decision they met on May 10, 2000 in Nukus. The following NGO representatives were selected for IFAS Public Council (PC):

1. Farid Tukhbatulin, Ecological Club, Dashkhovuz, Turkmenistan.
2. Abdurakhim Khasanov, Engineering Academy, Dushanbe, Tadjikistan.
3. Ibragim Domuladjanov, "For Ecologically Clean Fergana", Fergana, Uzbekistan.
4. Yusup Kamalov, "Union For Aral And Amudarya Protection", Nukus, Uzbekistan.
5. Elena Rodina, "BIOM", Bishkek, Kyrgyzstan.
6. Valery Lelevkin, SIC Aral, Bishkek, Kyrgyzstan.
7. Oleg Zaruk, Global network to combat desertification, Tashkent, Uzbekistan.

Representatives of organizations participating in PC establishing:

1. Vladimir Sergeyev, "Aral-Dialogue", Nukus, Uzbekistan.
2. Irina Matveenko, "Global and Local Partnership", Bishkek, Kyrgyzstan.
3. Nina Krivoschekova, Engineering Academy, Dushanbe, Tadjikistan.

Mr. U. Saparov, EC IFAS Technical Director and Mr. A. Demidenko, Manager of UNDP Project “Aral Sea Basin Development Program” have taken part in this meeting.

Mr. U. Saparov has confirmed readiness to follow work principles stated in Memorandum of April 14, 1999 and introduce memorandum provisions in life jointly with regional NGO.

The following questions have been considered:

1. PC IFAS draft Statute.
2. PC IFAS coordinating body elections.
3. Plan of NGOs’ joint works, participating in PC IFAS formation.

In accordance with proposal of Mr. U. Saparov it has been decided to complete draft Statute with regard for all notes and proposals, as well as to study Statute replacement for Provision about PC IFAS to simplify registration procedure (according to proposal of Mr. V. Sergeyev).

The decision has been taken to determine Union of Aral Sea and AmuDarya river protection (UASARP) as coordinating organization and charge it to carry out functions of working group coordinator on PC IFAS formation till PC IFAS Provision approval at the founders’ conference. UASARP has been charged to complete draft Statute (Provision) with regard for remarks and present new version for discussion to all sides concerned till the end of June 2000.

The decision has been made to apply to UNDP RPBAM Project on behalf of Mr. A. Demidenko for UASARP financial support till PC IFAS founders and participants conference on PC IFAS Statute (Provision) approval.

Following projects should be included into PC IFAS joint activity plan:

- draft convention development on water use in the AmuDarya river basin;
- joint work on CA region sustainable development concept;

- work on projects for population knowledge increase and public awareness formation.

Protocol has been prepared by Yu. Kamalov, UAAP, Nukus, Uzbekistan.

Are acquainted with protocol:

1. Usman Saparov, EC IFAS Technical Director.
2. Andriy Demidenko, Manager of UNDP Project “Aral Sea Basin Development Program”.
3. Farid Tukhbatulin, Ecological Club, Dashkhovuz, Turkmenistan.
4. Abdurakhim Khasanov, Engineering Academy, Dushanbe, Tadjikistan.
5. Ibragim Domuladjanov, "For Ecologically Clean Fergana", Fergana, Uzbekistan.
6. Elena Rodina, "BIOM", Bishkek, Kyrgyzstan.
7. Valery Lelevkin, SIC Aral, Bishkek, Kyrgyzstan.
8. Oleg Zaruk, Global network to combat desertification, Tashkent, Uzbekistan.
9. Vladimir Sergeyev, "Aral-Dialogue", Nukus, Uzbekistan.
10. Irina Matveenko, "Global and Local Partnership", Bishkek, Kyrgyzstan.
11. Nina Krivoschekova, Engineering Academy, Dushanbe, Tadjikistan.

PROTOCOL MEETING No. 4 OF THE TECHNICAL GROUP ON MODELING AND OPTIMIZATION OF NARYN-SYRDARYA RESERVOIR CASCADE (NSRC) OPERATION REGIME

April 19-20, 2000 Tashkent

Agenda

1. Discussion of mathematical description of the model on the component "River" main part sections "Water Quality" and "Energy".
2. Discussion of model of the component "Planning Zone".
3. Discussion of mathematical description on the component "Energy".
4. Discussion of mathematical description of the model of energy regime "Energy-2" optimization.
5. Discussion of user's interface for model "Energy-2".

Having heard and discussed the Technical group's members presentations the following decision has been made:

On the first question

1. To approve proposed mathematical description of the model on the component "River" as a whole taking into account comments and proposals.
2. To suggest to include releases from all hydropower.
3. To propose to insert in the model component determining belonging of a grid to the republic.
4. To submit information on the "River" component to the Coordination Group according to the final report's approved content.

On the second question

1. To accept information of A. Tuchin about "Planning zone" component completion at May 3, 2000.
2. Participants note that Coordination Group's decision on item 3.2 of its meeting of March 28, 2000 is not fulfilled. Report on the "Planning Zone" component of the model from SIC ICWC is not submitted.
3. While this meeting of Technical Group is last and there is no possibility to evaluate "Planning Zone" component, participants ask the Coordination Group to consider this question.

On the third question

1. To approve component "Energy" as a whole with regard for comments and proposals.
2. To consider information of A. Preigal about the model's interface and calculations of electroenergetic regime over Uzbekistan on the model of S. Zaitseva.

3. To submit materials on the component "Energy" to Coordination Group in accordance with the final report's content approved.

On the fourth question

1. To approve submitted version of the model of electroenergetic regime "Energy-2" optimization (S. Zaitseva, Sh. Khisoriyev, A. Savitsky).

2. To submit materials on the component "Energy-2" to Coordination Group in order to include it in the final report.

On the fifth question

1. To accept information of A. Savitsky about model "Energy-2" user's interface being under development.

S. Zaitseva
A. Tasybayev
A. Artyukhin
E. Antipova
Sh. Khisoriyev
S. Navruzov
Sh. Kuchkarov
E. Rozhnov
M. Mikhnevich
E. Zheleznova
A. Tuchin

ICWC TRAINING CENTER CREATION

Experts' delegation from "McGill University" and "Mount Royal College" visited Tashkent on May 15-19, 2000. Main purpose of this visit was ICWC training center's institutional issues consideration.

Canadian colleagues' visit became a two-years negotiation result between ICWC and Canadian International Development Agency (CIDA) about ICWC training center formation, finished with this project approval by CIDA.

Project is designed for 5 years and its task is training system formation based on subsequent profitability. For this purpose project leadership plans gradual introduction of self-supporting activity (training in purchase procedures, business - plans preparation, computer usage, privatization rules in water management activity, etc.).

On meeting which has taken place in ICWC Scientific-Information Center, decision has been made, that water management specialists training in Central Asia will be carried out within the first year by monthly seminars arrangement for 20-30 trainees under equal representation from five countries by duration of 10 days. Training program also includes two study tours to Canada and USA. First of them for water management and agriculture ministry and department leaders to exchange opinions with Canadian and American experts on water and agriculture as well as transboundary waters management methods and management efficiency increase. Second is for these ministries and regional organizations leading staff. Duration of tour is 2 weeks.

Middle level specialists training will be organized as training seminars, where exchange of opinions will be arranged on base of given to participants by Canadian and local experts materials on supposed theme. In result participants will try to reach consensus and, simultaneously, to develop personal plan on discussed activity development. All this will promote not only new knowledge obtaining, but also development of consensus and general ways of development by all participants with regard for local requirements and specific features.

After seminar will be finished certificates will be given to all participants. During seminars wide opportunities will be given to participants to acquaint with computer and information technique, video and audio materials as well as modern foreign guidelines submitted. The part of seminars will be carried out directly in all regions, for what the Training Center four branches formation in Osh (the Kyrgyz Republic), Kzyl-Orda (the Republic of Kazakhstan), Tashauz (Turkmenistan) and Khodjent (the Republic of Tadjikistan) is foreseen.

Thematic presentations on each subject will be carried out by local experts as beforehand prepared reviews, as well as recommendations, available in Canadian training centers. Local lecturers will be selected from highly skilled experts in given branch from 5 countries having own opinion about regional and global work experience. For these experts preparatory seminar will be carried out in September 2000.

USAID joining Training Center activity, outlined by CIDA is expected, that would make possible training center branches organization in all countries of the region.

Training Center will be settled down in BVO "SyrDarya" central building.

"SOIL AND WATER RESOURCES INTEGRATED MANAGEMENT IN THE COUNTRIES OF CENTRAL ASIA AND CAUCASUS"

Under such title on May 10-19, 2000 in Tashkent course organized by International Center on Agricultural Researches in Arid Regions (ICARDA) in cooperation with SANIIRI under financial support of Project on soil and water resources management in countries of Central Asia and Caucasus and Project on soil and water resources management in countries of Central Asia (ADD) was held.

Agricultural research national systems' researchers and experts, conducting researches in field of soil and water resources management at farm level, were invited for training.

Training has expanded participants' knowledge of economic efficiency improvement and evaluation strategies and technologies under rain-fed and irrigated farming. Training allowed to understand basic processes concerning interrelation soil- plant-water both under rain-fed and irrigated agriculture, to realize factors constraining marginal water quality development and use for irrigation and complicating salt management. Invitees discussed various strategies of water efficiency perfection in farm conditions (system approach). They were acquainted with soil and irrigation management, hydrological models, GIS, remote sensing and their application in agriculture.

Participants have developed precise understanding of experiments planning and monitoring of soils, plants, ground waters and natural resources, that allowed to reach professional level of dialogue and establish contacts between outstanding scientists and international experts.

Training main subjects:

A - Water use efficiency;

B - Hydrology and agriculture;

C - Agronomic approaches to sustainable agriculture;

D - Irrigation for arid area agriculture;

E – Irrigation and drainage management in farm conditions;

F - Irrigation by waters of marginal quality;

G - Socio-economic factors for sustainable agricultural production. Agricultural production systems management in a context of natural resources conservation;

H - Participants presentations on soil and water resources and agriculture systems in their countries.

I - Visiting plot in farm Boikozan.

THE CONFERENCE "MARKET AND WATER RESOURCES: DIALOGUE OF NON-GOVERNMENTAL AND GOVERNMENTAL ORGANIZATIONS ON WAY TO ALMATY-2000"

International conference "Market and water resources: dialogue of non- governmental and governmental organizations on way to Almaty-2000", devoted to Day of the Earth and 10 years anniversary of “Union of Aral Sea basin and AmuDarya river conservation” took place on May 11-14, 2000 in Nukus. The conference organizers were following: Ecoforum of Europe (East Europe NGO Coalition), UNDP project “Aral Sea Basin Development Program" and EPIC/USAID "Nature protection policy and resources management institutional structure reinforcement in Central Asia" and "Union of Aral Sea and AmuDarya river protection”.

Main aspects of the conference:
What is water market, its necessity and perspective;
Water market organization examples should be implemented all over the world;
Barriers on water market formation in CA and possibilities of their overcoming;
What do ministers have to present on meeting in Almaty in autumn 2000;
What is GO position related to Almaty meeting agenda;
Representatives also have developed own proposals for Europe Environment Ministers’ Conference "Kiev - 2002".

NATO DELEGATION VISIT

On April 3-8, 2000 NATO "Science for Peace" inception mission in staff of Mr. Alain Jubier, Mr.Michael Bowthorpe, Mr. Alain Gouvrod, Mr. Pierre Shevallier visited Uzbekistan.

Inception mission visit's overall objective was in-situ study of actuality and practical expediency of expected results over projects selected by NATO headquarters in Brussels by grant "Science for Peace" program inception commission.

Over Uzbekistan such works, which have passed all evaluation stages and recommended for financing, are the projects: " Integrated water resources management and feasibility study of wetlands productivity restoration in AmuDarya delta central part" (leaders - Prof. V. Dukhovny and J. de Shutter) and " Sustainable development of environment and water-land resources use through remote sensing and GIS technologies in Karakalpakstan " (leaders – P. Reimov, G. Ptichnikov and F. Mikclin).

During visit this mission got acquainted with executors of the projects in SIC ICWC (Tashkent) and Karakalpak State University (Nukus).

In Nukus delegation met the Republic of Karakalpakstan Council of Ministers' First Deputy Chairman Mr. B. Bekturdyev and leaders of ministries, departments and scientific establishments of Karakalpakstan.

At all meetings these projects implementation problems in Karakalpakstan, their coordination in part of information collection and exchange, ways of results realization, interaction with other projects which are carried out in region were discussed.

The delegation visited Kungrad and Muynak areas of Karakalpakstan, got acquainted with people living conditions, water and agricultural objects state. It visited lake Sudochie, Mechzdurechenskoye water reservoir, dry Aral Sea coast, Takhiatash hydrostucture and Nukus Museum of Arts.

As a result of in-situ study NATO mission's members were convinced of the works importance, readiness and willingness to change situation, using advanced world technologies.

During the visit delegation has arranged briefing, on which activity direction under NATO scientific program has been stated, concrete recommendations for proposals preparation of visits program, seminars, summer schools for young experts training has been given.

ABOUT REALIZATION OF MEASURES ON ARAL SEA BASIN PROBLEMS IN DASHKHOVUZ VILOYAT AND DARGAN-ATA ETRAP OF LEBAP VILOYAT FOR 2000

For realization of tasks on ecological and sanitary-epidemiological situation improvement in 2000 at the expense of current fees of Turkmenistan in IFAS the project of Program of measures realization on Aral sea basin problems in Dashkhovuz viloyat and Dargan-Ata etrap on total sum 8676,19 мln manat is developed.

Program supposes the following measures:

Reconstruction continuation of interstate collectors Ozyorny and Daryalyk – channels stabilization, prevention of channel deformations (scour, failure of slope). As it is expected, it will result in reclamation state improvement, irrigated lands and pastures productivity increase, soil salt accumulation reduction, soil protection from wind erosion on the area more than 400 thousand ha.

In Dargan-Ata etrap inter-farm interception collector construction for ground water flow interception from AmuDarya riverside with purpose of lands reclamation state improvement on the area 4255 ha has been continued. For this purpose 995 мln. манat has been allocated.

Tuberculosis hospital construction on 320 places in Dashkhovuz. Expenses are expected to be equal 2680 мln. манat. This object installation will result in improvement of prevention, early diagnostics both of treatment of tuberculosis and reduction of tuberculosis diseases.

Reconstruction of Dargan-Ata gauging station. The performance of works is forseen on 2680 млн manat. Within the framework of GEF Project Component D “Transboundary water resources monitoring " Dargan-Ata gauging station modernization is expected. Now design-cost-estimate documentation has been prepared, contract with organization-contractor on repair-civil works performance on gauging station before equipping it with modern equipment has been signed.

Now hydrometric network extremely needs updating and modernization of observation means and information transfer. IFAS Executive Committee, understanding necessity of undertaking urgent measures on correction of created situation, is carrying out certain works on hydrometservices equipment.

The construction of urban sewer pump station in Dashkhovuz has being continued, that will allow improve considerably sanitary – epidemiological situation in the city. For 2000 it is planned to execute works on 1850 мln. манat.

Within the framework of program "Pure water" desalinizating structure construction for public health objects supply with qualitative drinking water in volume up to 50 $м^3$ per day. Cost of the project - 700 мln. manat.

ABOUT PROJECT IMPLEMENTATION ON RESTORATION OF SUDOCHIE LAKE

Works on project " Detailed design of Sudochie lake wetlands restoration infrastructure in AmuDarya delta " were begun at the end of October, 1999 by consortium of executors - Dutch "Resource Analysis" and VEP SANIIRI under “Vodproject” Association support.

The project’s basic purpose – selection and study of engineering-technical measures allowing to restore Sudochie Lake, steadily functioning in conditions of limited water resources.

Selection and study of variants of Sudochie lake state restoration are based on three types of mathematical models: hydrological, hydraulic and ecological. Each model serves for selection and study of design variants and recommendations development on water management during lake’s operation. Models use various spatial - time scales for processes description, but uniform topographical basis, through which all results of modeling are coordinated.

During researches the following variants and engineering structures (dam, canals and pumping station in state farm Ravshan) were considered:

1. Аккum dam with water-table 52,5 м and length 19 km with flat cut-water pressure head slope.
2. Аккum dam with water-table 53,0 м and length 25 km with flat cut-water pressure head slope.
3. Otsechnaya dam with water-table 53,0 м and length 20 km with fastening of pressure head slopes by stone.
4. Otsechnaya dam with water-table 53,0 м and length 20 km with flat cut-water pressure head slopes.
5. Karatereng dam with water-table 53,0 м and length 16.5 km with fastening of pressure head slopes by a stone.
6. Spillway in Otsechnaya and Аккum dams with automatic superficial water release on discharge 20 $м^3$/s and two ground apertures on total discharge 25 $м^3$/s.
7. Water release in Otsechnaya dam with three ground apertures on total discharge up to 40 $м^3$/s.
8. Pumping station in state farm Ravshan with supply 3 $м^3$/s.

The executed studies have allowed to estimate various options of engineering-technical measures for Sudochie lake wetlands conservation and make their feasibility comparison. After consideration and analysis of six variants the variant № 2, consisting of Аккum dam with water-table 52,5 м, pump station with Otsechny collector and one water release in dam was chosen. The water area according to variant includes lakes Акushpa, Begdulla Aidyn, Large Sudocie and Karatereng. Inflow to the lake is carried out through KKS and Ustyurt collector. The additional volumes of water are supplied through the Ustyurt collectors. Water free surface is 52420 ha, from which 20690 ha are occupied with reed. Water salinity in reservoir changes from 7,7 g/l per humid year up for 11 g/l for dry one, achieving in separate areas 17-18 g/l.

The project, being prior in restoration of Aral sea coastal zone water regime, should convince community of Amu Darya delta in possibility of new ecological profile creation under limited water resources under condition of strict water resources management system creation in Sudochie lake zone on basis of simple but reliable and steadily working structures.

INTERNATIONAL SEMINAR ON TRANSBOUNDARY RETURN WATER PROBLEMS

Kick-off seminar on the project "Aral Sea basin transboundary return water - ecologically sustainable management of reservoirs, wetlands and biodiversity use and maintenance" was held on June 8-10, 2000 in Tashkent.

Representatives of all regions' countries took part in seminar's work under presidency of EC IFAS Technical Director Mr. U. Saparov.

It was marked, that, in spite of the fact that five countries of the region have undertaken in joint management of the Aral Sea basin transboundary rivers' water resources, transboundary collector-drainage waters in volume equaled to half of these resources, are not taken into account, polluting waters and creating unmanageable soil and environment degradation source over millions of hectares of lands.

The project consists of the following components:

Aral basin transboundary return waters (TRW) - research and management object;

TRW management system;

Management system as a whole and on example of demonstration pilot projects;

Public opinion and public participation;

Opportunity of ecological and social-economic situation real improvement within the Aral Sea basin.

The project tasks are as follow:

- TRW management system creation within framework of existing regional organizations and national structures additional development as well as development of their interaction is organizational and technical principles so that in future increase of these natural-anthropogenic complexes created on these waters use would be guaranteed and simultaneously waste waters negative influence on basin surface and ground waters quality as well as lands desertification would be reduced;
- On example of pilot demonstration projects placed in various zones of the region to elaborate TRW management and use strategy, which will be economically effective and sustainable;
- In all five states to create public opinion on necessity of governments taking responsibility for joint following certain rules of TRW management as well as such management's system formation and, simultaneously, TRW rational use according to economic interests. Biological diversity support and multiplication, water and land users participation in decisions on given question elaboration and subsequent monitoring of their realization also is supposed;·
- To reduce fresh surface waters use in the region at the expense of collector-drainage water use increase in scale unprecedented before;

In part of TRW use for irrigation strategy two kinds of use in this direction are proposed:

- In place of origin for agricultural crops irrigation and lands leaching;
- Creation of protective forest strips along drained Aral Sea bed with simultaneous wood processing development.

The project global importance can be estimated by its scale:

- Water flow common management - more than 40 км^3 per year;
- wetlands and reservoirs area - more than 6 mln. ha;
- population social interest - more than 5 mln

Prior tasks of the project are as follow:

- 8 pilot-production plots selection with area 150-200 ha according to basic planning zones in Central-Asian countries on base of existing areas of collector-drainage water (CDW) use for irrigation and CDW application effective technology demonstration with help of foreign (Israel, USA, Egypt) experience with regard for CDW area formation character and water abstraction regime for irrigation of various agricultural crops according to water consumption requirements.
- Realization on these plots of two-year observations complex (similar to "WUFMAS" Program) with purpose to choose all technical and economic, social and agro-technical use parameters (2 plots each in Kazakhstan, Turkmenistan and Uzbekistan - mostly in rivers lower reaches, and one plot each in Kyrgyz Republic and Tadjikistan in upper watershed). Monitoring system formation is supposed on pilot fields covering various soil-climatic conditions and agricultural crops, on which saline water is used. According to monitoring results definition of soil processes tendency, one or another technological methods efficiency, ecological situation stability, saline water use economic expediency conditions is possible.
- Organization together with MASHAV and USAID according to Israeli and American water use technologies within 3 years of salt-resistant breeds of trees and plants cultivation in desert Aral Sea coastal zones to create "green desert" on five pilot demonstration plots with area of 30 ha for irrigation in all states of Central Asia. On these plots saline water use in Aral Sea coastal desert conditions, efficiency of biological drainage and biological soil desalinization as well as desert landscapes fertility increase to prevent desertification will be shown.

On base of works results summarizing it is supposed:

- To prepare proposed measures' feasibility study at level of the region, river basins and countries with plan of actions as well as social, economic and ecological consequences assessment for the nearest 10, 20 and 30 years;
- To prepare regional and five national TRW management strategies;
- Creation in all countries of pilot demonstration plots system convincingly proving opportunity and social-economic expediency of saline collector-drainage waters use for agricultural needs;
- Creation of new (or expansion of existing) regional and national organizations with purpose to strengthen potential of water-ecological organizations responsible for TRW management;
- Organization of information system and public opinion formation to support above mentioned measures and simultaneously public participation system in these measures realization.

MEETING OF INTERSTATE COMMISSION ON SUSTAINABLE DEVELOPMENT OF CENTRAL ASIA

Meeting of Interstate Commission on Sustainable Development of Central Asia (ICSD) was held on June 20-23, 2000 in Kokshetau (the Republic of Kazakhstan). Representatives of many Central-Asian ministries and departments, EC IFAS, SIC ICSD, UNDP, UNEP, USAID, European Union Representation and USA Embassy in the Republic of Kazakhstan have taken part in this meeting.

Interstate Commission on Social-Economic Development, Scientific and Technical and Ecological Cooperation was created according to one of the first regional agreements "About joint actions addressed to the Aral Sea and Aral Sea coastal zone problem solution, ecological improvement and Aral region social-economic development provision". In 1995 at the international conference on the Aral Sea basin sustainable development (Nukus, Karakalpakstan), by the Central-Asian Heads of the state decision, it was renamed into Interstate Commission on Sustainable Development (ICSD).

ICSD consists of 15 members (3 representatives from each state in the field of economy, social policy, ecology). Nature conservation department Minister is determined as each representation's Head (in Uzbekistan - State Committee for Nature Protection Chairman).

ICSD activity basic tasks are as follows:

- Elaboration of proposals on the Aral Sea basin development's basic directions definition and social-economic well-being necessary level maintenance in the region;
- Introduction of non-conventional scientifically based, highly technological, ecologically harmless and non-water intensive productions, on acceleration of management complex branch's structure reorganization, its providing with intensive, ecologically pure and water saving technologies;
- Development and implementation of measures on elimination of Aral Sea coastal zone's environment aggravation negative influence, improvement of sanitary - hygienic and medical-biological conditions;
- Promotion of scientific researches, design and other kinds of developments directed to the Aral Sea basin and Aral Sea coastal zone ecological improvement;
- Adoption of coordinated decisions concerning deep social-economic processes of the Central Asia states, promoting sustainable development of the region.

ICSD basic executive bodies are Secretariat and Scientific-Information Center (SIC), as well as the Regional Group on the Regional Plan of Actions on Environment Conservation (RPAEC). The Secretariat carries out practical actions on ICSD meeting arrangement and provides ICSD Chairman's activity. SIC ICSD provides ICSD information, software, methodological and consulting support. RPAEC Regional Group (Officials' Managing Committee) is created by Ministers for Environment Protection of the Central-Asian region to organize RPAEC process, as the first stage of regional Agenda 21. Its tasks include RPAEC process preparation and coordination. ICSD advisory body - Advisory Council can be established as well.

Meeting agenda included consideration of the following questions:

1. ICSD Chairman elections.

With regard for ICSD Chairman A. Khabibullayev Minister of Natural Resources and Environment Conservation of the Republic of Kazakhstan powers term expiry S. Daukeyev was elected as new ICSD Chairman for 2 years period. Participants have expressed gratitude to A. Khabibullayev for ICSD Chairmanship.

2. About ICSD executed work and SIC activity perfection.

Meeting participants have heard and taken into account the information of ICSD Chairman A. Khabibullayev - about ICSD executed work and SIC ICSD Director Kh. Atamuradov - about SIC ICSD activity for reported period.

ICSD Secretariat and SIC ICSD was charged to prepare proposals on ICSD work acceleration and two-year working plan and within a month, as agreed with ICSD members, to submit them for ICSD Chairman approval.

3. Regional projects.

Information of international organizations and country-donors about ongoing regional projects has been taken into account.

Participants consider expedient to continue UNDP project "Aral Sea Basin Development Program" (ASBDP) directed to sustainable development questions solution and regional Agenda 21 preparation. Thus ICSD and NCSD interaction and coordination mechanism in CAR is supposed to be regional network on sustainable development.

ICSD Secretariat was charged to prepare in two-month term design proposals on creation of database and the system of projects' regional monitoring in the field of environment conservation as well as water and land resources sustainable management.

Meeting participants address to:

UNDP, UNEP, TACIS and other donors - with request to support given project development;

UNDP ASBDP Project - together with a regional network of sustainable development coordinators to prepare ICSD proposals to discuss them with GEF Project Agency representatives at the next meeting of Ministers of Environment Conservation, Economy and Finances of CIS countries in October, 2000 in Almaty;

Agenda 21 - to support development of the regional Agenda 21/ priorities of the region's sustainable development.

Donor organizations - with proposal of preliminary ICSD discussion of the regional projects in field of environment conservation and sustainable development to provide political support and coordinated actions of the Central-Asian countries.

4. About RPAEC preparation.

As a base for Central-Asian RPAEC preparation experts group's report about regional ecological priorities as well as selected regional priorities are approved.

Also approved:

ICSD Officials Managing Committee's staff assigned by the CAR Ministers for CA RPAEC coordination;

Submitted by UNEP concept paper of CA RPAEC preparation. UNEP, UNDP have been requested within two weeks to coordinate it with Officials Managing Committee.

ICSD Chairman was charged to form regional delegation to present Central Asia position at Advisory Meeting of CIS Ministers of Economy and Environment Protection on water management and investments (Almaty, October 2000) and Asian-Pacific Conferences of the Ministers on Environment and Development (Japan, August-September 2000) and discuss possible regional projects with GEF and other donors.

UNDP and UNEP proposal about support of CA RPAEC process initial stage was adopted, because of those countries-donors and other international organizations according to the declaration of 4th Pan-European Conference of AEC Ministers (Aarhus, Denmark, June 1998) are called to support CA RPAEC preparation and implementation.

5. Coordination mechanism.

On this meeting coordination mechanism of the programs and projects on environment conservation and sustainable development, which is carried out in Central Asia, has been approved.

ICSD Secretariat was charged in a month to bring in to the ICSD Chairman consideration the proposal on issues of Secretariat activity providing between ICSD meetings with regard for financial support possibility from the UNDP RPAEC project. SIC ICSD was charged to present to the ICSD meeting Draft Statute of ICSD Advisory Council and proposal on its staff.

6. About SIC ICSD questions.

Meeting participants have approved SIC staff. In a month it is necessary to solve the problem of the SIC Branches creation and their staff in Kazakhstan and Tadjikistan and present for the ICSD Chairman approval.

SIC ICSD is determined as the Regional Center on preparation of global ecological review-2000 and electronic report Grid-Arendal.

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