Interstate **C**ommission for **W**ater **C**oordination in Central Asia	BULLETIN #1 (42)	March 2006

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MINUTES OF THE 43rd MEETING OF THE INTERSTATE COMMISSION FOR WATER COORDINATION (ICWC) OF THE REPUBLIC OF KAZAKHSTAN, KYRGYZ REPUBLIC, REPUBLIC OF TAJIKISTAN, TURKMENISTAN AND REPUBLIC OF UZBEKISTAN

2 November 2005 Almaty

Participants:

ICWC Members:

Anatoliy Dmitriyevich Ryabtsev	Chairman of the Committee for Water Resources at the Ministry of Agriculture of the Republic of Kazakhstan
Kydykbek Kanimetovich Beyshekeyev	Deputy Director General of the Water Department at the Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic
Masaid Yakubovich Khomidov	Deputy Minister of Land Reclamation and Water Resources of the Republic of Tajikistan
Begench Amanovich Mommadov	Deputy Minister of Water Resources of Turkmenistan
Shavkat Rakhimovich Khamrayev	Deputy Minister, Chief of the Water Department at the Ministry of Agriculture and Water Resources (MAWR) of the Republic of Uzbekistan

From the ICWC Executive Bodies:

Viktor Abramovich Dukhovny	Director of SIC ICWC, Professor, ICWC Honorary Member
Yuldash Khudayberganovich Khudayberganov	Chief of BWO “Amudarya”
Makhmud Khamidovich Khamidov	Chief of BWO “Syrdarya”
Gayrat Abdusattarovich Negmatov	Head of the ICWC Secretariat
Pulatkhon Djakhanovich Umarov	Director of the ICWC Training Center

Invitees:

Nariman Kipshakbayevich Kipshakbayev	Director of the SIC ICWC Kazakh Office, Professor, ICWC Honorary Member
Subkhonkul Shomakhmadovich Shaymordonov	Director of the SIC ICWC Tajik Office
Abdybay Shakirbayevich Djaylloobayev	Director of the SIC ICWC Kyrgyz Office
Sharifjon Zikrillayevich Kuchkarov	Deputy Chief of the Department for Water Resources Balance and Improvement of Water-Saving Technologies, MAWR of Uzbekistan
Iskander Ferdinandovich Beglov	Key specialist of SIC ICWC
Oleg Grigoryevich Lysenko	Manager of the Division at BWO “Amudarya”
Medet Ospanovich Ospanov	Deputy Director of the IFAS Executive Direction in Kazakhstan
Murat Bekniyazov	Specialist of the Committee for Water Resources at the

	Ministry of Agriculture of Kazakhstan
Margulan Bakhytovich Baymukhan	Manager of the Division for Regional Cooperation of the Department for CIS Issues at the Ministry of Foreign Affairs of Kazakhstan

Chairman:

Anatoliy Dmitriyevich Ryabtsev	Chairman of the Committee for Water Resources at the Ministry of Agriculture of the Republic of Kazakhstan

AGENDA

1. Progress in implementation of the limits on water withdrawals and operation modes for reservoir cascades in the Amudarya and Syrdarya river basins in the vegetation period 2005, and confirmation of limits on water withdrawals for the non-vegetation period 2005/2006 (BWO "Amudarya" and BWO "Syrdarya" responsible).

2. Progress in implementation of the Decision of the Heads of Central Asian states made on 6 October 2002 in regard to priorities 1 and 6.

3. Venue and agenda of the 44th ICWC meeting.

Additional matter:

1. Confirmation of Provisional Rules for Use of Regional Information System on Water and Land Resources in the Aral Sea Basin (SIC ICWC responsible).

Having confirmed the agenda, listened to speeches of the participants in the meeting and exchanged opinions, members of the Interstate Commission for Water Coordination in Central Asia (ICWC) decided:

On the 1st matter:

1) to take into account the measures taken by BWO "Amudarya" and BWO "Syrdarya" to implement the limits on water withdrawals and provide the adopted operation mode of reservoir cascades for the vegetation period 2005;

2) confirm limits on water withdrawals for the non-vegetation period 2005/2006 and approve the recommended predicted operation modes for the Amudarya and Naryn-Syrdarya reservoir cascades; send BWO "Syrdarya" a predicted operation mode for the Naryn-Syrdarya reservoir cascade to agree with energy specialists in Central Asian states, then submit it to the ICWC members;

3) note that in the vegetation period 2005, there were cases when water supply limits for some creeks were violated, water was supplied unstably, and big fluctuations in water in pools of some hydro power plants took place. This led to disorganization of water use. In order to avoid the mentioned drawbacks, it is necessary to establish a Working Commission, which would be entrusted to consider and analyze these violations of water supply limits and causes of non-observance. The Commission should make suggestions on avoiding the indicated drawbacks in future, and report on the results at the next ICWC meeting.

On the 2nd matter:

1) take into account information on the progress in implementation of the Decision made by the Heads of Central Asian states on 6 October 2002 in regard to priorities 1 and 6 of the ASBP-2 and discuss it at the national level;

2) ICWC to specify the membership of the national groups for considering draft Agreements under items 1, 2, 3, 5, and 7 of Priority 1 in the ASBP-2 by 20 November 2005, and hold a meeting within the first ten days of December 2005 in Tashkent city; submit information on the results of the discussion to ICWC meeting;

3) instruct the SIC ICWC together with BWO "Amudarya", BWO "Syrdarya" and CMC ICWC to prepare detailed suggestions on strengthening material, technical and legal base for ICWC executive bodies, developing the regional management information system by the next ICWC meeting.

On the 3rd matter:

1) hold the ordinary 44th ICWC meeting in March-April 2005 in Turkmenistan;
2) confirm the agenda for the 44th ICWC meeting.

AGENDA:

1. Progress in implementation of water withdrawal limits in the non-vegetation period 2005/2006, and confirmation of water withdrawal limits for the vegetation period 2006 (BWO "Amudarya" and BWO "Syrdarya" responsible).
2. Development of the RETA Program "Improvement of shared water resources management in Central Asia" and a detailed work scope and plan.
3. "Comparative analysis of data on the status of measurement and control devices by August 2005 in Central Asian Republics, CIS and foreign countries" and "Suggestions to the CMC work program concerning metrological provision for water-related activities of metrological services in Central Asian Republics" (CMC ICWC responsible).
4. Consideration of "Regulation on ICWC" (SIC ICWC responsible)
5. Venue and agenda for the next 45th ICWC meeting.

On the additional matter:

1) confirm the submitted draft Provisional Rules for Use of Regional Information System on Water and Land Resources in the Aral Sea Basin developed by the SIC ICWC on the instruction given at the 42nd ICWC meeting (April 2005, Almaty);

2) Instruct the SIC ICWC to make copies of the Provisional Rules and distribute them to all the interested water authorities and organizations for practical application.

For the Republic of Kazakhstan	A.D. Ryabtsev
For the Kyrgyz Republic	K.K. Beyshekeyev
For the Republic of Tajikistan	M.Y. Khomidov
For Turkmenistan	B.A. Mommadov
For the Republic of Uzbekistan	Sh.R. Khamrayev

PROGRESS IN IMPLEMENTATION OF WATER WITHDRAWAL LIMITS AND OPERATION MODES FOR RESERVOIR CASCADE IN THE AMUDARYA AND SYRDARYA RIVER BASINS IN THE VEGETATION PERIOD 2005 AND CONFIRMATION OF WATER WITHDRAWAL LIMITS FOR THE NON-VEGETATION PERIOD 2005/2006[1]

Amudarya river basin

Water availability in cross-section Atamurat above Garagumdarya over the current vegetation period was 120.2%, and the actual value amounted to 57.19 km^3, with the norm set 47.59 km^3.

In early October 2005, the water volume in the Nurek reservoir amounted to 10 billion 515 million m^3, with 10 billion 500 million m^3 planned. Water accumulation in the Nurek reservoir was carried out according to the approved operation mode.

On 1 October 2005, the water volume in the Tuyamuyun reservoir amounted to 4 billion 973 million m^3, against 2 billion 706 million m^3 recorded the previous year.

The actual river flow in cross-section Atamurat above the Garagumdarya (gauging station 'Kelif') over the vegetation period in 2005 was 51.8 km^3 against 39.7 km^3 or 130.5% recorded the previous year.

The water withdrawal limits set for the reporting vegetation period in 2005 per country were used as follow:

- in the whole basin, the assigned limit on water withdrawals for the vegetation period was used to 94.3%; the actual use amounted to 37 billion 701 million m^3, with the limit set 39 billion 988 million m^3;
- The Kyrgyz Republic used the assigned water withdrawal limit to 1.8%; the actual use amounted to 8 million m^3, with the limit set 450 million m^3;
- The Republic of Tajikistan used the assigned water withdrawal limit to 74.9%; the actual use amounted to 5 billion 104 million m^3, with the limit set 6 billion 818 million m^3;
- Turkmenistan used the assigned water withdrawal limit to 98.7%; the actual use amounted to 15 billion 301 million m^3, with the limit set 15 billion 500 million m^3;
- The Republic of Uzbekistan used the assigned water withdrawal limit to 101.1%; the actual use amounted to 16 billion 203 million m^3, with the limit set 16 billion 20 million m^3.

The use of the assigned water withdrawal limits per river reach was as follow:

1. Upstream – 77.2%, including Tajikistan - 74.9%, Uzbekistan – 90.4%.
2. Midstream – 96.6%, including Uzbekistan – 98%, Turkmenistan – 95.9%.
3. Downstream – 103.4%, including Uzbekistan - 102.9%, Turkmenistan – 104.5 %.

Water availability for the three major downstream water users over the reporting period was as follows:

1. Dashoguz province – 104.5%.
2. Karakalpakstan – 102%.
3. Khorezm province – 104.7%.

The planned water supply to the Aral Sea and river delta for the current reporting vegetation period was performed to 201.2%; 12 billion 274 million m^3 of water was actually supplied, with 6 billion 100 million m^3 planned.

[1] Information on the 1st matter on the agenda of the 43rd ICWC meeting

BWO "Amudarya" submits the following water withdrawal limits for the non-vegetation period 2005/2006 per country to ICWC members for consideration:

- 2 billion 864 million m^3 for the Republic of Tajikistan;
- 6 billion 500 million m^3 for Turkmenistan;
- 5 billion 980 million m^3 for the Republic of Uzbekistan.

BWO "Amudarya" together with United Control Center "Energy" developed an operation mode for the Nurek reservoir and an alternative operation mode for the Tyuyamuyun reservoir. These two operation modes were submitted to ICWC members for consideration.

It is suggested to assign sanitation, environmental and irrigation flows in the Amudarya river lowlands in the non-vegetation period as 800 million m3, including:

1. Dashoguz province – 150 million m^3;
2. Karakalpakstan – 500 million m^3;
3. Khorezm province – 150 million m^3.

It is also suggested to assign planned water supply to the Aral Sea and Priaralie for the non-vegetation period 2005/2006 with account of collector-drainage flow as 2 billion 100 million m^3.

In conclusion, BWO "Amudarya" suggests:

1) to confirm the following submitted to ICWC members for consideration: water withdrawal limits for the non-vegetation period 2005/2006, operation modes for reservoirs, water supplies to the Aral Sea and Amudarya river delta for the non-vegetation period 2005/2006.

II. Syrdarya river basin

BWO "Syrdarya" was instructed to predict an operation mode for the Naryn-Syrdarya reservoir cascade for the vegetation period 2005.

Toward this end, BWO "Syrdarya" specified water withdrawal limits and predicted an operation mode for the reservoir cascade for the vegetation period 2005.

A preliminary operation mode for the Naryn-Syrdarya reservoir cascade and water withdrawal limits for the vegetation period 2005 were confirmed at the 41st ICWC meeting in Tashkent.

An agreement on cooperation in the field of rational use of water and energy resources within the period from February 2005 to April 2006 was signed by the Governments of Uzbekistan and Tajikistan on 14 February 2005. The parties agreed on that the Tajik party would provide accumulation of 3418 million m^3 of water in the Kayrakkum reservoir by 31 May 2005; fix average daily water discharges as 500 m^3/sec in June, 600–650 m^3/sec in July, 600–650 m^3/sec in August, and provide reservoir drawdown in August up to 870–900 million m^3.

On 9 August 2005, a Protocol was signed at the joint meeting of "KEGOC" Company and the Ministry of Energy of Tajikistan, where the parties agreed to provide the approved outflow from the reservoir in the non-vegetation period 2005/2006, and drawdown of the Kayrakkum reservoir bowl up to 1 billion m^3.

Based on the decision of the 41st ICWC meeting and upon the receipt of the prediction from the Uzbek Hydromet Service (12 April 2005), BWO "Syrdarya" developed an operation mode for the Naryn-Syrdarya reservoir cascade for the vegetation period 2005 and forwarded it (13 April 2005 with a letter No.06-45) to energy organizations in the Syrdarya river basin for approval.

At the 42nd ICWC meeting on 28-29 April in Almaty, water withdrawal limits for the vegetation period 2005 were confirmed, and the submitted predicted operation mode for the Naryn-Syrdarya reservoir cascade for the vegetation period in this year was approved.

An analysis of several characteristics in operation of the Naryn-Syrdarya reservoir cascade over the past vegetation period is given below.

Table 1

Reservoir	Inflow by 1 October 2005 (million m^3)				
	Predicted	Actual	Norm	% of the norm	
				Predicted	Actual
Toktogul	10299.05	10363.07	9488.16	108.55	109.22
Andijan	3478.38	2795.47	2924.85	118.9	95.58
Charvak	6598.9	6199,8	5122.44	128.8	121.0
TOTAL	20376.33	19358,34	17535.45	116.2	110.4

Table 2

Reservoir	Outflow by 1 October 2005 (million m^3)		
	Predicted	Actual	%
Toktogul	6062.26	5187.89	85.6
Andijan	3742.85	3410.11	91.1
Charvak	5390.69	5442.17	100.95
Kayrakkum	10513.28	9319.19	88.64
Chardara	11318.4	10362.39	91.55
TOTAL	37027.48	33721.75	91.1

Table 3

Reservoir	Volumes by 1 October 2005 (million m^3)		
	Predicted	Actual	%
Toktogul	17819.03	18801.64	105.5
Andijan	1116.87	801.03	71.7
Charvak	1663.5	1497.17	90.0
Kayrakkum	957.19	1370.93	143.2
Chardara	1159.07	636.32	54.9
TOTAL	22715.66	23187.09	102.1

The analysis of the operation of the Naryn-Syrdarya reservoir cascade (April-September) showed (see table 1, 2 and 3) that the inflow into upper reservoirs was from 96 to 121%. In general, the average inflow into all reservoirs amounted to 110.5% of the norm.

To keep the volumes in reservoirs at the level of predicted values (102.1%), the outflows from them were at the level of 91.1%.

The inflow into the Toktogul reservoir amounted to 109.2% of the norm, and the outflow amounted to 85.6% of the planned values, as a result the water accumulation in the Toktogul bowl over the vegetation period amounted to 5164.64 million m^3, and the bowl volume reached to 18801.64 million m^3.

It is especially necessary to dwell on the operation mode of the Kayrakkum reservoir in the vegetation period 2005:

- given actual total inflow into the reservoir more than 8049 million m^3 that is 92% of the predicted values, the outflow from the reservoir amounted to 88.5%. This led to unjustified water accumulation in the Kayrakkum bowl – 143% of the planned value;

- repeated abrupt fluctuations in water discharges over hydro power plants toward decrease during a day cause fluctuations in levels of diversion canal and river that lead to disorganization in the operation of the whole system, and subsequently to a stressed situation and dissatisfaction among water users, though at that the Uzbek Government fulfilled its duties neatly.

BWO "Syrdarya" considers it is expedient to appeal to Minister of Land Reclamation and Water Resources of Tajikistan A.A. Nazirov as a member of the Tajik Government for avoiding such a situation in the area of the Kayrakkum reservoir.

Side inflow from the rivers of the Naryn-Syrdarya reservoir cascade over the period from April to September 2005 is given in table 4.

Table 4

Parameter (from 1 April 2005 to 1 October 2005)	Predicted (million m^3)	Actual (million m^3)	Norm (million m^3)	% of the norm	
				Predicted	Actual
Side inflows:					
Toktogul – Uchkurgan	1296,42	1264,92	1154,13	112,3	109,6
Uchkurgan, Uchtepe Kayrakkum	3636,3	3948,77	3430,77	106,0	115,1
Andijan – Uchtepe	2845,8	2579,12	2529,6	112,5	102,0
Kayrakkum - Chardara	3952,5	3102,54	3177,81	124,4	97,63
Gazalkent – Chirchik creek	1833,96	1691,82	1533,57	119,6	110,3
TOTAL:	13564,98	12587,17	11825,9	114,7	106,5

Water withdrawals for the vegetation period from April to September 2005 are given in table 5. While carrying out water allocation, water withdrawal limits confirmed at the ICWC meeting and requests of the republics were taken into account.

Water withdrawals in the vegetation period 2005 (April–September) amounted on average to 83.8% of the limits.

Table 5

Water user republic	ICWC limit by 1 October 2005 (million m^3)	Actual water withdrawal by 1 October 2005 (million m^3)	%
Kyrgyz Republic	246.49	141.24	57.3
Republic of Uzbekistan	8820.55	8644.87	98.0
Republic of Tajikistan	1905.01	1716.85	90.12
Republic of Kazakhstan	794.02	712.45	89.73

Water supply to the Aral Sea by the end of September in the vegetation period and inflow into the Chardara reservoir are given in table 6.

Table 6

Parameter	Planned by 1 October 2005 (million m^3)	Actual by 1 October 2005 (million m^3)
Supply to the Aral Sea	5709.82	4083.41
Inflow into the Chardara reservoir	9396.48	6814.04

Water supply to the Arnasay depression over the past vegetation period amounted to 3.46 million m^3.

Conclusions:

The vegetation period in 2005 passed more favorably than vegetation periods in the previous years. It is mainly caused by inflow into upper reservoirs, especially by increased side inflow (114.7% of the predicted values) and concerted actions taken by water management organizations in the water user countries.

Furthermore, the timely conclusion of an Agreement on Electric Energy Supply between the Kyrgyz Republic and Republic of Uzbekistan stabilized water consumption from the Syrdarya river.

It is necessary to note the non-observance of outflow from the Kayrakkum reservoir. In August, the outflow amounted to 560-570 m^3/sec instead of 600-650 m^3/sec approved by the Protocol; as a result the volume of the reservoir bowl exceeded the design values by 43.2%.

BWO “Syrdarya” asks the respective agencies in Tajikistan to provide stable operation of the waterworks and the approved operation mode for the Kayrakkum reservoir.

REGULATION ON INTERSTATE COMMISSION FOR WATER COORDINATION IN CENTRAL ASIA

I. General Provisions

1.1. Interstate Commission for Water Coordination (ICWC) in Central Asia was established according to the Agreement on Cooperation in the Field of Joint Management of the Use and Protection of Interstate Water Resources signed by the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan on 18 February 1992 in Almaty.

1.2. According to the Decisions made by the Heads of Central Asian states on 26 March 1993 and 9 April 1999 and the Decision made by the IFAS Board on 27 March 2004, the ICWC and its executive bodies were included in structure of the International Fund for the Aral Sea Saving (IFAS) and have status of international organizations.

1.3. In its activities the ICWC follows bilateral and multilateral agreements on water resources sharing concluded by founder states and the present Regulation.

1.4. The overall objective to establish ICWC is to confirm the principles of collective decision-making on management, use and protection of transboundary water resources in the region and implement jointly developed programs, based on mutual respect of interests of the parties.

1.5. The ICWC and its executive bodies carry out a set of measures and procedures that provide equitable and reasonable proportional distribution of transboundary water resources along the whole river with account of requirements of the natural complex and its development in the future.

1.6. In agreement with the founder states, other states can join the ICWC as full members or observers.

II. Major tasks

The major tasks of the ICWC are:

2.1. Develop and implement a regional strategy for rational use and protection of transboundary water resources towards equitable satisfaction of needs of population, sectors of economy and the environment in the founder states, develop and implement joint programs for improvement of water availability in transboundary river basins in the region.

2.2. Develop, confirm and control the execution of annual limits on water withdrawals from transboundary rivers for the founder states, plan and control operation modes for reservoirs of interstate importance, manage water distribution in terms of actual water availability in year and current water situation.

2.3. Plan, confirm and enforce annual environmental flows – water supply to transboundary river deltas, the Aral Sea, sanitation flows in transboundary rivers and canals approved by the founder states.

2.4. Develop and implement regional environmental programs related to the drying-up of the Aral Sea and depletion of water sources, including flow formation zone and wetlands.

2.5. Develop, confirm and control the fulfillment of regional requirements and measures for management of the quality of transboundary waters and return flow, and analyze trends in changes in environmental status.

2.6. Prepare recommendations for the governments of founder states on development of a common regional price policy and mechanisms for compensating possible losses related to transboundary water resources sharing as well as on legal framework for interstate water use.

2.7. Coordinate and control carrying out of joint studies for finding scientific and technical solutions for regional water problems and projects of regional importance, and share existing scientific and technical potential of the water sector in the founder states.

2.8. Prepare projects and initiate activities for refinement of the international agreements in force on joint management of transboundary water resources, reservoirs and waterworks facilities of interstate importance, with account of generally recognized principles of the International Water Right.

2.9. Assist the governments of the founder states in joining the international conventions concerning transboundary water resources management, and joining the international non-governmental organizations.

2.10. Develop and maintain a common regional information system on water and land resources use, coordinate actions for dissemination and exchange of information on water resources and their use between founder states and interested organizations.

2.11. Coordinate relationships between regional, national water management organizations and hydromet services, initiate regional programs and actions for improvement of monitoring system and hydrometric provision.

2.12. Assist to improve corporate relations in development and implementation of water-saving technologies, advanced irrigation techniques and equipment, modern water metering and automation means; design and create a system for general metrological provision and accrediting metrological services, other measures for improving water use efficiency.

2.13. Develop joint programs for preventing and mitigating emergencies and disasters related to the operation of waterworks facilities of interstate importance.

2.14. Develop a framework and implement integrated water resources management (IWRM) principles.

2.15. Develop and promote systems for training and professional development of personnel in water management organizations and water users.

2.16. Strengthen logistics, legal framework, and technological capabilities of the ICWC executive bodies.

III. Structure and organization of activities

3.1. ICWC members are chief executive officers of national water management organizations in the founder states or representatives from the national governments.

3.2. ICWC meetings are held once a quarter, by turn in one of the founder states, under the chairmanship of an ICWC member for this state. A party holding an ICWC meeting is responsible for timely adjusting and observing terms to hold meetings as well as for submitting approved agenda to ICWC members at a stated time.

3.3. On initiative and in agreement with the parties, extraordinary ICWC meetings can be held.

3.4. Decisions of the ICWC are made on a consensus basis. Each ICWC member has a right of veto on a decision made.

3.5. In regard to particular issues of its activities, the ICWC can make a Protocol Decision.

3.6. ICWC members, heads of the ICWC executive bodies and international organizations, who made a significant contribution to activities of the ICWC, can be awarded title “Honorary ICWC Member” and presented a breastplate of ratified sample according to ICWC decision. Honorary ICWC members can take part in ICWC meetings with a right of advisory vote.

3.7. ICWC establishes executive bodies for implementing planned programs, and changes their functions or ceases their operation if necessary.

3.8. ICWC has a right to set up special interstate investment funds for jointly financing activities aimed at development of the water sector in the region and fulfilling other tasks set in the present Regulation.

3.9. The host party bears costs to hold ICWC meetings on site.

3.10. The working language of the ICWC is Russian.

IV. Executive bodies

4.1. The ICWC Executive Bodies are:

- Basin Water Association “Amudarya” (BWO “Amudarya”);
- Basin Water Association “Syrdarya” (BWO “Syrdarya”);
- Scientific-Information Center for water problems (SIC) with national offices;
- Secretariat;
- Coordination Metrological Center (CMC) with national organizations;
- Training Center (TC) with branches.

4.2. Other executive bodies can be set up by ICWC decision.

4.3. The ICWC executive bodies are funded by the founder-states:

- for maintenance of personnel and principal operational activities of executive body – with cost distribution in proportion to water withdrawal from transboundary water sources and with compulsory account of volumes of all operations fulfilled by executive body on the territory of respective state;
- in part of research, development and metrological activities – based on a plan of research, development and metrological activities approved by the ICWC - by each national au-

thority of a founder state according to territorial attribute on account of assignments from the IFAS.

4.4. BWO “Amudarya” and BWO “Syrdarya” carry out operation of intake structures, hydroschemes, reservoirs and other objects of interstate importance transferred to the associations for temporary operation, and supply of water resources limits assigned by the ICWC with a view to provide sectors of economy, population and the environment in the founder states with water.

4.5. Every year BWO “Amudarya” and BWO “Syrdarya” prepare agreed suggestions on releases to the Aral Sea and Priaralie, the volume of which is confirmed by the ICWC according to the requirements of the natural complex and is not to be used for other purposes. The leaders of BWO “Amudarya” and BWO “Syrdarya” are personally liable for execution of releases to the Aral Sea confirmed by the ICWC.

4.6. The SIC ICWC together with its branches prepares draft solutions and programs for further development and implementation of a common regional water policy, improvement of transboundary water management and use, development of a common program for water conservation, improvement of the environmental situation in the basin, scientific grounding and creation of automated water resources management systems in the river basins, development and maintenance of a common regional information system on water and land resources use; prepares draft international agreements on transboundary water resources management in the Aral Sea Basin; analyzes the water situation in the region and all over the world; prepares suggestions; cooperates with international donors and financial institutions in agreement with the ICWC; initiates and, in agreement with the ICWC, coordinates the implementation of projects of regional importance; organizes and carries out training activities; organizes and increases the inquiry stock; prepares and releases periodical and non-periodical publications.

4.7. The ICWC Secretariat together with the other ICWC executive bodies prepares an agenda, activities and draft decisions for ICWC meetings, and controls the fulfillment of ICWC decisions, receipt of funds from the founder states to finance the ICWC executive bodies.

4.8. The CMC ICWC together with national metrological organizations coordinates technological policy and its implementation in the field of metrological provision of the ICWC programs for water resources use, protection and metering at sources and water systems; organizes joint preparation and practical use of normative-technical base for metrological provision to measure parameters of water resources; develops proposals for their improvement; carries out a common policy regarding water metering, measurement technologies, automation facilities and devices developed and applied in the water sector; organizes and carries out activities for accreditation, certification and training in the field of hydrometry.

4.9. The ICWC TC together with its branches organizes professional development of personnel at higher and middle level of water sector in the founder states through organization of training seminars on IWRM, national and international water right, advanced irrigated farming, natural resources use and others, providing equitable representation of the countries in the region; prepares and publishes necessary training and methodological literature.

4.10. The ICWC executive bodies are legal entities, have independent balances, stamps with their name in Russian and English as well as budget, banking and other accounts, and carry out their activities in accordance with Regulations (Statutes) approved by the ICWC.

4.11. Heads of the ICWC executive bodies are appointed or dismissed by a decision of the ICWC, determining terms of office and an order of rotation.

The location and relocation of the executive bodies is determined by a decision of the ICWC.

V. Rights and obligations of the ICWC

5.1. The ICWC annually confirms (for a hydrological year, divided into vegetation and non-vegetation periods) limits on water withdrawals by the founder states from transboundary rivers with account of predicted water availability in year and assigned releases to the river deltas and Aral Sea; makes decisions on correcting water withdrawal limits, based on the current water situation.

5.2. The ICWC entitles the BWO to carry out on-line correction of water withdrawal volumes within the assigned limits.

5.3. The ICWC considers and confirms a program for provision of financial-economic activities of the ICWC and its executive bodies (plans for financing operational needs, capital investments, research, development, metrological and training activities and so on), as well as programs of actions for preparing draft interstate agreements, international cooperation, improving activities of the ICWC and its executive bodies.

5.4. Decisions made by the ICWC on transboundary water resources regulation, use and protection are obligatory for all water users, regardless of their belonging to whatever country or institution, and pattern of ownership.

5.5. ICWC members provide execution of ICWC decisions within the territory of their states, and take measures to prevent interference of authorities in activities of the ICWC executive bodies.

VI. Procedures for making amendments to the Regulation and ceasing the operation

6.1. The Regulation on ICWC is considered and confirmed by a decision of the ICWC after agreeing with the governments of the founder states. Amendments and supplements to the Regulation are made in the same order.

6.2. The ICWC ceases to function in accordance with an approved decision of the Heads of the founder states.

6.3. If the ICWC ceases to function, the property and jointly created assets as well as all objects transferred to the BWO for temporary use are distributed among the founder-states in accordance with the established order for forming them.

PROTOCOL DECISION OF THE ROUND TABLE ON REGIONAL WATER POLICY[2]

Almaty, 1 November 2005

1. The participants of the Round Table – ICWC members, representatives from national water, energy, environmental and foreign policy agencies and regional organizations in Central Asia – are unanimous that the regional cooperation in water resources should be strengthened and promoted. With a view to reach a consensus on principal issues of regional water policy, the participants will make efforts to involve all the stakeholders, including international donors, in discussing vital water-related problems in Central Asia.

2. Thereupon, the participants note with satisfaction the efforts made by the Asian Development Bank (ADB), a facilitator of an idea to strengthen water cooperation in the region, and

[2] ADB RETA 6163: “Improved management of shared water resources in Central Asia”.

consider active participation of Central Asian countries in the ADB RETA 6163 Project under the proposed ADB program of actions for the period 2005-2006 expedient.

3. Taking into account the results of the discussion on regional water policy problems, the participants generally agree to the proposed ADB program, and ask to extend the implementation time of the RETA 6163 Project up to 30 September 2006 and amend the program and terms of activities under the project with account of proposed changes.

4. The participants consider that while discussing the issues of water policy improvement in the Syrdarya river basin it is necessary to take into account the experience and lessons learnt from the implementation of Component A ("Improvement of transboundary water resources management on pilot sites" (Chui, Talas) of the RETA 6163 Project, in particular the main result of the Component "Functioning of Chui-Talas Joint Rivers Commission". Thus, under the Component, a Joint Technical Secretariat and four working groups have been set up and are successfully functioning with the support of the ADB. The issues on financing the Secretariat by using budgetary funds of the Kazakh and Kyrgyz parties are now under consideration.

5. It was recognized that to effectively discuss regional water policy, it is necessary to establish 5 continuing National Working Groups (NWG) consisting of representatives from national water, energy, environmental and foreign policy agencies for each Central Asian state, and a Regional Working Group (RWG) consisting of representatives of ICWC members, BWO "Amudarya", BWO "Syrdarya", "Energy" United Control Center and SIC ICWC.

6. In 2004, according to the notifications of the chief executive officers of water management organizations in the Republic of Kazakhstan (Mr. A. Ryabtsev), Kyrgyz Republic (Mr. Z. Bekbolotov) and Republic of Tajikistan (Mr. A. Nazirov), interagency NWG of the mentioned republics were established, and according to the decision made by the ICWC at its 40th meeting (19 August 2004,. Cholpon-Ata, Kyrgyz Republic), a RWG was established with the following membership:

1) V.A. Dukhovny – Director, SIC ICWC in Central Asia;
2) M.Kh. Khamidov – Chief, BWO "Syrdarya";
3) N. Rakhmatov – Deputy Chief, BWO "Syrdarya";
4) Y.Kh. Rysbekov – Assistant Director, SIC ICWC in Central Asia.

7. As regards the membership of the NWGs and RWG, the participants note that:

- there are no representatives from environmental agencies in the membership of the NWGs of Kazakhstan and Kyrgyzstan, and no representative from the Ministry of Foreign Affairs in the membership of the NWG of Tajikistan;
- there are no representatives from the regional energy organization, "Energy" United Control Center, in the membership of the RWG.

8. Thereupon, by the next working meeting aimed to discuss the regional water policy with the support of the ADB to be held in December 2005, ICWC members for Kazakhstan, Kyrgyzstan and Tajikistan are to be asked to confirm the old membership or propose new membership for interagency NWGs, and ICWC members for Uzbekistan and Turkmenistan are to be asked to establish NWGs on an interagency basis. At the same time, it was noted that it is expedient to include representatives from the IFAS Executive Committee, "Energy" United Control Center and BWO "Amudarya"in he membership of the RWG.

9. Based on the results of the discussions, the SIC ICWC in Central Asia was instructed to develop a detailed work plan in agreement with the ADB, and the NWGs and RWG were instructed to organize activities of the RETA 6163 Project in accordance with this plan to be submitted to ICWC members for approval in early December 2005.

10. The participants define top priorities under the RETA 6163 Project as to reach a consensus among the basin states on the following prepared draft interstate agreements requiring further refinement:

1. Agreement on Water-Power Resources Use in the Syrdarya River Basin, 1998

2. Agreement on Strengthening the Organizational Framework for Transboundary Watercourses Management, Protection and Development in the Aral Sea Basin

3. Agreement on Development and Functioning of National, Basin and Regional Databases on Integrated Water Resources Use and Protection in the Aral Sea Basin.

At the same time, the speakers underlined the need for thorough work on draft Agreement on Transboundary Watercourses Protection, Rules for Control over Their Quality and Provision of Environmental Sustainability in the Region.

The mentioned activities to refine draft interstate agreements and reach a consensus among the basin states will be carried out by the NWGs and RWG with the financial support of the ADB, under the RETA 6163 Project, during the period from January to August 2006.

11. The participants note a need to promote training activities in building capacity and strengthening regional cooperation in water resources under the ADB Project. Thereupon, the participants supported the program and themes of training activities proposed by the ADB for December 2005 – August 2006 (annex). At that, the list of participants in training activities will be defined by ICWC members by December 2005.

12. Taking into account the high effectiveness of the SCADA control system introduced by BWO "Syrdarya" in association with the SIC ICWC, SDC and USAID within Fergana Valley, the meeting supported the appeal of BWO "Syrdarya" to the ADB to consider sponsoring activities aimed at automation of all the other head works along the Syrdarya river.

13. Particularly, the need to take concerted actions for developing the water sector in the Amudarya and Syrdarya river basins is growing due to the development of new irrigated lands in Afghanistan and involvement of multilateral donors and the third parties in development of water resources in the region.

14. The participants of the Round Table underline that in the years of independence, the attention of international donors was generally focused on problems of regional water cooperation in the Syrdarya river basin. At the same time, the Amudarya river basin is more complex object of interstate management for the following reasons: (a) poorly regulated flow and considerable flow losses along river channel, (b) relatively complicated socio-economic conditions in lowlands (Dashoguz province in Turkmenistan, Khorezm province, Karakalpakstan in Uzbekistan), (c) presence of large transboundary water bodies and waterworks facilities (Karshi main canal and Amu-Bukhara water-lift canal, Tyuyamuyun hydroscheme, interstate collectors, the Aral Sea and so on), (d) harmful effect and degradation of ecosystems in flow formation zone.

15. The mentioned causes a need for close regional cooperation of all the states in the Amudarya river basin. In this context, the invitation and involvement of Afghanistan in regional process of transboundary water resources management seems to be a very clear-sighted step. One of the practical ways for implementing an idea is to expand the coverage area of the RETA 6163 Project by including the Amudarya river basin in it that would make it possible to solve the problems of transboundary water cooperation in the region in a systematic and integrated way.

16. In view that it is expedient to expand the coverage area of the RETA 6163 Project by including the Amudarya river basin in it, the participants of the Round Table would like to ask the ADB to positively solve this issue. As for the involvement of Afghanistan, in the initial stage it is expected to hold a training seminar on IWRM in December 2005 in Tashkent, inviting representatives of Afghanistan under additional sponsorship of them by using ADB funds.

Co-chairpersons of the Roundtable:

A.K. Kenshimov	Deputy Chairman, Committee for Water Resources , Ministry of Agriculture, Kazakhstan
R.A. Abdukayumov	Project Coordinator, ADB Office in Uzbekistan

MEETING OF A DELEGATION FROM THE ICWC AND LEADERS OF THE INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE (ICID)

(Delhi, 26 November 2005)

At the 12th IWRA Congress on 26 November 2005 Honorary President of the ICID Dr. Aly Shady and Secretary General of the ICID Mr. M. Gopalakrishnan kindly invited representatives of the ICWC delegation to visit the ICID Headquarters.

Deputy Director of the Water Department at the Ministry of Agriculture, Water Resources and Processing Industry of Kyrgyzstan Mr. Yesen Djusumatov, Deputy Minister of Land Reclamation and Water Resources of Tajikistan Anvar Zairov, Chief of the Water Department at the Ministry of Agriculture and Water Resources of Uzbekistan Dr. Salimdjan Dusmatov, Director of the SIC ICWC Prof. V.A. Dukhovny, Manager of the Foreign Relations Division at the SIC ICWC Ms. O. Usmanova took part in the meeting.

Secretary General of the ICID Mr. Gopalakrishnan told the participants about the activities of the ICID, which has since 1950 been a large voluntary non-governmental non-profit association of states using irrigation and drainage. The ICID network includes 105 countries, which have 75% of irrigated areas in the world. The ICID makes mjor efforts to exchange information and involve water professionals in water-related activities, makes joint papers, reviews, analyses and searches ways for more rational water and land resources use in irrigated and drained farming, and flood control. The main organizational units of the ICID are working groups, which include representatives of various countries that voluntarily express a wish to participate in their activities. Mr. Gopalakrishnan and Mr. Aly Shady noted the active work of a Special Group on the Aral Sea, while they expressed regret that representatives of Central Asia poorly participate in the activities of these groups, in particular: only representatives of Uzbekistan take part in the activities of the Group on Drainage, and V.A. Dukhovny as Vice President ICID takes part in the ICID Board of Governors, Strategic Committee and IPTRID Council.

Representatives of the NCIDs such as Deputy Minister A. Zairov, Deputy Director of the Water Department of Kyrgyzstan Y. Djusumatov, and Chief of Financial-Economic Division of the Water Department of Uzbekistan told the participants about the activities of the National Committees on Irrigation and Drainage in their countries.

In his speech V.A. Dukhovny also underlined that participating in the activities of the ICID since 1966, we always noted a big role of this organization in establishing close interaction between foreign water organizations and the former Soviet Republics. At that time, the ICID was a single window for our specialists, which enabled to reach the tendencies of up-to-date development of the water sector, irrigation and drainage, while establishing cooperation with foreign specialists in these respects. These contacts incomparably helped specialists from Central Asian Republics in the process of achieving independence and independently joining the international water relations.

Hence, it is necessary to draw attention (which was promised by representatives of the ICWC at the ICID meeting) to putting up candidates on behalf of the National Committees for including them in the working group. It is especially necessary to take members in working groups on drainage, on-farm irrigation, public participation and strategic planning. During the conversation, the participants underlined the need for selecting specialists knowing English in order to make them specialists and a “long bench”, which usually are trained in all staffs that care for their future.

THE 19TH CONGRESS OF THE INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE

Beijing, 10-18 September 2005

The 19th ICID Congress was a very impressive and interesting activity, which was well organized by the Chinese National Committee on Irrigation and Drainage with the support of the Chinese Government, Ministry of Water Resources, Ministry of Finance, Ministry of Science and Technology. The considerable and really staggering results of development of the water sector and land reclamation in the country were demonstrated in a welcoming address made by His Excellency Vice Prime Minister Hu Liangu to the Congress and report made by Minister of Water Resource His Excellency Wang Shuchench to the Congress.

In China, 277'000 km of river dams, 85'000 reservoirs with annual control capacity of 600 km^3 of water had been constructed by the end of 2004. The area of irrigated lands reached 56.25 million ha; 21.2 million ha of waterlogged lands and 920'000 km^2 of eroded lands were taken under control of the government.

By now, the country achieved historical transformation from long-time deficit of agricultural produce, especially grain, to excess yields and permanent growth in grain production, with only one third of the average global area of cultivated lands and less than one third of the average global water amount per capita. At that, one third of all the lands is in arid zone, and over 51 years between 1950 and 2000 the average area of cultivated lands annually prone to floods and water-logging was 9.37 million ha and increased in 1990-2000 to 15.9 million ha. For the last 20 years (from 1980 to 2000) the economic growth in China exceeded 300%, while total water consumption grew by 25% only. Such achievements became possible owing to the purposeful and long-term policy of the government aimed at constructing water-saving society through both organizational and technological reconstruction of the water sector and irrigation. This huge program includes well grounded regional and local water use technologies based on a network of demonstration plots; organization of a certain management system encouraging broad public participation and scientific achievements; implementation and sustaining of rights to water with account of "macro climatic horizons" and "near horizons"; fixing of water quotas differentiated by water availability in year, and technological progress. In the country, the reuse of wastewater for the last five years increased by 7%. By now, agricultural water-saving technologies have already covered 20.35 million ha or 36 % of the normal effectively used area. Water Users Associations are being promoted.

The construction of large water projects (the Three Gorges Project; river flow transfer from south to north and so on) with shore protection activities along the major rivers made it possible to avoid catastrophic flood danger; a lasting renewable hydro power source was provided and normal coexistence of human, river and nature was achieved. Every year 50'000 km^2 of eroded area is taken under control.

Much attention is given to the development of a national water strategy where China strictly orients to countermeasures aimed at destabilizing factors taking place in its development. This is seen from two comparisons: negative trends and approaches with instruments to struggle against them given in two inserts.

Insert 1

Strategic planning in China

Negative occurrences

- Destabilizing factors;
- Dynamics of resources;
- Shortage of funds;
- Shortage of water;
- Uneven water distribution;
- Environmental degradation.

Countermeasures

- Control of population growth;
- Control of consumption;
- Improvement of water productivity;
- Involvement of funds from stakeholders;
- Water conservation;
- Equalization of resources and needs;
- Water-environmental management and effective protection.

Insert 2

China varies 9 approaches:

- Unlimited water withdrawal from nature
- Unrestrictedness of resources
- Prevention of water-related damage to people
- Water development and expansion
- Large-scale construction
- Water supply by requirements
- Land irrigation
- Water as a gift of nature
- From fragmentary management
- Harmonization of society and nature;
- Understanding of their scantiness;
- Prevention of detrimental human influence on water;
- Distribution, management and control of water losses;
- Low-cost measures;
- Requirement for water supply;
- Irrigated crops;
- Water as one of kinds of resources;
- To integrated management

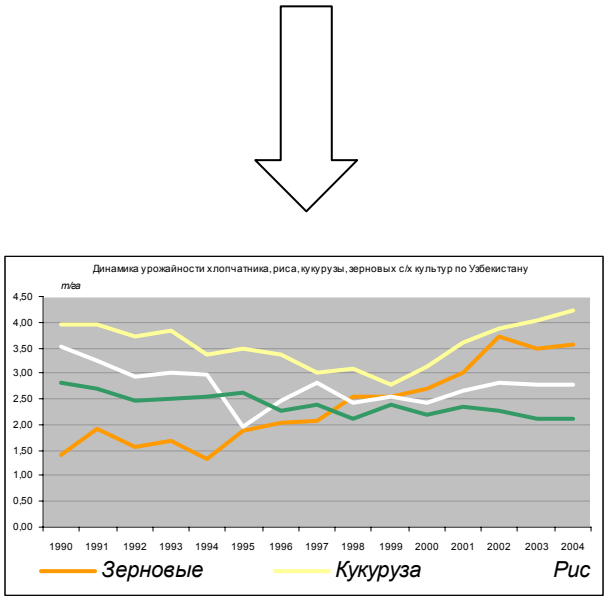
The results are present (Fig. 1): at almost identical level of the national income per capita in Central Asia and China, for the last years China reduced water withdrawal by more than 10% and increased all crop yields by 10% on average, but in our region both the indicators are at one level.

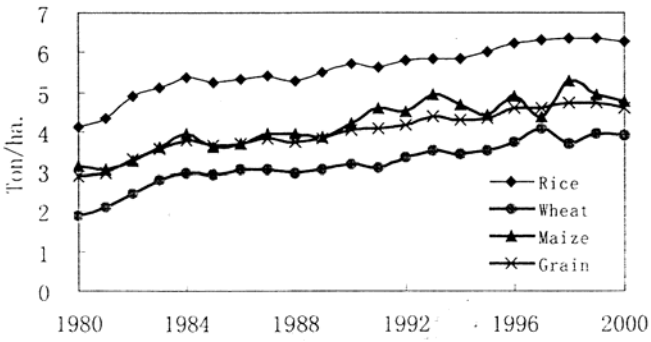
In principle, in its growth policy, China strenuously uses a combination of governmental, market and public mechanisms and their interaction (Fig. 2). Firstly, this is a governmental policy line in the form of creating a “governance” system: water strategy and policy, legal framework, right to water and its distribution, water resources protection, governmental investments, market outcomes, planning system. Secondly, it is market mechanisms: attraction of private commercial investments, opportunity to sell rights, price system, market orientation of water management, involvement of water users’ money. Finally, the role of society in democratic management, public involvement in all processes, in open hearings, decentralization of management and participation of public bodies in management, planning and development.

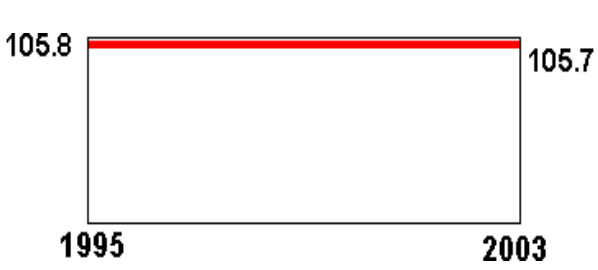
Fig. 1. Dynamics of the main indicators of crop yields and water withdrawals

in Central Asia and in China

What do we have? What do they have?







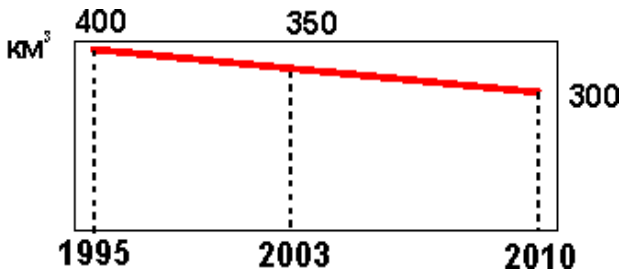
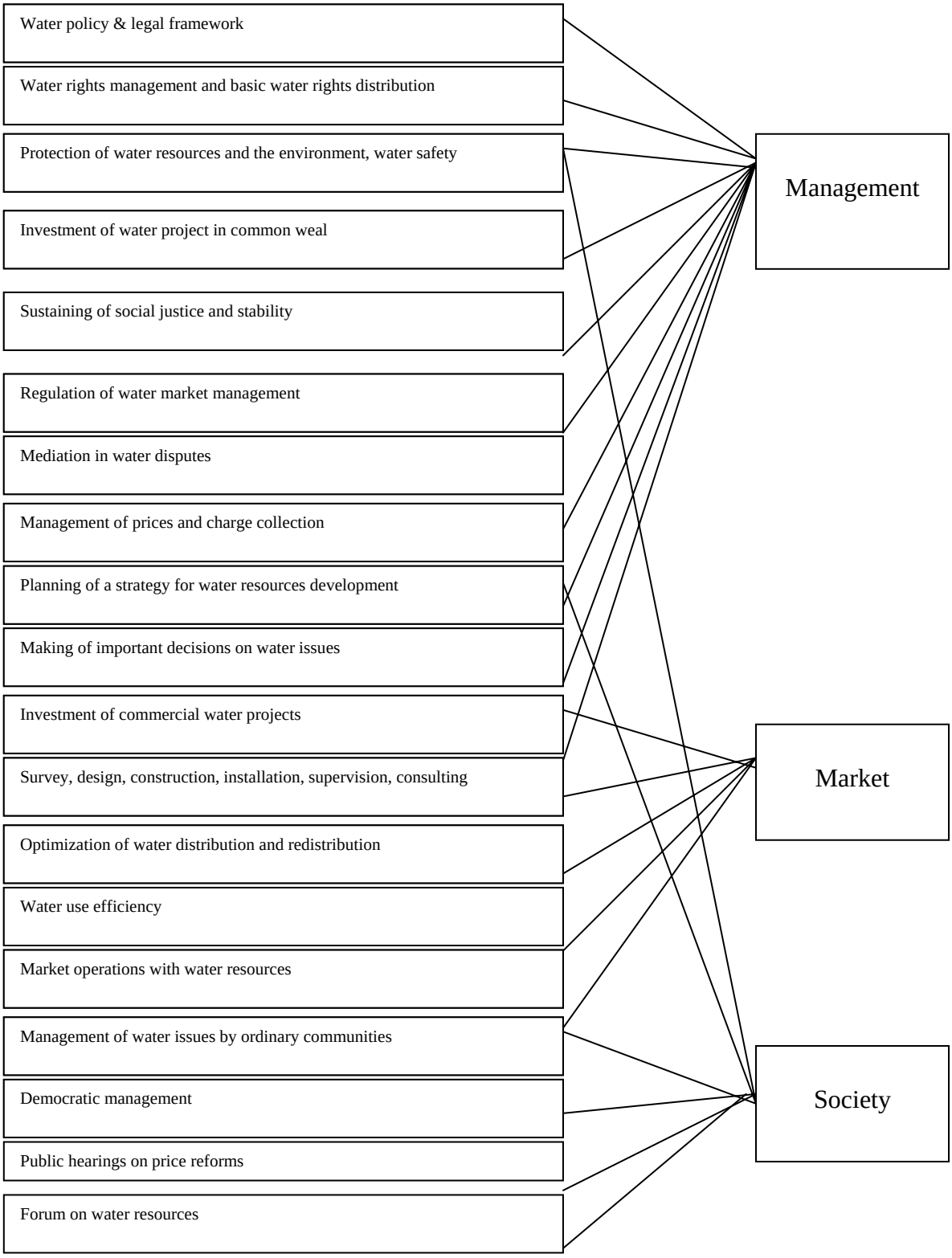


Fig. 2. Combination of water strategy mechanisms in China



In all the activities and sessions of the Congress, Chinese scientists and specialists displayed their high activity, erudition and broad innovations in all directions of water management and land reclamation.

The main issues of the Congress were considered at two plenary sessions on item 52 “Better water and soil management to improve efficiency of irrigated lands” and item 53 “Harmonized co-existence with floods”, and a number of symposia and sessions on “Water quality and salinity control”, “Legal and institutional conclusions”, “History of irrigation”, “Forum of young professionals”, “On-farm irrigation technology”, “Special Statute on Preparation for the 4th World Water Forum”.

Over the last 50 years, irrigation made an invaluable contribution to solving problems such as hunger and under-nutrition all over the world that made it possible to reduce the number of the hungry from 840 million (including 200 million children) to 700 million for the last decade alone. Nevertheless, the population growth from 6.45 billion today to 7.85 billion in 2025 and almost 9 billion in 2050 makes the target set by the Millennium Development Goals to eliminate hunger and poverty very difficult. In this context, irrigation improvement is a priority task in developing countries, and only it can quickly and successfully solve these problems. A typical example can be provided by China and India, two countries with the largest population in the world, which practically coped with hunger and became large exporters of grain and other agricultural produce single-handed. Bangladesh, which could not feed 70 million people in 1970 but now provides almost 130 million people mainly owing to irrigated agriculture, is coming near to self-sufficiency. In his report, President ICID Mr. Keizrula Ben Abdulla noted several necessary ways to feed the world:

- aim at further increasing crop yields through organizational measures and scientific achievements, try to continue that growth in crop yields, which was achieved over the last 40 years (for example, grain from 1.4 t/ha to 2.8 t/ha). Chinese geneticists give fine examples in this respect again, having increased the production of drought- and disease-resistant kinds of cotton and rice in the recent years, owing to which the production of cotton is expected to rise by 25% compared to the previous years;
- develop new irrigation massifs where possible according to water and land resources;
- improve water use productivity;
- involve farmers in water management and rational use, restrict government interference by providing conditions (financial, technological, organizational) for their successful operation;
- draw more attention to the use of positive experience to improve rain-fed land use productivity;
- implement IWRM in water sector, especially in irrigation.

The current situation in the world led to some revaluation of positions taken by international financial institutions toward investments in water sector and irrigation. If earlier the volume of annual investments in our sector exceeded US$1.5 billion and then it reduced up to 300 million a year, now the limit is continually increasing and amounts to US$1 billion. This analysis is given by senior consultant of the World Bank Mr. Salah Dargauti in his key paper. “Let me briefly share with you 3 interesting latest developments made during our operation within the framework of agriculture water resources management (AWRM) under the aegis of the World Bank.

Firstly, loans for irrigation and drainage contributed to their rehabilitation in the recent years. Furthermore, they exceeded the mark of US$1 billion in the financial year 2005 (as shown in the figure).

Actually, an exact figure of financial credits for the financial year 2005 amounts to US$1.069 million (ad notam: the financial year of the World Bank ends on 30 June).

Secondly, what is most important, the character of our activities in AWRM is under dynamic development. We are moving toward a new setting that AWRM in itself is not the end point, but a process of resource management to provide one of necessary materials for food production,

rural development, water resources management and the environment. Indeed, in the context of credit portfolio of the financial year 2005, irrigation and drainage were the key entry point for the following activities:

Fig. 3.

- water resources management and reforms in irrigation sector (for example, Indian projects for water sector restructuring in Madkhia Pradesh and for water sector development in Maharashtra);

- watersheds and land and water resources management (for example, a project for integrated water and land resources management in Alborza, Iran);

- agriculture strengthening (almost all the projects).

During the sessions dedicated to irrigated agriculture improvement at farm level, in the their presentations Prof. L.S. Pereira and A. Clement first stated a need to draw attention to the availability of the grandest potential to improve irrigation productivity by raising the uniformity of soil fertility background along with interaction between drainage and irrigation. On the other hand, timely water supply to farms should be provided by properly matching activities at all water hierarchy levels with water requirements of farmers. It is possible to teach farmers to rationally use water, but it is necessary first of all to provide them with sustainable and sufficient water supply at stated time. The results of Prof. Pereira in China and our results in Fergana Valley were cited as examples.

A meeting of the ICID Working Group on the Aral Sea Basin was held under the chairmanship of ICID Honorary President Aly Shady. The broader participation of Central Asian countries in the ICID's activities was noted, and a number of remarks on were made:

- poor participation of representatives from NCIDs in working groups, in particular on water conservation, technical activity, farmer involvement, in groups of researchers, and in the Forum of Young People. Even Bakhodyr Yusupov included in the Asian Working Group for Uzbekistan does not participate in the activity;

- non-payment of fees by Tajikistan, Kazakhstan and Turkmenistan.

A protocol was signed on cooperation with the Group on Lake Chad that has the same critical consequences of the water level drop as the Aral Sea.

The presentation of the Russian delegation (Prof. L. Kirecheva) on prospects of water transfer from Siberian rivers to Central Asia and its significance for Russia was listened. It was stressed that in the context of the increase in flows of the Siberian rivers due to climate change, northern areas of Russia are more interested in water abstraction to avoid possible floods and inundation in the present richest oil fields in Northern Siberia.

The Working Group on the Aral Sea appealed to the Direction of the ICID to support the inclusion of Central Asian countries in the CPSP.

Based on the materials of the Congress, a set of slides to be distributed to ICWC members was developed.

15TH WORLD WATER WEEK IN STOCKHOLM
21-27 August 2005

One of the largest international forums on water problems took place fifteenth time in Stockholm. Since 1991 each August leading water specialists throughout the world come to the capital of Sweden to participate in World Water Week. Within the framework of this week, a scientific symposium and a number of events combined with it take place. By the efforts of the Stockholm International Water Institute, annual forum is being transformed into a well-organized, colorful water festival, which during the week brings together inhabitants and guests of picturesque Stockholm, where the main theme is an idea of careful regard to water. The main theme of the Symposium within the framework of the Water Week in 2005 was formulated as follows: "Watershed management: firm and relaxed solutions to regional development". In the context of this subject, the focus of discussions was concentrated on the following key aspects: water resources development, use and allocation taking environmental requirements into account; water supply and sanitation – approach to population requirements; water quality management with a view to reduce pollution from industry and agriculture.

The official activity of the Symposium began on 22 August 2005 from a plenary session. Ms Lena Sommestad, Minister of the Environment and Sustainable Development of Sweden, launched the Water Week. In her speech, she emphasized that for solving the current global and regional water stress and deficit it is necessary to develop the democracy and public cooperation. The new Swedish water strategy states that everybody should have courage to manage his life, regarding water with care. International development organizations are not now able to solve problems without everybody's contribution. Line of behavior and priorities in countries that are given international assistance for water sector should be determined through broad participation of population, but not by politicians. There is no place for options like "business as usual" any more.

The main issues of the Symposium were discussed within the framework of eight program workshops.

Workshop 1: "Designing and operating an infrastructure for multipurpose development", presided by Prof. Benedito Braga, Brazilian Water Agency. At the workshop, 14 oral presentations and 9 poster presentations were made. The main subject of the workshop was a concept of water management for water uses. It discussed issues such as how to organize decision-making process between sectors and levels of management hierarchy, what tools are needed to support decision-making, how to manage multipurpose projects and so on. The program of the workshop included the presentation by U.V. Abdullayev (Uzbekistan) on "Designing and operating water infrastructure for multipurpose development: initiatives of Uzbekistan for the Syrdarya river basin".

Workshop 2 – "Adaptation to climatic changes and related damages" under the chairmanship of Doc. Avinash Tyaga, World Meteorological Organization. 12 oral and 8 poster presentations

were made at the workshop. The focus was on issues such as how to make the results of climate change research usable, how to eliminate the existing uncertainties and differences in understanding problems, and what tools are to be proposed for water management practice. At the session, poster paper of Prof. V.A. Dukhovny on joint action of the SIC ICWC and McGill University under the project in the field of climate change was presented.

Workshop 3 – "Water supply to economic sectors and jurisdiction aspects" under the chairmanship of Prof. Olli Waris from the Helsinki Technological University, Finland. 11 oral and 7 poster presentations were made at the workshop. The presentations discussed the problems of competition for water between various sectors, and what methods and tools can be proposed for more effective water management taking into account multiple interests and comprehensive jurisdiction.

Workshop 4 – "Linkage of water and sanitation problems to achieve the Millennium Goals" under the chairmanship of Paul Reuter, International Water Association (IWA). At the workshop, 15 oral and 12 poster presentations were made. The presentations discussed specific problems of linking organizational and technological aspects, the role of political leadership and public participation at national level – for solving drinking water supply and sanitation problems.

Workshop 5 – "Strategy for improving water efficiency in industry and agriculture" under the chairmanship of Robert Martin, World Business Council for Sustainable Development. 12 oral and 8 poster presentations were made at the workshop. It discussed issues such as how to take water quality, role of economic initiatives, and aspects of separate water use sectors into account in assessment of water efficiency. At the workshop, poster paper of V.I. Sokolov and S.S. Mukhamedjanov (SIC ICWC) on "Extension service as a tool for improving the productivity of irrigated farming in Central Asia" was presented.

Workshop 6 – "Process of political and social dialogue: sustainability and policy in water sector" under the chairmanship of Emilio Gabbrielli, GWP Executive Secretary. The most presentations - 20 oral and 20 poster ones were made at the workshop. Topical aspects of organizing negotiation process and involving all the stakeholders in dialogue on water management problems were touched upon. A special attention at the session was given to transboundary aspects.

Workshop 7 – "Approaches to land degradation and erosion control" under the chairmanship of Johan Rokstrem, Stockholm Institute of Environment. 11 oral and 8 poster presentations were made at the workshop. It reviewed issues on how to reduce detrimental influence of water use for land degradation processes, and how to enable economic tools towards these issues. At the workshop, paper of Izzet Aimbetov (Karakalpakstan) on the subject "Regarding the issue on salt control in the Amudarya river delta" was presented.

Workshop 8 – "Degradation of water quality under human influence and cost of inactivity" under the chairmanship of Patrick Murphy, European Commission. 9 oral and 7 poster presentations were made at the workshop. Its main theme was what we know about water pollution, and what we are doing to reduce this pollution, using various mechanisms and tools. At the workshop, paper done by Prof. Bakhtiyar Karimov from Uzbekistan in co-authorship with a group of specialists on "Assessment of hydro-ecological situation in South Priaralie" was presented.

One of the most outstanding events at the Symposium was a ceremony of giving annual water prize from the Stockholm Water Fund for a substantial contribution to science, technology, education or public work relating to world water resources protection. The prize was instituted by the members of the Stockholm Water Fund (today it is supported by 21 states) in 1991, and is valued at US$150,000. Every year the prize is presented by His Majesty King Carl XVI Gustaf of Sweden at the ceremony in the Stockholm city administration. In 2005, this prestigious water prize was presented to Ms Sunnita Narain, Director of the Center for Science and Environment of India, for her outstanding contribution to improving public awareness of water problems in developing countries.

Within the framework of the Symposium, an exhibition of survey works of students from 25 countries was held. This exhibition is attractive by that based on its results the best poster would be awarded a US$5,000 special prize of the Symposium. The prize is given at special ceremony by

HRH Crown Princess Victoria of Sweden. This year the prize was awarded to students from South Africa for “revolutionary solutions to minimize water requirements of small irrigation schemes”.

More detailed information on the Water Week in Stockholm in August 2005 is available at: www.siwi.org

During the World Water Week Prof. V.A. Dukhovny and Doc. V.I. Sokolov held a number of sessions:

An agreement was achieved with the World Water Council and Japan Water Forum (JWF) on holding a session “IWRM as a basis for socio-economic development in Central Asia” at WWF4 in Mexico. The Japan Water Forum will finance holding a preparatory conference in Almaty on 31 October-2 November “Implementation of integrated water resources management for welfare and future development in Central Asia”. The organizers of this conference are SIC and GWP CACENA. ICWC members or their deputies, representatives from the environmental sector, NGOs, power, economy, foreign ministries, water organizations/executive bodies of ICWC, international organizations and projects will participate in the conference.

Preliminary talks were conducted with the JWF and Organizing Committee of the 4th WWF on funding the participation in WWF4 some more 20-25 people from the region.

A number of projects have been prepared and submitted to the donor meeting:

- Project “Promoting Twinning of River Basins for Developing Integrated Water Resources Management Practices (TWINBASINXN)”
- Training Project of UNESCO-IHE / SIC ICWC
- Project “Governance and Management” (UN-Water)
- Project “IWRM-Lowlands”
- SIC’s project proposal “Climate Change” was submitted to the Columbian University.

The World Water Week was preceded by convening a meeting of the Board of Governors of the World Water Council (BoG WWC), in which Prof. V.A. Dukhovny took part. At the BoG WWC meeting, decisions were made on:

- measures towards the 4th World Water Forum in Mexico,
- changes in the status and vision of the WWC,
- selecting a venue for the 5th World Water Forum.

UN WATER
TERMS OF REFERENCE

I. Background

1. The High Level Committee on Programmes (HLCP) in its meeting held on 18-19 September 2003 established “UN-Water as the inter-agency mechanism for follow-up of the WSSD water-related decisions and the MDGs concerning water' and requested UN-Water to prepare, 'its terms of reference and modalities of work, including arrangements for progressive participation of non-UN actors in the WSSD follow-up, bearing in mind the guiding principles and functions established by the High Level Committee on Programmes”.

2. The HLCP also requested UN-Water to “…prepare a detailed plan, through its sub-group on sanitation, for an effective follow-up to the World Summit on Sustainable Development and the Johannesburg Plan of Implementation in the field of water and sanitation linked to the work related to the implementation of the Millennium Development Goals and the United Nations Millennium Declaration”.

3. The Chief Executive Board (CEB) endorsed these decisions at its Fall 2003 session in New York.

II. UN Water

4. The scope of UN Water's work encompasses all aspects of freshwater, including surface and groundwater resources and the interface between fresh and sea water. It includes freshwater resources, both in terms of their quality and quantity, their development, assessment, management, monitoring and use (including, for example, domestic uses, agriculture and ecosystems requirements). The scope of work of UN-Water also includes sanitation - encompassing both access to and use of sanitation by populations and the interactions between sanitation and freshwater. It further includes water-related disasters, emergencies and other extreme events and their impact on human security.

5. UN-Water is the inter-agency mechanism that promotes coherence in, and coordination of, UN system actions aimed at the implementation of the agenda defined by the Millennium Declaration and the World Summit on Sustainable Development as it relates to its scope of work.

6. UN-Water has grown out of many years of extensive collaboration and partnership among the UN Agencies. These efforts have contributed to the achievement of significant progress to date and have helped to bring water and water related issues to the top of the political agenda.

7. Advancing the implementation of this complex and ambitious international agenda is a collective responsibility and challenge which calls for coordinated action – beginning with the UN system but also progressively involving other concerned "non-traditional" partners and stakeholders, including among them organizations from public and private sectors, civil society and labour-towards a global, comprehensive effort.

8. The main purpose of UN-Water is thus to complement and add value to existing programmes and projects by facilitating synergies and joint efforts, so as to maximize system-wide coordinated action and coherence as well as effectiveness of the support provided to Member States in their efforts towards achieving the time-bound goals, targets and actions related to its scope of work as agreed by the international community, particularly those contained in the MDGs and the JPOI.

9. UN-Water will interface with other inter-agency mechanisms, including UN-Energy, UN-Oceans, EMG and others, on issues of common concern. It will also collaborate with other relevant initiatives, including the Secretary-General's Advisory Board on Water and Sanitation.

10. In carrying out its work, UN-Water will closely adhere to the generic objectives for inter-agency mechanisms established by HLCP and annexed to this document for ready reference.

III. Terms of Reference

11. UN-Water will seek to enhance the coherence, credibility and visibility of UN system actions related to its scope of work, and, in particular:

a. Identify strategic issues and priorities for system-wide action, and facilitate timely, coordinated and effective responses by the UN System and its partners at global, regional and country levels in relation to both policy development and implementation.

b. Promote the elaboration and facilitate the dissemination of system-wide positions shared by UN-Water members, in particular with regard to relevant MDG and JPOI targets and their achievement.

c. Facilitate inter-agency information exchange, including sharing of experiences and lessons learned, and serve as a clearing house for policy-relevant information, assessment and advice on status and trends at global and regional levels, and for providing Member States with a collective point of entry to the system's initiatives and responses in areas within its purview.

d. Promote effective communication and collaboration between the UN system and civil society and private sector partners

e. Facilitate and support work being carried out at the regional and sub-regional levels, both within the UN system and with partners, to follow-up on relevant goals and targets of the Millennium Declaration and the JPOI, working through the Regional Commissions and relevant inter-agency mechanisms;

f. Contribute to the coherence and impact of UN System actions at country level, in support of Resident Coordinators, country teams and theme groups, and working in close collaboration and coordination with UNDG.

12. Management of UN-Water will be performed by a Chair and Vice-Chair, elected from among its members on a rotational basis and normally serving for 2 years. UNDESA will continue to provide secretariat support.

13. UN-Water plans of work will be updated every two years and will be set out in the reports of its meetings (see paragraph 14 below).

14. The above terms of reference will be periodically updated.

IV. Modalities of Work

15. UN-Water seeks to add value to activities related to its scope of work at three levels:

- at the level of the senior programme managers overseeing such activities in member organizations and agencies, by providing a forum for on-going contacts and periodic meetings among them;
- at the regional level, by providing an instrument for effective exchange of information and facilitating mutual support between global and regional activities and developments, and encouraging regional inter-agency networking arrangements, supported by the Regional Commissions; and
- at the country level, supporting, where appropriate and in close cooperation with UNDG, Resident Coordinators, country teams and theme groups by similarly encouraging and facilitating system-wide exchanges of information and dialogue on policy and operational issues.

16. Objectives and modalities for exercising the above roles are outlined below:

a). *Global level*

Added value to the sum of headquarters activities of the many UN system entities involved in water-related activities will focus on promoting greater system-wide coherence, based on more systematic exchange of information, more intensive policy dialogue, improved programme coordination, the adoption of common positions on policy and programme issues of common concerned, and the promotion of stronger partnerships within the system and with relevant non-UN system actors.

To these ends:

- Networking among, and periodic meetings of senior programme officials will be organized;
- Coordinated actions and thematic joint initiatives - to be pursued, through result-oriented, time-bound task forces, with the participation, as appropriate, of non-UN system partners - will be identified and outcomes reviewed in UN-Water meetings; and
- A pool of information on relevant policy and programme issues and developments will be created, as a basis for promoting continuing information exchanges within the system, and providing relevant “clearing house” information services to the international community, particularly Member States in the central inter-governmental bodies.

Where major policy issues arise, or the need emerges, from the work of UN-Water or from new inter-governmental policy directives, for policy guidance and political and policy im-

petus, these will be brought to the attention of CEB, through HLCP. Provision may be made for ad hoc meetings/consultations of Executive Heads of concerned UN organizations and agencies to provide strategic guidance to UN-Water's work.

b) ***Regional Level***

The encouragement of effective system-wide action and inter-agency collaboration at the regional and sub-regional levels is an integral part of UN-Water's functions. This will be pursued by facilitating exchange of information, policy and programme dialogue, promoting mutual support between regional and headquarters levels, and supporting "regional UN-Water" arrangements, to be led by the UN Regional Commissions. Such networks will be encouraged to adopt Terms of Reference and Plans of Work that are coherent with those of UN-Water itself, and areas of work will be shared with them. To foster these linkages, some UN-Water meetings may be organized in conjunction with regional counterparts. Communication strategies of UN-Water will build on, and be coordinated with, relevant regional inter-agency initiatives.

c) ***Country Level***

Coherence of UN-system actions at the country level is equally crucial to achieving the overall objectives underlying the establishment of UN-Water. Although many of the UN entities that form UN-Water have country level operational activities, UN-Water is not a mechanism for direct implementation. UN-Water's contribution to country-level coherence will, thus, consists largely of "communication" actions targeted at both system agencies and external entities and will be pursued through the Resident Coordinator, country teams and theme groups and in close cooperation with UNDG. Emphasis will be given in cooperation with UNDG, to supporting Resident Coordinators, country teams and theme groups to ensure consistent approaches and methods in country reporting and assessment on issues related to its scope of work, particularly in relation to progress towards relevant MDG targets; and to encouraging an appropriate reflection of such issues in international support provided to Member States in pursuing internationally agreed targets, within the CCAs/UNDAF and PRSPs frameworks.

d) ***Involvement of non-UN System actors***

UN-Water will encourage the contribution of non-UN System actors in its thematic initiatives, including participation in relevant time-bound task forces, and in discussions at UN-Water meetings to monitor progress in relation to such initiatives.

Collaboration with non-UN System partners, including organization from public, and private sector, civil society and labor that are active in UN-Water's scope of work, will be facilitated by:

- Arranging for direct participation by partners in UN-Water thematic initiatives which should seek to assign specific and time bound tasks to each partner; and
- Facilitating the involvement of key partners in the inter-agency dialogue on major issues of common concern.

For further information contact: un water @un.org

RESOLUTION OF THE 3rd REGIONAL STAKEHOLDER MEETING OF THE GLOBAL WATER PARTNERSHIP FOR CAUCASUS AND CENTRAL ASIA

8-9 December 2005, Tashkent, Uzbekistan

The 3rd Regional Stakeholder Meeting of the Global Water Partnership for Caucasus (GWP CACENA) considered the results of the activities carried out by the Regional Network of CACENA Partnership in 2005 and the work program for 2006. More than 45 representatives from water and environmental agencies, scientific and design organizations, leading NGOs in seven countries in the region (representatives from Armenia for weather conditions could not come to Tashkent), and representatives from regional and international organizations and the GWP Secretariat took part in the meeting.

The participants recognized that the year 2005 was a stage on the path to introducing IWRM principles in Central Asian and Caucasian countries. This is a period, when the countries transited to more dynamic practical actions for creating conditions for IWRM. The participants approved the general report on the activities of the partnership submitted by V. Sokolov, and country reports submitted by national coordinators.

Among the results of 2005 activities, the participants particularly noted the efforts for capacity building to support IWRM planning process at national level under the sponsorship of the Finish Government. Two regional seminars on key IWRM directions were held at the ICWC Training Center in Tashkent. Specialists from seven states in the region took part in them. The eighth country, Kazakhstan, did not participated because its training is conducted under the UNDP project. The GWP Guide "Catalyst for Changes, a Guide for Developing IWRM Strategies and Water Productivity" (GWP publication, December 2004) was used as a basis for training. These courses for trainers were focused on the following IWRM aspects: organizational issues of water reforms and how to organize public participation; legal and financial aspects of water resources management; technical and managerial innovations and tools. The trained trainers organized 3-4 national seminars in each country in June-October with the assistance of RTCC members with a view to broader experience dissemination. It is important that the schedule for giving trainings in the countries concurs with the activities for conducting a policy dialogue and a campaign for raising awareness.

The participants approved the activities of the GWP CACENA towards the 4th World Water Forum in Mexico. It was especially noted the fact that the GWP CACENA in association with the ICWC acts as a key coordinator of preparatory process for the Forum in Central Asia with the support of the Japan Water Forum and Organizing Committee in the Mexico City. The participants recommended to approve the text of the paper "Challenges and Actions for Integrated Approaches in Central Asia" in final version (dated 7 December 2005), which is available on the website at www.ca water -info.net for submitting at the Forum in Mexico City in March 2006.

The participants pointed out that a national water partnership network was established in 2005 in Armenia, and it is operating as active as that in Kazakhstan (2004). The other countries came to practical formation of national partnerships. In this connection, having discussed the proposal of the GWP CACENA Secretariat (V.I. Sokolov) concerning a new structure for network coordination, the participants came to the following understanding:

- In exchange for the RTCC, a new structure of management – a Regional Council for the Water Partnership in Central Asia and Caucasus, consisting of eight members (one representative from each state in the region), headed by the Chairman of the GWP CACENA - is to be established in 2006. Along with that, to coordinate technical policy and maintain the partnership network activities, a Technical Committee consisting of leading specialists in IWRM from the countries in the region is to be set up. To administer the activities of the partnership network, the secretariat that

should be headed by the Executive Secretary of the GWP CACENA, is to be kept at the host-institution.

- For transiting to the new structure, the participants charge the secretariat headed by V.I. Sokolov to organize in early 2006 registration of all partners in the region by using a special form, and create a database on partners of the GWP CACENA.
- National coordinators should finish official formation and accreditation of national water partnerships in all countries of the region, involving initiative groups by the end of 2006.
- By the next GWP CACENA Stakeholder Meeting in December 2006, all the countries should send representative of country to the Regional Council.
- Before the transition to the new organizational structure, the governance and coordination of the GWP CACENA activities in 2006 will be fulfilled by the Secretariat (Specialist in Communications and Financial Administrator) and Chairman of the RTCC Vadim Sokolov.

The participants considered the 2006 Work Program of GWP CACENA, which includes five directions of activities in accordance with the outputs confirmed by the GWP Secretariat (Stockholm):

1. Assistance to develop a water policy and development strategy at appropriate levels of water resources management.
2. Assistance to develop programs and tools for IWRM in accordance with regional and national demands.
3. Relationship between the GWP and other networks, sectors and programs.
4. Development and strengthening of water partnership at different levels.
5. Effective management of the GWP network in the region.

While discussing all the positions of the work plan, the participants, based on a consensus, agreed to confirm the submitted program with little amendments on details of work scope and terms. It was decided to charge the GWP CACENA Secretariat (V. Sokolov, I. Babayev) to prepare, based on the adopted program, particular Terms of Reference for each position and contracts for fulfilling operations with account of the stipulated terms. Work progress should be regularly reported at the meetings of the Regional Council and TC, and the final report should be submitted at the annual stakeholder meeting of the GWP CACENA in December 2006.

As for the issue on the participation of representatives from the GWP CACENA in the 4th WWF in Mexico in March 2006, the participants of the meeting agreed on that in order to save limited budget funds it is expedient only the Chairman to participate. The funds from the GWP CACENA budget provided for Mexico should be transferred to expense item to more broadly submit the region at the Jubilee Meeting of GWP Members in August 2006 in Stockholm. Representatives of the regional partnership network can take part in the 4th WWF by using other funding sources.

The participants appreciate the role of the assistance rendered by the Finnish Government to the implementation of IWRM principles in the countries of the region, and express their thanks to the GWP Secretariat for productive organizational and financial support of operation of the regional partnership network.

The participants thank the Ministry of Agriculture and Water Resources of Uzbekistan and organizers for hospitality and providing high level of the conference activities.

JOINT MINISTERIAL STATEMENT[3]

I. The Way Forward

1. The Fourth Ministerial Conference (MC) of Central Asia Regional Economic Cooperation (CAREC) was convened on 5-6 November 2005 in Bishkek, Kyrgyz Republic. Ministers representing the CAREC participating countries agreed that the way forward for Central Asia is "development through cooperation," working together to expand development options in an increasingly competitive and integrated world, and to address shared opportunities and problems that transcend national boundaries. Ministers called for sweeping measures to overcome trade and other impediments to development, and for the creation of transport corridors to integrate the region and to connect it with markets in the People's Republic of China, the Russian Federation, India, the EU and elsewhere. In addition, Ministers emphasized the importance of interconnecting energy markets. Ministers expressed interest in cooperative initiatives in a wide range of areas, including the environment, agriculture and food security, tourism, telecommunications, human resource development, disaster management and avian flu preparedness.

2. The Conference was attended by high-level delegations from the Islamic Republic of Afghanistan, Republic of Azerbaijan, People's Republic of China, Republic of Kazakhstan, Kyrgyz Republic, Mongolia, Russian Federation, Republic of Tajikistan, and Republic of Uzbekistan. Also included at the Conference were senior level representatives of CAREC's supporting multilateral institutions (MIs): the Asian Development Bank, European Bank for Reconstruction and Development, International Monetary Fund, Islamic Development Bank, United Nations Development Programme, and World Bank. Representatives from neighboring countries as well as multilateral, bilateral, and civil society organizations additional to the CAREC Program contributed to the proceedings.

II. New Awareness/Renewed Commitment

3. Ministers called for a much better understanding of potential gains from regional cooperation; bringing the benefits of regional cooperation to a wider audience must be a priority. Regional cooperation momentum must be reinforced.

4. In this connection, Ministers expressed deep appreciation to the UNDP for its presentation of the highlights of the Central Asia Human Development Report (2005) and its contribution to "bringing down the barriers." The Report, a joint MI endeavor led by the UNDP with inputs from the ADB and the World Bank, is expected to convincingly demonstrate what is at stake: facilitating trade, transport and transit, and regional cooperation in other areas such as energy development, water use policy, flood control, and disaster management, could contribute to a doubling of GDP within a decade. Poverty could fall substantially.

5. Ministers stated that regional cooperation needs to be pursued sincerely, effectively, productively and realistically. They agreed that the gains from regional cooperation are dependent upon the continuation of stability, policy reforms, and joint efforts to sustain investment and growth. They renewed their commitment to working together for trade openness, transport corridors for integrating the region and connecting to external markets, and for developing and sharing the region's energy resources.

[3] Fourth Ministerial Conference on Central Asia Regional Economic Cooperation, Bishkek, Kyrgyz Republic, 5-6 November 2005

6. Ministers reconfirmed the basic principles of the Overall Institutional Framework which are based on consensus, pragmatism and results orientation.

III. New Partnerships

7. Ministers welcomed the participation of Afghanistan in the CAREC Program, and the invitation to the Russian Federation to also participate. The reconstruction of Afghanistan is vital as it serves as a land bridge and important potential trade, transport and transit route to markets throughout the region. The Russian Federation is Central Asia's largest trading partner and a key link to Europe. The participation of Afghanistan and the possible participation of the Russian Federation present significant new opportunities for expanding the scope and reach of the CAREC Program for the mutual benefit of all countries. Ministers welcomed the invitation of the Government of Afghanistan to join a ministerial conference on regional cooperation in Kabul on 4-5 December 2005, and noted that the transport sector (road, railway and aviation) would be one of the main areas of focus.

8. Ministers see the private sector as an engine of economic growth for the region and emphasized the importance of ensuring that regional cooperation reflects the needs and interests of the private sector. They welcomed the holding of the Preparatory Regional Business Roundtable (RBR), just prior to the Fourth MC, as a key step in engaging the private sector in CAREC. Ministers requested follow-up actions that will: (i) enable the private sector to respond to economic opportunities generated by CAREC initiatives; (ii) help mobilize domestic and foreign private sector investment participation in CAREC infrastructure projects; (iii) enhance responsiveness of the CAREC Program to the needs of the private sector; and (iv) facilitate linkages among private sectors throughout the region so as to compete more effectively in global markets.

9. Ministers noted that country and regional workshops and roundtables are a priority in helping to reach out to a wider audience, thereby strengthening interest in and support for regional cooperation initiatives Ministers also emphasized the need for proactive steps to link the CAREC region with aid agencies and the wider international business community.

10. Ministers further noted that partnership rather than competition should characterize CAREC's relationship with other regional cooperation initiatives. They agreed that CAREC should serve as a mechanism in their support, notably for the Shanghai Cooperation Organization (SCO), the merger of the Central Asia Cooperation Organization (CACO) and the Eurasian Economic Community (EEC), and others such as the Economic Cooperation Organization (ECO)and the Central and South Asia Transport and Trade Forum (CSATTF). They called upon other regional initiatives to avoid overlap and duplication of effort through further coordination and rationalization.

IV. Progress in Regional Cooperation

11. Ministers expressed optimism, drawing on the opening remarks by ADB President Haruhiko Kuroda, that "the region is well poised to reap the benefits of its strategic location." Through cooperative efforts, the region holds great promise for a bright future. The high rates of economic growth now being experienced in the region reflect a new chapter, wherein growing trade and other forms of openness and modernization are replacing inward preoccupations, in a virtuous circle of strengthening relationships. While barriers to trade and the costs of shipping goods continue to seriously hamper competitiveness and development in the region, CAREC countries recognize that the way forward is "development through cooperation."

12. Ministers adopted the Progress Report of Senior Officials, which reviews progress under CAREC since the Third Ministerial Conference in November 2004. They applauded the following regional cooperation initiatives and expressed strong appreciation for the technical and financial support provided by CAREC's six multilateral partners:

Transport:

adoption of a Transport Sector Roadmap (2005–2010), with the goal of developing an integrated and efficient multi-modal transport system for the region; the five strategic priorities of the Roadmap, namely (i) harmonizing and simplifying cross-border transport procedures, (ii) harmonizing transport regulations, (iii) development and improvement of transport corridors, (iv) restructuring and modernization of railways, and (v) improvement of sector funding and management; the action plan for implementation of the Roadmap; the adoption of performance indicators emphasizing outputs and outcomes; the report on the potential for liberalization of the aviation sector in Central Asia; major infrastructure investments over the past year, including the Southern Transport Corridor Road in the Kyrgyz Republic, important road sections in Azerbaijan linking Baku to the Georgian and Russian borders, and the Central North-South Road Corridor in Mongolia as well as rehabilitation of the ring road in Afghanistan.

Ministers endorsed the work on harmonization of transport regulations and simplification of cross-border transport procedures, and assistance to the SCO in support of an Intergovernmental Agreement on Facilitation of International Road Transport; Ministers expressed strong appreciation for the transport sector program for 2005-2006 of CAREC's six development partners, totaling over $1 billion for investment projects and $6.8 million for non-lending projects; performance indicators regarding these investments should be refined, incorporating survey data on transit times and costs.

Trade Facilitation:

progress in harmonizing and modernizing customs procedures and establishing a sound legal framework in accordance with the revised Kyoto Convention; bilateral transit and cooperation agreements signed in 2005 between Kyrgyz Republic and Tajikistan, Azerbaijan and PRC, and between Uzbekistan and PRC; pilot testing by Kazakhstan and Kyrgyz Republic for joint customs control at the Kordai-Akzhol border crossing; regional forums and country studies on priority elements of trade facilitation; launch of CAREC's Trade Facilitation Program website; advisory services on trade finance to banks in the region, along with guarantees for trade finance to facilitate foreign trade; and launching of the second phase of the Silk Road Regional Programme.

Ministers approved CAREC's phased and pragmatic approach to trade facilitation and endorsed the work plan for 2006, including continued promotion of bilateral cooperation initiatives, training and regional knowledge forums, and broadening the program in partnership with private sector and other stakeholders. Bilateral initiatives will include harmonization of cargo manifests by Kazakhstan and PRC, joint border control between Mongolia and PRC and between Kazakhstan and Kyrgyz Republic, data exchanges for cargo clearance between Kyrgyz Republic and Uzbekistan, customs cooperation between Mongolia and Tajikistan, and a customs modernization and infrastructure project between Kyrgyz Republic and Tajikistan. Incountry activities will include ICT master plans for Kyrgyz Republic and Tajikistan, customs modernization by Mongolia, and accession to the TIR Convention by PRC. Ministers noted the need for establishment of national interagency coordinating mechanisms.

Trade Policy:

background studies instrumental to removing the barriers to trade in Central Asia and possible measures to facilitate trade, as well as review of regional trade agreements and their potential conflict with WTO accession, and review of the lessons that can be learned from regional trade agreements elsewhere; also, analysis of entrance and transit delays and financial costs, and of barriers to crossborder trade.

Recognizing the potential contribution of these studies, Ministers supported the intention of the IMF and ADB to arrange country-level seminars in CAREC-member countries, designed to summarize the work done for the trade policy committee and the implications of this work for CAREC countries. Ministers noted the six recommendations of Senior Officials aimed at reducing the barriers to transit trade in Central Asia and recommended the following steps:

- Ensuring of full compliance with the provisions of the TIR Convention by customs services and other agencies; PRC will take steps to accelerate TIR accession;

- Reduction of the charges for customs convoys and in the list of goods subject to such convoys;

- Reduction of all other charges and fees on entry and transit of foreign road carriers;

- Reduction of the cost of entry visas for drivers of foreign road carriers and issuance of visas to them at international pass points in a simple way;

- Harmonization of transport, customs and border documentation in order to simplify procedures of control at and to minimize time at the border; and

- Measures to prevent and eradicate unofficial payments from road carriers in transit.

Ministers called on Senior Officials to monitor the implementation of these recommendations by CAREC-member countries, and to report to the Fifth MC on the status of their implementation. Ministers also supported reduction in the cost of nonreciprocal road transport permits to levels that cover related costs without discouraging transit trade. They recommended further analytical work on removing barriers to cross border trade, especially concerning the legal framework and tax and infrastructure issues, and new work on trade taxes and quantitative restrictions on trade.

Energy:

completion of the first phase of the North-South Transmission Line project in Kazakhstan, and progress in discussions for funding the second phase; completion of the Tajikistan-financed 220-kv Batken (Kyrgyz Republic)-Kanibodom (Tajikistan) transmission line; preparations for rehabilitation of the Uzbekistan-Dushanbe gas pipeline; and diagnostic review of regulatory approaches and challenges prepared by the CAREC Members Electricity Regulators Forum (CMERF).

Ministers signed the Memorandum of Understanding for the formal establishment of CMERF; Ministers instructed CAREC's newly formed Energy Sector Coordinating Committee to finalize its terms of reference, clarifying its scope of work beyond the power sector to possibly include oil and gas, energy efficiency, and opportunities afforded by the Clean Development Mechanism of the Kyoto Protocol; Ministers noted the consultations and planning underway, drawing from the Regional Electricity Export Potential Study, for various hydropower projects – including the Sangtuda I project in Tajikistan – and for the export of power to South Asia, Russia and possibly other markets; Ministers suggested that hydropower projects should follow international best practices

Capacity Building:

the mobilization of $1.35 million for capacity building, including $400,000 from the PRC Regional Cooperation and Poverty Reduction Fund, to help participating countries to better identify, evaluate and implement regional initiatives.

Ministers agreed that capacity building should focus on strengthening the National Focal Points (including through the appointment of domestic consultants and frequent in-country roundtable meetings), training workshops and study tours concerning international best practices for regional cooperation, and information exchange and research networks..

Interim Comprehensive Action Plan (ICAP): the draft ICAP for the CAREC Program is viewed as a work in progress.

Ministers called for further work in preparing the action plan, particularly in developing a strategic framework of expected outputs and outcomes from regional cooperation over the medium term. Ministers agreed that their respective governments must provide the necessary guidance in formulating the strategic framework, from which will follow prioritization and sequencing of regional initiatives needed to reach the envisaged outputs and outcomes; in-country consultations and coordination with the MIs will continue over the next several months for this purpose; Ministers endorsed the main thrusts of the ICAP, notably that the benefits of regional cooperation are substantial, that the impediments to trade, transport, transit, energy interchange and other forms of economic cooperation are serious, and that new or reemphasized initiatives are needed under each of the core sectors of the CAREC Program, as well as in additional sectors, to increase the momentum of regional cooperation; they also expressed appreciation for the commitments and plans for 2005-

2006, including the $1.02 billion for transport projects, more than $200 million for energy, and $10 million for trade facilitation.

V. New Directions: Broadening and Deepening the CAREC Agenda

13. Building on the significant progress to date, the increasing trust and confidence among CAREC participating countries, and the rapid economic growth now lifting all countries in the region, Ministers called for broadening and deepening of the CAREC agenda. Through coordinated action, Central Asia can build on its strengths and again become a vital trade route linking the countries of the famed Silk Road between Asia and Europe.

14. Ministers agreed that regional cooperation in transport, trade and energy should continue to be the priority sectors for regional cooperation, and that concerted, strategic efforts – or "bold strokes" – should galvanize further progress. Further, pertinent performance indicators should drive effective implementation, contributing to the CAREC Program becoming a model of performance-based regional cooperation.

15. An efficient multi-modal transport system for the region is urgently needed. Ministers called for a transport sector strategy that reflects new trade realities and that will lead to sharp reductions in the time and costs of moving goods/freight to both internal and external markets. Trade openness and a free trade zone, as envisioned by His Excellency Felix Kulov, Prime Minister of the Kyrgyz Republic, in his opening remarks to the Fourth Ministerial Conference, must be approached holistically. Ministers called for a regional trade strategy and comprehensive trade, transport and transit agreements to facilitate the cross-border movement of goods, vehicles and people. Cooperation in the energy sector must not be frustrated by nationalist strategies and the water-energy nexus. Ministers called on CAREC's development partners to apply their best auspices in facilitating energy development and transmission solutions for the mutual benefit of all participating countries.

16. Ministers noted that that there is a wide range of other areas suitable for regional cooperation, including the environment, agriculture and food security, tourism, telecommunications, human resource development, disaster management, and preparedness for avian flu. Progress in these areas will contribute to trust and confidence among participating countries, facilitating progress in more difficult areas. Ministers emphasized that all initiatives must be properly resourced and maintain the practical, results- and consensus-based approach to regional economic cooperation that characterizes the CAREC Program.

17. Ministers agreed on the importance of CAREC to move beyond individual sectors and projects in order to realize synergies among initiatives, and to address broader regional development issues. They requested identification of transport corridors – or portions of transport corridors – that could progress to economic corridors through coordinated public and private sector initiatives within specified geographic areas. Ministers called for careful selectivity in this regard, recognizing that the concept of economic corridors requires highly focused planning and sequencing of the necessary supporting infrastructure investments, policy and regulatory changes, and trade facilitation. They agreed on the importance of competitiveness-related issues, including regional initiatives designed to link domestic enterprises, particularly SMEs, to international production systems (e.g. global value chains) and world markets. In this connection, they also called for improved business services to facilitate the logistics of transporting goods to markets, in parallel with individual transport, trade and transit initiatives.

VI. Priorities and Next Steps

18. Ministers agreed that the top priority is mobilizing all stakeholders in support of regional cooperation. The period of uncertainty must be swept aside, replaced by shared goals and clarity of purpose. The interests of new employment and income opportunities and a better future for the peo-

ple of the region must take precedence. Governments must take leadership in realizing the promising potential of the region, in partnership with the private sector and civil society. The international development community must more effectively combine its support for individual countries with support for regional cooperation.

19. Ministers agreed that a strategic framework for regional cooperation is essential for charting the course ahead, for ensuring that the CAREC Program embraces all stakeholders, and that all initiatives are pursued in a building-block, results-oriented manner. Ministers agreed on five steps to accelerate the momentum of regional cooperation:

(i) Formulation of a comprehensive strategic framework for the CAREC Program, including the main investments and policy and regulatory initiatives identified by all the participating countries needed to achieve their expected outputs and outcomes from regional cooperation;

(ii) Prioritization and sequencing of these investments and initiatives – including "bold strokes" – for the short to medium term, together with further articulating associated performance indicators and key expected outcomes;

(iii) Mainstreaming of the strategic framework into country-based development plans and public investment programs, and the action plans of CAREC's development partners, and thereby determine the gaps in meeting the investments and initiatives identified in steps (i) and (ii);

(iv) Realignment of plans where necessary, and mobilization of technical and financial resources to ensure all priorities are addressed according to the strategic framework; and

(v) Sustained and expanded capacity building to strengthen the ability of all CAREC countries to fulfill the expectations of them under the strategic framework, including training programs

The above steps and initiatives, to be completed by the Fifth Ministerial Conference, provide a practical work program for all stakeholders.

20. Ministers also agreed that the processing and implementation of regional initiatives should be accelerated, especially with regards to priority investment projects. Policy and regulatory work should be extended, as a logical complement to infrastructure investment. Incountry workshops and other forms of outreach should be emphasized, so as to build broad-based community interest and support for regional cooperation. They directed Senior Officials to assess options for program expansion and the adoption of new concepts such as economic corridors.

VII. Concluding Remarks

21. Ministers concluded that "development through cooperation" is the way forward; greater momentum in regional cooperation is vital. They welcomed the Joint Statement of CAREC's development partners and expressed deep appreciation for their commitment to increase their support to ensure CAREC's continuing success.

22. Ministers expressed their warm appreciation to the Government of Kyrgyz Republic for hosting the Fourth Ministerial Conference, and for their excellent arrangements and kind hospitality.

23. Ministers welcomed the proposal to convene the Fifth Ministerial Conference in Urumqi, Xinjiang UAR, PRC at a date to be determined later in close consultation with participating countries.

UNECE'S SEMINAR ON ENVIRONMENTAL SERVICES AND FINANCING FOR THE PROTECTION AND SUSTAINABLE USE OF ECOSYSTEMS

(10-11 October 2005, Geneva, Switzerland)

The Seminar on environmental services and financing for the protection and sustainable use of ecosystems took place on 10-11 October 2005 in Geneva, Switzerland. It was prepared by the Swiss Agency for the Environment, Forests and Landscape, the UNECE secretariat of the Water Convention, in close cooperation with the World Conservation Union (IUCN) and the secretariat of the 1971 Ramsar Convention on Wetlands. The Seminar brought together policy and decision makers, lawyers, economists, managers, technical experts, representatives from the private sector and NGOs, specialized in water management, forestry, landscape and nature conservation.

The Seminar considered the issues related to the protection and sustaining ecosystem services provided by forests, wetlands and soils to ensure sustainable water use and high-quality water supply owing to the use of appropriate economic mechanisms such as payments for ecosystem services (PES). Special attention was given to the need for measurement and economic valuation of ecosystem services. It discussed legal and contractual aspects of establishing payments for ecosystem services, including three main types of contracts: public payment schemes, self organized deals and trading schemes. These schemes were illustrated in terms of some European countries and the US.

Following the discussions, the participants of the seminar agreed on three follow-up activities:

- The preparation of a draft code of conduct on the integration of ecosystems in water management and the payment for ecosystem services. The code of conduct should be adopted by the Parties to the Water Convention at their fourth meeting in October 2006;
- The development of proposals for capacity building activities related to the payment for ecosystem services, to be included in the 2006-2009 work programme of the Water Convention;
- The development of project proposals for implementation of payment of ecosystem services in one or more river basins, possibly at the transboundary level, to be carried out under the 2006-2009 work programme of the Water Convention.

The above-mentioned proposals will be further discussed and finalized at the second meeting of the Working Group on Integrated Water Resources Management (April 2006).

The seminar was also attended by representatives from the national agencies and regional organizations in Central Asia, including P. Reimov (State Committee for Nature Conservation of Karakalpakstan), Y. Kamalov (Union for Defense the Aral Sea and Amudarya), D. Ziganshina (SIC ICWC), E. Kreuzberg (Regional Environmental Centre for Central Asia), Y. Tyrtyshny (Kazakhstan Water Partnership).

SEMINARS AT PILOT WUAS IN FERGANA VALLEY UNDER THE IWRM-FERGANA PROJECT

Seminars on "Organization of water accounting at Water User Associations (WUAs) (selecting place and type of means for water accounting, procedure for construction, appraisal and certification of water accounting facilities, developing a water accounting system)" took place on 17 to 22 August 2005 at pilot WUAs "Zarafshan" (Tajikistan), "Akbarabad" (Uzbekistan) and Zhapalak

(Kyrgyzstan) under the IWRM-Fergana Project. 139 people took part in the seminars, including 134 local representatives, 4 representatives from the SIC ICWC and one representative from the IWMI.

At the seminar, M.A. Pinkhasov, Ph.D, Manager of WUA Activities under the IWRM-Fergana Project, delivered a paper on the "Issues of providing with water accounting facilities and resolving water disputes at WUAs".

In particular, the paper set out:

- the condition of water accounting facilities on irrigation and collector-drainage network at pilot WUAs in the three countries of the Fergana Valley;
- activities of the IWRM-Fergana Project to provide on-farm networks of pilot WUAs in Uzbekistan, Tajikistan and Kyrgyzstan with water accounting facilities;
- causes of water disputes and conflicts;
- conditions for considering disputes and conflicts at arbitration boards of WUAs, Canal Water Committees (CWCs), courts of elders and WUA regulatory bodies at the Ministries of Agriculture and Water Resources;
- necessary measures to prevent disputes between water users, between water users and WUAs, between WUAs and water organizations; and
- recommended mechanisms for resolving different disputes.

As for the matter on the condition of water accounting facilities up to beginning of activities under the IWRM-Fergana Project, the lecturer noted that no secondary canal and its branches met water accounting requirements: head outlets supplying water to a number of newly organized farms were not equipped with water accounting facilities, the need of WUA canals and their branches for various water accounting facilities was not determined. There is a similar picture with water accounting facilities for the existing collector-drainage network.

Investigating irrigation and drainage systems at pilot WUAs, the project executors identified:

- a need for conducting repair and renewal operations at the existing stations;
- a need for additional various water accounting facilities; and
- a necessity for log books inventory, recalibration and recertification at the existing gauging stations.

The lecturer dwelled on the contribution of the IWRM-Fergana Project and ministries of agriculture and water resources in the three Fergana Valley states to equipping irrigation and drainage networks of pilot WUAs with new water accounting facilities, taking measures for calibrating and certifying the existing gauging stations, and giving trainings for WUA staff and water users in organizing water accounting.

For example, in phase 2 of the IWRM-Fergana Project at the three pilot WUAs altogether, 209 units of various water-measuring facilities and 71 gauging platforms were identified, including respectively 66 and 30 units at WUA "Akbarabad", 25 and 9 – WUA "Zarafshan", and 118 and 32 – WUA "Zhapalak".

The lecture noted that the causes of water disputes and conflicts are weak public monitoring of water bodies, weak water consumption planning at "WMO–association" level, lack of transparency and awareness of WMO and WUA activities, poor equipment of irrigation and drainage network with water accounting facilities, violation of irrigation regimes and depths, lack of knowledge of WUA personnel and water users about laws and standard acts regulating water use, untimely payment for water services and so on.

The important conditions for considering disputes at Arbitration Boards of WUAs and CWCs or other organs are grounds, based on which disputes and conflicts are considered. Such grounds can be fixation in special logs on made request for water, on release of water confirmed by representatives of WUAs and water users, timetables for water supply to users confirmed by directorate of WUA and so on.

With a view to preventing disputes between water users, between water users and WUA, between WUA and water organization, the lecturer recommended:

- to equip water inlet points of users with water accounting facilities;
- before starting irrigation, draw a well-grounded water use plan for the whole WUA and each farm, WUA member;
- strengthen governmental and public control over water use;
- create conditions for transparency and awareness of activities of state water authorities and water user associations;
- improve and upgrade the technical condition of irrigation and collector-drainage systems of different levels; and
- periodically provide trainings for WUA personnel and farmers in water use, water, land and civil law, IWRM.

In conclusion of his presentation, M.A. Pinkhasov proposed a mechanism for settling different disputes (kinds of disputes and organs that consider them).

Consultant on hydrometry R.R. Masumov presented papers on the following themes:

1. "Selection of site and type of water measuring facilities"
2. "Preparation and construction of gauging stations. Registration, calibration and certification".

In his first paper, he elucidated the following positions:

- requirements for installing weirs VT, VCh, VS;
- how to select type of water-metering devices depending on location slope, flow movement regime, size of measured canal flow range, presence of suspended sediments;
- requirements for manufacturing and operation of SANIIRI flume (SF);
- methods for calibrating parabolic flume (PF);
- methods for calibrating gauging stations, processing in-situ water flow measurements, constructing graph and table of coordinates.

In his second presentation, R. Masumov dwelled on the following issues:

- list of preparatory activities (cleaning of a site, alignment of a canal, facilities for water diversion from a constructions site);
- order of actions in construction of a gauging station (centering of water-measuring facilities, observance of symmetry and orientation of the inlet at a gauging station);
- list of necessary documents for making log books and preparing gauging stations for calibration and certification;
- calibration and certification of gauging stations (who and when conducts attestation of a gauging station); and
- frequency of calibration (for the simplest measurement facilities, weirs, gauging flumes and fixed channels).

The second day, the participants of the seminar were acquainted with the practical side of gauging station construction under the direction of R. Masumov:

- selecting site for construction of gauging stations;
- selecting type of water-measuring facilities;
- sequence of gauging station construction cycles.

A practical training in Tajikistan (WUA "Zarafshan") was organized at the outlet of Ak-Kalya canal for farm "Musofir". Here, a gauging station – Chipoletti weir (VCh-50) was constructed.

At the practical training in Uzbekistan (WUA "Akbarabad"), two gauging stations (GS) were constructed at the outlets that take water from Damaryk canal:

- 1st GS – SANIIRI flume at the outlet on “Nurmat Ota” farm;
- 2nd GS – Chipoletti weir (VCh-50) at the outlet on “Mulla Khomidjon” farm.

At the practical training in Kyrgyzstan (WUA “Zhapalak”), two gauging stations were constructed as well:

- 1st GS – SANIIRI flume at the outlet of Bak canal;
- 2nd GS – Chipoletti weir (VCh-50) at the outlet of Kokdobo canal.

IWMI representative, head of Fergana field office K. Jumabayev delivered a paper on “Module 5 – Assessment of water management results at WUA level”.

In his speech, the lecturer suggested “assessing the main indicators of WUA operation results by 4 groups of indicators – water supply, hydro reclamation system maintenance, financing and sustainability”.

He suggested assessing water supply by “ratio between days of sufficient water supply to end sites and the total amount of days of water supply to end plots” or by “water supply uniformity”, which is determined by “ratio between water supply to zones with low water supply and average water supply to WUA”.

Then K. Jumabayev dwelled on four financial-economic indicators: collection of service charges from water users, shares of GIS operation and maintenance costs in WUA budget, WUA completeness with specialists and financial self-sufficiency.

The lecturer assesses the sustainability of WUA functioning by indicators “sustainability of irrigated lands” and “change in areas with shallow groundwater level”.

Assistant WUA Activities A. Alimjanov presented a paper on “Organization of water accounting and its role in water allocation at WUAs”.

In his paper, he noted that water use at WUAs begins from making up daily and decade schedules of water allocation between water users according to requests for water made by them.

Water accounting on WUA irrigation systems is carried out by using a network of calibrated gauging stations, which are divided into head, distributive and escape ones.

Water accounting at WUAs should be organized in the following order:

- WUA draws up daily schedules of water allocation among water users over WUA canals;
- hydrometrists of WUA take every day three water measurements at gauging stations (at 8, 14 and 20 o’clock) according to drawn up daily water allocation schedules;
- during water allocation by hydrometrist from WUA at gauging station of water users, the presence of specially appointed representative from farm is necessary;
- data on water measurements at gauging stations are recorded by hydrometrist of WUA in special water accounting log;
- hydrometrist of WUA and water users affix their signatures in water accounting log for every water receipt.

In cases of deviation of water flows from water supply schedule, it is necessary to correct the latter.

The lecturer noted that timely and proper water accounting at WUA canals is the basis for water distribution and rational water use in WUAs, enables to raise canal efficiency and improve reclamation condition of irrigated lands.

At the practical training, A. Alimdjanov explained in detail how to read water-level staffs at GS, and how, based on average daily staff mark, to identify water discharge at outlet and correspondingly runoff volume that passed through a gauging station.

At the seminar, S.R. Khamdamov, specialist in water allocation, delivered two papers.

The first paper was dedicated to the “Operation mode of water-measuring facilities”.

The lecturer talked about the tasks of irrigation water accounting service, types of gauging stations at canals and collectors, organization of water accounting at them, and requirements to water accounting facilities under diverse operation modes.

Gauging structures can operate in two modes:

- in free operation mode (when water level at the weir afterbay is below the threshold altitude);

- in submerged operation mode (when water level at the weir afterbay is above the threshold altitude).

The lecturer cited as a concrete example Chipoletti weir (VCh-50) and SANIIRI flume operating in two modes and their numerical values.

The second paper was dedicated to "Practical measurement of WUA canal water flows using flow meter GR-21".

In his paper, he described technical and constructive characteristics of flow meter GR-21 and showed in practice a technology for measuring WUA canal flow rate by using a flow meter.

In the concluding part of the seminar trainings in pilot WUAs in Fergana Valley, province-level coordinators K.R. Khodjiyev, K.E. Mukhitdinov, O. Kholikov, A.S. Satybaldiyev spoke, who noted the good level of the prepared papers and high usability of practical trainings on arrangement of gauging stations and organization of water-accounting operations.

AUTOMATION AND MONITORING OF WATER DISTRIBUTION AT ARAVAN-AK-BURA CANAL (AABC) SYSTEM

A meeting on preparation of a preliminary design for automation and monitoring of Aravan-Ak-Bura canal was held on 14 October 2005 within the framework of the Fergana Valley Canal Automation Project funded by the Swiss Agency for Development and Cooperation (SDC). The meeting was attended by representatives from the Osh Basin Water Management Organization (BWMO), Aravan-Ak-Bura Canal Management Organization, SIC ICWC, SDC and "Sigma"Company.

According to the Memorandum of Understanding on Organizational and Technical Support to the "Integrated Water Resources Management in Fergana Valley (IWRM-Fergana)" and "Fergana Valley Canal Automation" Projects funded by the Swiss Agency for Development and Cooperation (SDC), activities under the IWRM-Fergana Project are being implemented, and an Aravan-Ak-Bura Canal Automation Project will be launched after the completion of the repair work.

The objective of the Project is to supply irrigation water in accordance with water requirements, providing minimum operational losses and improved water management system. This objective will be achieved through installing a system of automation and monitoring on Aravan-Ak-Bura Canal (AABC) and organizing visual monitoring at water outlets. The Project includes:

- automation of 4 hydro structures;
- installation of an automated system of monitoring over these hydro structures and 4 gauging stations.
- carrying out of systematic visual monitoring over water outlets by using teams visiting 4 balancing sites.

The SDC invests US$235'000 in the project cost, and the Kyrgyz Republic invests about US$30'000 in repair and rehabilitation of hydromechanical part and power supply.

The following decisions were made:

1. The Department of Water Resources endorses the “Automation and Monitoring of Water Distribution at Aravan-Ak-Bura Canal” Project and charges the Osh Basin Water Management Organization (represented by B.E. Matraimov) to sign a contract for implementing the project.

2. All activities for organizing the project implementation are entrusted to the Osh Basin Water Management Organization.

3. The SIC ICWC, Osh Basin Water Management Organization and SDC control the project implementation by “Sigma” Company.

4. General contractor, “Sigma” Company, will develop a preliminary design and provide software for regulating hardware and electric equipment.

During the meeting, the following arrangements were made:

1. The Aravan-Ak-Bura Canal Management Organization (AABCMO) will diligently carry out repair and rehabilitation of hydromechanical equipment at the existing four hydro structures, including sliding plain gates, screws and lifts, two hydro automatic gates at DP 70 and at the head structure of Kairma canal, and will provide power supply to the sites by 1 December.

2. Two hydro automatic gates will thoroughly be tested after rehabilitation, and tests will be also be conducted for possible use of hydro automatic machines with electric regulation.

3. The AABCMO will complete the repair of all water outlets from the AABC system by 31 March 2006.

4. The concept of regulation proposed in the Terms of Reference for “Sigma” Company prepared by the SIC ICWC consists in management in the head reach. It consists in level management in the head reach of each of 4 automated hydro structures, stabilization of discharges in tail-race canal, and adjustment of discharges by the preset value. The discharges are automatically measured at 10 gauging stations, at that 8 gauging stations are located near the hydro structures, and 2 gauging stations are located far in the lower reach of the canal.

5. However, the second option for automation of the structure at DP 135 of distributing Kairma canal given in the Annex can be considered. Comprehensive study of this option will be conducted, and a decision will be made by the Osh Basin Water Management Organization.

6. Automatic remote monitoring is conducted at 4 hydro structures and 10 gauging stations, and collected data are transmitted to 3 Local Control Stations (LCSs) and one Master Control Station (MCS) where they are analyzed, processed and stored. Finally, the processed data are transmitted to the AABCMO and then to the Osh Basin Water Management Organization.

7. The existing water-measuring facilities installed at water outlets from AABC should thoroughly be surveyed and tested. In case when measurement uncertainty is detected, they should be modified and, if possible, changed from facilities of flume type into weirs, which have higher accuracy and are user-friendly.

8. Two versions of a transmission network can be used: a) radio in the range of MV, or b) GPRS system. The transmission network can transmit data and provide voice communication. Each system has advantages and disadvantages related to the costs of installation, operation and maintenance. “Sigma” Company should further conduct a study to assess technical feasibility and financial aspects of each version, and further submit them to the Osh Basin Water Management Organization for consideration and making decisions.

9. Visual monitoring and reading data of devices at water intake structures on secondary canals will be conducted by 4 groups of inspectors for each balancing site (province located between two controlled gauging stations). These inspectors will transmit data to 3 LCSs by radio communication system or telephone, 3-4 times a day. These data will manually be set into computers of remote monitoring system or, in further, through portable sensors with loggers (not provided in the project).

10. The MCS will be located near the hydro structure at DP 70. One LCS will be placed in that building. Two other LCSs will be placed at the water intake structure on AABC and at DP 135 on Kairma canal.

AUTOMATION AND CONTROL OF HYDRAULIC STRUCTURES UNDER THE JURISDICTION OF BWO "SYRDARYA" IN FERGANA VALLEY

A meeting on the preparation of a preliminary design for automation of hydro structures of BWO "Syrdarya" was held on 14 October 2005 within the framework of the Fergana Valley Canal Automation Project funded by the Swiss Agency for Development and Cooperation (SDC). The meeting was attended by representatives from BWO "Syrdarya", the SIC ICWC, SDC and "Sigma" Company.

The overall objective of the Project is to facilitate improvement of water resources management in Fergana Valley. This objective will be achieved through implementing a system of automation and control of five hydro structures under the BWO, including three in the Naryn subbasin, below Uchkurgan hydro power plant, and one water intake into canal and its spillway on the Syrdarya river.

The BWO is responsible for all activities to organize project implementation.

BWO "Syrdarya", the SIC ICWC and SDC will be responsible for control over project implementation.

General contractor, "Sigma" Company, will provide engineering design, installation of hardware and software.

The following arrangements were made:

1. The concept for regulation of each hydro structure proposed in a preliminary design of "Sigma" Company was clearly set out; functions of each automated structure were determined and adopted by all the parties.

2. It was necessary to determine an operation mode for the feeder canal between DP 0 and DP 66, considering a short distance between Uchkurgan barrage and structures at DP 15 and DP 66. Two versions were considered: (a) management in the head reach with installation of an acoustic flow meter at DP 0 or (b) management in the lower reach at sites DP 0 - DP 15 and DP 15 - DP 66 with automatic flow control by measuring the level at three water intakes on the canal and the structure at DP 66. Version (b) was chosen.

3. The operation mode of the first reach of Big Fergana Canal represents regulation in the lower reach: fixed level in this small reach and automatic flow control at the end of the reach.

4. The visitation of the structures showed that all the gate motors and lifts were repaired and ready for receiving water-metering and automated equipment.

5. The selection of hardware and software earlier agreed in the Protocol dated July 2005 was approved. Special attention will be drawn by "Sigma" Company to reducing gate movement frequency (time between two successive adjustments and dead space). To calculate discharges at a gate, a simplified formula will be used, and coefficients will be specified in accordance with discharge curves derived from data of gauging stations.

6. A special methodology for automation (discharge and level) was successfully developed and implemented by "Sigma" Company at the Uchkurgan headwork and its satisfactory operation was observed by all the parties. This methodology will be applied at other project structures.

The data transmission network requires conducting further investigation by "Sigma" Company before all the parties make decision. Two methods are under consideration by "Sigma" Company: (a) using GPRS system and (b) installing radio system. These two methods have different consequences for the BWO from the position of financial expenditures and maintenance of these systems. "Sigma" Company will submit detailed comparison of these two methods from the posi-

tion of technical feasibility, requirements for expenditures and maintenance to the BWO for consideration and making a decision and to the SDC for approval.

WORKING MEETING UNDER THE "IWRM-FERGANA" PROJECT

A working meeting under the IWRM-Fergana Project was held on 29 October 2005 in Tashkent. It was attended by: S. Djalalov, V.A. Dukhovny, V.I. Sokolov, I. Abdullayev, N.N. Mirzayev, M.A. Pinkhasov, S.S. Mukhamedjanov, T.I. Palvanov, A. Alimdjanov, R. Saidov, A.G. Galustyan, and B. Turdybayev.

Prof. V.A. Dukhovny started the working meeting from task 1 for the coming winter period: organizing Training Points in Fergana, Andijan and Sogd provinces.

The purpose of establishing Training Points is to help farmers and WUAs to speed up the implementation of IWRM in Fergana Valley. In agreement with Sh.R. Khamrayev, 14 demonstration plots earlier established in Andijan province and 15 ones in Fergana province should be transferred to Training Points being organized for providing practical trainings there. The SIC ICWC allocates more than US$11'000 for providing the above-mentioned points with computer equipment.

At present, requests have already received from Tashkent province, Uzbekistan, for providing assistance to organize WUAs of farmers from the broken up shirkat farms.

The directions of the Naryn-Karadarya BWMO (Andijan) and Syrdarya-Sokh BWMO (Fergana) have already started equipping premises under Training Points (TP).

According to the sight of V.A. Dukhovny, training of farmers and WUAs should include:

- verbal training;
- introducing experience of demonstration plots;
- demonstrating experience of WUA "Akbarabad".

The task of leaders for the components M.A. Pinkhasov and S.S. Mukhamedjanov is to make up a program of training courses for WUAs and farmers. A cost estimate for organizing them should be added to the program.

The task of TP trainers is to introduce and bring our experience in funds planning, water distribution and settlement of disputes and conflicts, which occur during operation, to farmers and WUA personnel.

The main thing is that it is necessary during trainings to popularize ideas of integrated water resources management that make it possible to provide equitable, stable and reliable water supply to all water consumers.

It is necessary to agree on financing TPs with the IWMI (Herat Manthritilake).

V.A. Dukhovny also reported that M.A. Pinkhasov prepared Terms of Reference for analysis of experience in establishing WUAs in Samarkand province by administrative boundaries, where the District Water Management Organizations were transformed into WUAs. Lessons learned from the analysis should be used while developing Recommendations for WUAs in regard to the transition from administrative principle to basin principle. In the mentioned Recommendations for WUAs earlier established on administrative principle, it is necessary to develop a mechanism for transferring them to hydrographic boundaries (according to IWRM principles).

S. Djalalov suggested developing a methodology for applying methods for water distribution developed by the IWMI and SIC, based on specific conditions of WUA.

For this purpose, S. Djalalov suggested establishing a working group on development of a joint program (methodology) for water distribution or several scenarios for WUA, depending on conditions, and planning a round table discussion to be held in the first ten days of December.

Later, the participants of the meeting under the guidance of V.A. Dukhovny considered the progress in implementation of activities for the period up to 29 October 2005 according to General Schedule.

Under Activity “Pilot Canals” (PCs), a common lag was noted almost in all the positions. Reports on the environment, land reclamation, water supply, particularly on water supply to rural schools were not prepared (V.A. Dukhovny reminded that he had explained Kh.R. Khodjiyev, P. Rasulov and B.E. Matraimov how to do it). Action Plan 1 was started with a delay. Action Plan 2 is not clear. It is necessary to invite P. Rasulov, M. Dusmatov, R. Rustamov and A. Djulbarsov to the planned Round Table of the NGCS Uzbekistan to consider the issue of the Sharikhan-Sai system and opportunities to include it in the project area on South Fergana Main Canal.

At present, the models for water distribution from pilot canals and WUA canals developed by A.I. Tuchin do not consider return and groundwater of local sources. It is necessary to develop a methodology for accounting and use of the above-mentioned waters in water use plans for “PC” (N.N. Mirzayev) and “WUA” (M.A. Pinkhasov, A. Alimdjanov). A.I. Tuchin should develop an appropriate algorithm and include it in the model for water distribution for “DP” and “WUA”. The neglect of the above-mentioned water accounting in water use plan results in steep demands for irrigation water. V.I. Sokolov noted that it turns out certainly worthless work. Reports on the operation of pumping plants have not been presented until now. R. Masumov did not present a report on reliability and accuracy of water accounting on pilot canals.

The final version of a Contract on Aravan-Ak-Bura canal should be sent to B.E. Matraimov, with clear distribution of powers of the Osh BWMO and stakeholders inserted into it by Y.Kh. Rysbekov and N.N. Mirzayev. It is necessary to prepare the above-mentioned Contract and a final version of the concept for discussion at the Round Table of the NGCS Kyrgyzstan to be held on 15-17 November in Bishkek.

N.N. Mirzayev should deliver materials of the seminar on the application of tools for IMS held in August.

N.N. Mirzayev and I. Abdullayev should complete the preparation of Recommendations for pilot canals to make up a business plan. The work should be completed no later than the middle of November, since the Ministries confirm a plan of repair operations over main canals by 1 December. It is also necessary to complete the development of a draft Statute for the CWUU, S. Djalalov noted.

Further, activities under WUA Component were considered.

M.A. Pinkhasov noted that at present WUAs are conducting investigation of irrigation and collector-drainage network, based on which they will make up a business plan. The SIC is entrusted to develop a methodology for making up a business plan for WUA “Akbarabad” and WUA “Zarafshan”, and the IWMI - for WUA “Zhapalak”.

I. Abdullayev reported that the IWMI hired economist Ayturan Anarbekov for this purpose.

The IWMI developed a method for making up business plans, which on Monday the economist of the IWMI will present to M.A. Pinkhasov. S. Djalalov noted that the SIC and IWMI are partners and should work together on methods for making up business plans.

Water distribution plans for the non-vegetation period for WUA “Akbarabad” and “Zarafshan” were made up, A. Alimdjanov noted.

I. Abdullayev reported that the IWMI hired specialists to make up water use plans for Kyrgyzstan, Uzbekistan and Tajikistan and control the implementation of them, and supposes to organize training for them in November. V.A. Dukhovny offered the IWMI to invite specialists from the SIC to this training. S. Djalalov supported the offer of V.A. Dukhovny on joint participation of specialists from the IWMI and SIC in trainings.

V.A. Dukhovny underlined that it is necessary to extend the experience in water distribution at pilot WUAs, and indicated M.A. Pinkhasov to that reports on water distribution for small holdings within WUAs made by A. Alimdjanov have not been presented until now. It is necessary to organize social mobilizers for work on water user groups on small holdings. There is a lag in ac-

counting ground and return water in terms of WUA. It is necessary to insert an algorithm for accounting the above-mentioned waters into the Database by the beginning of the vegetation period 2006. there is also a lag in accomplishing activities on GIS (V. Shakhov).

Thus, if practical activities concerning WUAs are generally proceeding in accordance with the schedule, then there is a lag in submitting reports.

Finally, work on "Introduction of advanced technologies below WUA" was considered.

S.S. Mukhamedjanov reported that in general, activities are being carried out according to the schedule, but owing to the absence necessary data on soil maps and climate at BWMOs, WUAs and Hydromet Services, a Database is being generated with a delay.

Having reminded S.S. Mukhamedjanov of the need for preparing a reduced format for a field certificate, which should underlie recommendations for TP trainers, V.A. Dukhovny pointed to the need for:

- thinking over methods for working with numerous farmers, since the number of farmers for whom the TPs should provide training will exceed 1000 people;
- considering the issue of additional payment for work of trainers at demonstration plots.

S.S. Mukhamedjanov reported on the results of the meeting with the direction of non-governmental nonprofit organization "Shans" located in Andijan town, told about the major directions of its activities and prospects for cooperation on the dissemination of the project experience by involving this organization. Having noted that it is necessary to continue work on selection of organizations, through which advanced technologies would be introduced and consulting services would be provided in Andijan, Fergana and Sogd provinces, S.S. Mukhamedjanov highlighted that Extension Services being organized by the project should also be viable upon the completion of the project, which requires to develop a mechanism for self-repayment of extension services and give them a legal status.

According to the offer made by S. Djalalov, S.S. Mukhamedjanov should prepare suggestions and a vision on establishment of Extension Services with account of suggestions made by Juerg Kraehenbuehl under position 3.2.1

GOALS AND OBJECTIVES OF THE NATIONAL GROUP FOR COORDINATION AND SUPPORT (NGCS) OF THE KYRGYZ REPUBLIC IN IWRM-FERGANA PROJECT PHASE 3

A seminar "Goals and Objectives of the National Group for Coordination and Support (NGCS) of the Kyrgyz Republic in IWRM-Fergana Project Phase 3" was held on 23-24 December 2005 in Osh city. The seminar was opened by National Project Coordinator, Deputy Leader of the National Group for Coordination and Support of IWRM, Director of SIC ICWC Kyrgyz Office A.S. Djayloobayev who presented the participants the program and goal of the seminar.

IWMI representative M. Yakubov made an introductory speech on the proposed concept.

The overall objective of IWRM is to provide water resources to meet the needs of water users and the environment in a sustainable, stable, reasonable and equitable manner. Water resources and environment management is carried out within hydrographic boundaries in accordance with the morphology of a certain basin. The management provides for: considering and involving all kinds of water resources (surface, ground, return) with account of climatic properties (precipitation and evaporation); giving the priority to environmental requirements in the activities of water authorities; public participation not only in management, but also in financing, maintenance, planning and development; close linkage of water use and all participating bodies between sectors on a horizontal basis and between water use hierarchy levels on a vertical basis; information provision, openness and transparence of water management system; water conservation and rational use; control of losses – the main direction in the activities of water authorities and water users themselves.

In his speech, IWRM-Fergana Project Office Manager T.I. Palvanov noted the primary objectives of the IWRM-Fergana Project:

- to propose a concept for improving water resources management in the Fergana Valley based on IWRM principles;
- propose and test a new organizational structure for water resources management at irrigation system level with participation of all stakeholders;
- promote WUA as a form of water user self-organization at lower level of the water management hierarchy, and develop the principles for their relationship with new water organizations;
- contribute to capacity building for new water organizations and WUAs;
- give recommendations for necessary betterment of the legal framework to implement IWRM principles;
- introduce the system for monitoring water distribution and use (hydrometry, information system, system of indicators);
- demonstrate opportunities for water conservation and water and land productivity improvement;
- and give recommendations for dissemination of achieved results.

The concept for transiting to IWRM principles in Fergana Valley was agreed on in April 2003 by First Deputy Minister of Agriculture and Water Resources of Uzbekistan A.A. Djalalov, Director General of the Department for Water Resources of the Kyrgyz Republic Z.B. Bekbolotov and Minister of Land Reclamation and Water Resources of Tajikistan A.A. Nazirov.

Based on the Concept, the above-mentioned persons signed on 16 May 2003 two protocol agreements:

- on organizational and technical support to the IWRM-Fergana Project;
- on exchange of information necessary for project implementation.

The concept was published in Russian as a brochure titled “Proposed Basis for Transiting to IWRM in Fergana Valley...” and distributed in January 2004 among all project stakeholders.

Based on it, guidelines on implementing IWRM principles in pilot sites were submitted.

Organizational reformation:

In terms of pilot systems, a new organizational structure was proposed for transition to IWRM principles, based on hydrographic approach, with participation of all stakeholders.

Pilot canals:

Aravan-Ak-Bura, South Fergana and Khojibakirgan Canal Management Organizations were set up on hydrographic principle and function as legal entities.

At present, contracts for water supply are not concluded with not with the district departments for water resources, but with water users (WUAs, farms) and Canal Management Organizations (CMOs).

WUA level:

WUAs were established in three countries in Fergana Valley:

in Uzbekistan	- WUA “Akbarabad” at South Fergana canal;
in Tajikistan	- WUA “Zarafshan” at Khodjibakirgan canal;
In Kyrgyzstan	- WUA “Kerme Too Akburasy” at Aravan-Ak-Bura canal, WUA “Zhapalak” as an object for experience development.

While establishing WUAs, the following activities were developed and carried out:

- social mobilization of water users was conducted;

- inventory sheets for irrigation assets; draft Statutes of the Associations; founding treaties and contracts for providing water services by WUA to water users were prepared;
- exemplary structure and personnel size for association was identified;
- preliminary costs to operate on-farm irrigation network in association were identified;
- rates of one-time and current contributions by WUA founders to its statutory fund and maintenance were identified;
- foundation meetings of potential WUA members in 3 countries in Fergana Valley were prepared and held.

Follow-up activities (at WUA level):
- participation of the State in the formation and equipment of WUAs;
- operation base;
- hydrometry;
- training;
- paid water use;
- drainage .

Assistance to farmers from the State:
- right to water;
- responsibility for water delivery;
- concernment in water conservation;
- assistance in application of fertilizers, mechanisms, chemicals;
- credit line;
- planned activities;
- irrigation techniques;
- extension service.

At the seminar, Director of SIC ICWC Kyrgyzstan office A.S. Djayloobayev delivered a paper on the “Integrated Water Resources Management Principles and Objectives of the National Support Group”.

“IWRM is a system of management based on considering all kinds of water resources (surface, ground and return) within hydrographic boundaries, which matches the interests of different sectors and water use hierarchy levels, involves all stakeholders in decision-making, promotes effective use water, land and other natural resources for sustainable development of society and environmental security.”

Thus, integrated water resources management includes a considerable organizational component: preventing or solving contradictions through involving stakeholders in decision-making process.

The basin approach and prevention of conflicts between different water users requires complete participation and cooperation between all the stakeholders. To reach a common consent on made decisions, it is necessary to involve not only governmental, regional and municipal authorities, but also the private sector and community, and aspire to reach a consensus. It would be much easier to implement a strategy and legal, administrative and technical actions if consultation procedures would be organized well.

The creation of national groups was a follow-up to a large discussion among the project participants and sponsors, based on what each party saw as a role of national groups. In the previous stage, national coordinators mainly served as national project facilitators, represented it at the level of water agency, completed a number of conciliation documents with the Ministries of (Agriculture and) Water Resources. Now the situation has significantly changed: over 4 years of work, all the project participants, especially at the local level, got a clear idea of the essence, methods and developed tools of IWRM, and, first of all, understanding of that IWRM is the main way and approach

enabling the region to survive under the conditions of oncoming water deficiency owing to integrating all kinds of water resources, water uses, interests; owing to accessibility of its tools, approaches; owing to broader involvement of all stakeholders. Moreover, the organizational mechanism for management of hierarchy levels such as canals and WUAs really got viable and effective.

Why does the entire world rest its hopes upon IWRM?

The present-day world of water is in a complicate sphere of proposals and different mutual interstate, national, zonal and local interests that are frequently contradictory and non-coordinated, in a complicate web of open and hidden bureaucracy. Frequently under these conditions, the main functions of water sector such as to meet water requirements of society and the environment turn for politicians and bureaucrats into an abstract concept, behind which, as behind a bush, one cannot see forest. Thus, the personality of man as a final water user with his vital needs for food, hygiene, work, and living environment gets lost. Such combination of NGCS will enable to organize an interstate exchange of information and opinions, and develop common approaches and a certain way out to the governmental level in part of explaining the importance and expediency of using IWRM principles, and developing relevant national approaches, regulations and legislative provisions.

Furthermore, such combination of NGCP membership is very important for fulfilling another objective preceding the last ones, i.e. to pass through itself the project results, methods, approaches, adjust them to national peculiarities, trends and priorities for eventual change of them into national tools and mechanisms.

On the ground of these objectives, the NGCP should:

- organize training of representatives from different influencing target groups and sectors according to a mutually agreed plan;
- draw up a country IWRM training plan;
- carry out a situation analysis, and generalize achieved results for dissemination among other countries;
- study factors and bottlenecks in implementing IWRM, and submit a proposal for eliminating them to the management;
- socio-economic effectiveness assessment of these approaches.

Later at the seminar, Leader of ‘Pilot Canals’ Component N.N. Mirzayev delivered a paper “Problems of water resources management improvement at the level of large water-management systems that are to be solved with the help of the NGCP”.

The aim of the project (at pilot canal level) is to introduce an IWRM system to reach a higher level of water resources management, based on these principles:

- equity (right to water, right to sell, right to water, principle of proportionality),
- stability,
- evenness and
- efficiency (technical and economic).

The main aspects of component activities:

- organizational; technical; technological;
- capacity building.

Organizational aspects:

- transiting from administrative-territorial principle to hydrographic principle in establishment of water management organizations (CMOs).
- improving the governance of DPs based on the principle of public participation through establishing public associations in the form of Canal Water Users Unions (CWUUs).

CWUU is a nonprofit, public (non-governmental) organization, through which all individuals and legal entities interested in water (local administration, farmer, ecologist, water supplier, power engineering specialist, fish industry, etc.) have an opportunity to participate, in a civilized

way, in water governance process for achieving more equitable, effective and environmentally sound water distribution. In abbreviation “CWUU”, term “water user” serves as a synonym for “stakeholder” meaning a person interested in or dependent on water distribution.

Governance.

The governance is an activity that includes political, social, legislative, economic and other aspects directed to achieving equitable, effective and environmentally sound water management.

The role of governance consists in providing an air for introducing IWRM, in which managers and stakeholders could successfully cooperate and unite.

Action plan:

- measures to improve the environmental situation in DP zone (water protection zone);
- measures to improve the situation with land reclamation in DP zone (groundwater level);
- measures to improve drinking water supply in DP zone (water quality, diseases).

Objectives of “Pilot Canals” component:

- develop a draft AP and draft methodical documents;
- agree with the NGCS on a draft AP and draft methodical documents, revise them;
- implement the AP and introduce methodical documents at DP;
- training .

Tasks of the NGCS under “Pilot Canals” component are:

- assess, adjust and confirm the AP and methodical documents;
- provide legal and organizational support to the component in implementing the AP and introducing methodical documents;
- coordinate training activity.

In his paper “Issues requiring support and assistance at national level for functioning of WUAs in the Kyrgyz Republic”, M.A. Pinkhasov told about the current situation and necessary support and assistance. The lecturer underlined that the procedures for water receipt by peasant (private) farm, metering water discharges, and payment for water services are only declared, but there is no mechanism for implementing these provisions. The legislation does not stipulate responsibility for violation of water use rules by state water management organizations, while such responsibility is stipulated for water users. The collection of value added taxes from WUA being a nonprofit organization hampers it in developing its own infrastructure, and solving social problems. The amount has highly been distorted.

The lecturer suggested introducing supplements into the Model contract for long-term rent of a land plot, Model statute of a peasant farm, the Order of submitting land plots, as well as the following provisions into legal acts on organization and functioning of WUAs:

- who should deliver water to private farms;
- how the rate of payment for water services for farmers should be determined;
- what sanctions should be fixed against violation of water use rules,
- how they should be put and claimed.

Later, S.S. Mukhamedjanov delivered a paper "From field to water outlet: raising water productivity at farmer level, problems and prospects”.

On pilot private farms, the “Integrated Water Resources Management in Fergana Valley” Project set its tasks as follows:

- identify and study problems facing private farms;
- finalize effective technological and technical solutions for water and land use at field level;
- improve water and land use productivity, and gain maximum profit from farming.

Stages of operation:

- monitoring of private farms to assess the current situation and problems in agricultural production;

- management of agricultural production by using methods developed by the regional project group;

- management of agricultural production upon reaching sustainability of the achieved results, and dissemination of experience among farmers located in the neighborhood of demonstration plots.

These were carried out on private farms:

- observations of irrigation water use and distribution, al agro-technical operations, plant growth and development;
- soil survey work, based on which field land-reclamation certificates were developed;
- monitoring of organizational and economic conditions.

Following the observations, the main factors reducing the efficiency of agricultural production that are typical for the most of private farms were identified.

- unstable irrigation water supply by canals;
- increased irrigation depths;
- incorrectly selected schemes and parameters for irrigation technique;
- untimely pest and disease control;
- lack of application of necessary fertilizers;
- poor tillage;
- low resource availability;
- low level of farmers in legal and financial aspects.

Problems in agricultural production by private farms:

- in receiving credit;
- in gaining seeds, chemical protection means, fertilizers, fuels and lubricants;
- in leasing agricultural machinery;
- in selling harvest;
- lack of knowledge about technical, economic and legal aspects of agricultural production;
- lack of half-hard machinery for ploughing; harrowing, applying fertilizers and chemicals.

Organizational problems:

- Tajikistan – dependence of farmers on investors, lack of resource market;
- Kyrgyzstan – small plots of land users, lack of resource and product market impede development of farmers and agriculture as a whole;
- Uzbekistan – presence of an imperfect system of agricultural product procurement and evaluation for end product.

Conclusions:

1. Experience and achievements of the project attracted the attention of a great number of farmers.
2. Farmers need in consultations:

- on effectively carrying out irrigations;
- on carrying out agro-engineering measures, disease and pest control, applying mineral fertilizers;
- on legal, economic issues;
- on marketing, financial services;

3. Coverage of a greater number of farmers in project experience dissemination requires promoting Extension Services;

Action plan for the near future:

- prepare simplified guidelines for effective irrigation water use and agro-engineering measures for RAS specialists and farmers;

- train and prepare RAS specialists to apply methods for effectively using irrigation water and improving its productivity;

- develop demonstration plots for farmers by using advanced technologies and know-how.

Then, staff members of the IWRM-Fergana Project Osh Office spoke.

In his speech, Chief of the Aravan-Ak-Bura Canal Management Organization (AABCMO) A. Toychuyev noted the bases for formation of institutional structures during the transition to IWRM. One of the principles of the concept for changing pilot canal management into integrated water resources management (IWRM) is to transit from governmental management to community-governmental management. The mentioned transition implies, first of all, involvement of direct water users, other stakeholders and the general public (legal and public entities) in canal management.

Pilot canal management restructuring and organizational construction should be based on a combination of productive water use and water requirements “bottom-up” and certain administrative impacts, regulating tendencies and restrictions “top-down”.

At the initial stage of the IWRM-Fergana Project, a number of activities were carried out in Osh province:

- determination of pilot Aravan-Ak-Bura Canal;

- determination of pilot WUA (Water User Association);

- determination of demonstration plots in different water duty zones in terms of irrigation by the pilot canal.

The Aravan-Ak-Bura Canal Management Organization (AABCMO) is one of the departments of the Osh Basin Water Management Organization (BWMO).

The main objective the AABCMO is to operate Aravan-Ak-Bura canal and its system. Aravan-Ak-Bura is a main canal and flows through Osh town, Karasu and Aravan districts.

After the establishment of Aravan-Ak-Bura Canal Management Organization (AABCMO), the immediacy and stability of water supply raised, water resources accounting and control over their distribution improved, and conflict situations reduced to the minimum.

This year as the previous years, water shortage in Aravan-Sai river in Aravan district has stably been covered through transit discharge bypass over the Aravan-Ak-Bura canal. Furthermore, the IWRM-Fergana Project provides for automation of hydraulic structures, balancing gauging stations, and a control station.

In his speech, Chairman of the Union of Water User Associations along Aravan-Ak-Bura Canal N. Ergashev stated that according to the IWRM concept adopted under the IWRM-Fergana Project, public participation in water use management at pilot canal level is implemented through establishing Canal Water Committees (CWCs), which together with Canal Management Organizations should introduce IWRM principles. Under the project, considerable preparatory and mobilization work was done among water users, which was completed at the end of 2003 by holding foundation meetings for Aravan-Ak-Bura Canal Water Committee.

CWC is a self-regulating body, and will be improved in legal, professional and organizational perspectives as experience accumulates. For CWC to become a really effective water users organization, it is necessary to adhere to the following principles: democracy, rotation, succession.

On 26 January 2005, the CWC was renamed as Union of Water User Associations along Aravan-Ak-Bura Canal (UWUA AABC), and passed legal registration.

At present, partner relations are being established between the AABCMO and UWUA AAC. For example, one can note that one of the important objectives of the UWUA AAC is to increase collection rate for water bills of the canal management organization, influencing water users.

At water user meetings in a number of WUAs, a decision has already been made on providing financial support to UWUA AAC and backing an idea of transforming CWC into legal entity.

In 2004, conflicts between the AABCMO and water users over water distribution at canal level practically stopped. The surveys of specialists show that it is mainly connected with reforms conducted under the project. However, one cannot leave out that conflicts arise in lower water availability during year.

Later, Director of the ICWC Training Center (TC) branch in Osh city A.K. Kidikeyev spoke: for the reporting period since 2002 the ICWC Training Center branch in Osh city has held 72 seminars, of which 13 at international level on various problem aspects and themes on dissemination of integrated water resources management in the Fergana Valley.

The main themes for discussions at the seminars were:

- "Conceptual suggestions for the IWRM-Fergana Project;
- deciding and training seminar on field observations of water productivity "Lands at the level of private and peasant farms in pilot sites";
- seminar on the analysis of water conflicts in Fergana Valley;
- seminar on the improvement of the legal regulations in force on water resources with account of the implementation of recommendations in pilot sites in Osh province as well as legal aspects of the development of WUAs in Osh province.

The establishment of this Training Center in Osh city facilitated continuation of activities under the IWRM-Fergana Project and accelerated introduction of advanced methods for scientific-practical research on rational water resources use in the Fergana Valley.

It is necessary to note an active participation of not only specialists in water projects, but also other specialists in the environment from Kyrgyzstan, Uzbekistan and Tajikistan in activities of the branch.

The further operation of the Training Center branch in Osh city will contribute to solving many environmental problems related, first of all, to water studies, and spread of the IWRM-Fergana Project, which will play a positive role in solving global issues related to the Aral Sea.

WMI representative I. Saibjanov told that over the reporting period for fulfilling the task set under "IWRM-Fergana" Project Phase 3, the IWMI field team worked in three directions:

- the 1st group worked on intensifying the operation of the UWUA AAC and AABCMO;
- the 2nd group worked on strengthening WUAs located along Aravan-Ak-Bura Canal;
- the 3rd group worked on providing support to farmers below WUA level.

CENTRAL ASIA REGIONAL WATER INFORMATION BASE

A regional seminar "Central Asia Regional Water Information Base" was held in the ICWC Training Center on 23 to 25 January 2006, by order of the Interstate Commission for Water Coordination in Central Asia with the financial support of the Swiss Agency for Development and Cooperation (SDC). The aim of the seminar was to introduce personnel of the provincial water management organizations to up-to-date information resources in the world, and train to use the CAWater-Info portal, CAREWIB Project Information System and ASB-mm.

At the opening ceremony, V.I. Sokolov, Deputy Director of SIC ICWC, Chairman of GWP CACENA) spoke. Vadim Sokolov welcomed the participants of the seminar and told about the aim of this event.

During the seminar, the participants listened to 16 lectures, were acquainted with international and regional experience, and discussed on-line the problems facing the provincial water management organizations in the countries in the region. At the seminar, the following lectures were delivered:

1. Significance of information and information systems in the present-day water sector - V.I. Sokolov, Deputy Director, SIC ICWC.

2. Review of water portals in the world: UNESCO, World Water, UNEP Freshwater, Water eAtlas, Aral Sea Hydrology, etc. - I.F. Beglov, SIC ICWC.

3. Introduction to the CAWater-Info portal: review of websites and opportunities - I.F. Beglov, SIC ICWC.

4. Knowledge bases on irrigation and drainage: FAO knowledge forum (referral service and advanced experience dissemination); FAO Water Database (Aquastat); system for dissemination of knowledge and information on water use and protection (WCA infoNET). Review "Knowledge bases on water and land resources use in the Aral Sea basin" – B.K. Turdybayev, SIC ICWC.

5. Submission of project proposals to the EU 6th Framework Program calls - B.K. Turdybayev, SIC ICWC.

6. Access to information on international and national law – D.R. Ziganshina.

7. What is an information system? Review of information systems – A.I. Tuchin, SIC ICWC.

8. CAREWIB Information System and its functional blocks:

- DB (Land, Water, Economy, Waterworks blocks),
- GIS (use principles, opportunities, mapping),
- interface (review of opportunities and use principles) – D.A. Sorokin, Y.M. Roshchenko, A. Kats, SIC ICWC.

9. BWO "Amudarya" Information System – O.G. Lysenko, BWO "Amudarya"

10. Instructions for use of the IS interface - D.A. Sorokin, SIC ICWC.

11. GIS: mapping - Y.M. Roshchenko, V.Y. Shakhov, SIC ICWC.

12. ASB-mm Review: Socio-Economic Model – V.G. Prikhodko, SIC ICWC.

13. ASB-mm Review: Hydrological Model – A.G. Sorokin, SIC ICWC.

14. ASB-mm Review: Panning Zone Model – A.I. Tuchin, SIC ICWC.

15. ASB-mm Review: Aral Sea and Priaralie Model - A.I. Tuchin, Y.M. Roshchenko, SIC ICWC.

16. Canal Control Automaton (SCADA) – I. Begimov, SPA SANIIRI

All the lectures are based on the practical material from the CAREWIB and other projects being implemented by SIC ICWC in Central Asia. All the examples and figures given in lectures and presentations are trustworthy. Following each lecture, active discussions between participants and lecturers took place, at which the details of different issues in the countries and region as a whole were considered as well.

Both printed and electronic versions of lectures and presentations were distributed to all the participants. In addition, the distributive material included the CAREWIB Project's presentation disk.

The participants of the seminar unanimously recognized the necessity to develop the information exchange in the region and introduce information systems not only into the activities of the ministries of water resources and provincial water departments, but also at lower level – district water departments. For that, at the first stage there is a need for continual financial, institutional and political support from governments and donors. In particular, the following suggestions were made:

1. The CAREWIB Project database should permanently be estimated and enlarged with data not only from the Uzbek Hydromet Service, but also from other hydromet services in the basin states. From this point of view, the delegation from Kazakhstan suggested to conduct data exchange and hold joint training seminars on a continual basis.

2. During the active discussions, the participants raised a question on water use plan. The Uzbek delegation stated that from year to year water use plan is simply recopied, only irrigated ar-

eas are taken into account at the most. The use of information systems will enable to improve the process of water use planning.

3. Prof. V. Dukhovny gave a simple example of applying modern communications used around the world, namely e-mail. Through e-mail, the provincial and district water management organizations, WUAs and other water agencies can send and receive data necessary for daily activities in a few seconds, while ordinary mail takes much more time, efforts, and is more expensive.

4. The participants of the seminar expressed a deep interest in organizing another special seminar on GIS. This theme is very urgent in the 21st century, because high-resolution satellite images enable to discern local landscape with a resolution up to 15 meters.

5. During the discussions, the following obstacles and barriers to introducing information systems into the region were marked out:

- absence of databases;
- insufficient financing by the government;
- absence of explanatory and agitation measures;
- shortage of equipment;
- mercantile interests of chiefs of water management organizations;
- poor legislative basis;
- insufficient scientific-methodical support for reforms.

Leading specialists from the water use divisions of water management organizations took part in this seminar. They heard presentations and lectures with keen interest.

All the participants expressed their gratitude to seminar organizers SIC ICWC and TC ICWC, sponsor SDC, and expressed their wish to organize similar events at the level of provincial and district water management organizations.

At the end of the seminar, the participants were presented certificates.

Editorial Office Address:
SIC ICWC, 11, Karasu-4, Tashkent, 700187, Republic of Uzbekistan
e-mail: info@icwc-aral.uz
Online: www.sic.icwc-aral.uz;

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