

CONTENTS

AGENDA OF HEADS OF CENTRAL ASIAN STATES MEETING ON THE ARAL SEA BASIN PROBLEMS (28-TH FEBRUARY 1997, ALMATY)	4
ALMATY DECLARATION	4
DECISION OF HEADS OF THE CENTRAL ASIAN STATES ON THE IFAS STRUCTURE REORGANIZATION	6
DECISION OF HEADS OF THE CENTRAL ASIAN STATES ON THE IFAS ACTIVITY	6
DECISION OF HEADS OF THE CENTRAL ASIAN STATES ON THE IFAS PRESIDENT RE-ELECTION	7
DECISION OF HEADS OF THE CENTRAL ASIAN STATES ON THE IFAS FUNDS FORMATION	7
DECISION OF HEADS OF THE CENTRAL ASIAN STATES ON THE WORLD BANK VICE-PRESIDENT IOHANNES FLINN'S REPORT ABOUT THE ARAL SEA PROGRAM IMPLEMENTATION	8
INFORMATION ABOUT IFAS ACTIVITY	8
UZBEKISTAN DELEGATION COMPLEMENTS TO THE INFORMATION ABOUT IFAS ACTIVITY	11
MINUTE OF 15 INTERSTATE COORDINATION WATER COMMISSION (ICWC) OF THE REPUBLIC OF KAZAKHSTAN, THE KYRGHIZ REPUBLIC, THE REPUBLIC OF TADJIKISTAN, TURKMENISTAN AND THE REPUBLIC OF UZBEKISTAN MEETING	16
ABOUT ICWC ACTIVITY SINCE APRIL TILL DECEMBER 1996	21
REFERENCE ABOUT REGIONAL PROJECTS' FINANCING ALLOCATION WITHIN THE "PROGRAM OF CONCRETE ACTIONS" ON 01.01.1997, MLN. DOLLARS USA	24
ABOUT NARYN-SYRDARYA RESERVOIRS CASCADE OPERATIONAL REGIME FORECAST FOR THE PERIOD BY 2000	29
PROGRAM OF WATER QUALITY IMPROVEMENT IN THE ARAL SEA BASIN	34
UZBEKISTAN - ICID MEMBER	36
LOW PRESSURE TUBES FABRICATION METHODS	38
IPTRID WORKSHOP MINUTE OF 10-12-ND MARCH 1997 IN MOSCOW	40

AGENDA
of Heads of Central Asian states meeting on the Aral Sea
basin problems (28-th February 1997, Almaty)

1. About IFAS activity.
(N.Nazarbayev - Republic of Kazakhstan President, IFAS President)
2. About IFAS President.
(N.Nazarbayev - Republic of Kazakhstan President, IFAS President)
3. About IFAS funds formation.
(A.Nurushev, IFAS Executive Direction Director).
4. About Interstate Council on the Aral Sea basin problems (ICAS),
IFAS and their organizations status.
(Yu. Bobko, EC ICAS First Deputy Chairman).
5. About EC ICAS Chairman candidacy.
(N.Nazarbayev - Republic of Kazakhstan President)
6. About the World Bank activity in Central Asian region (on the Aral
Sea problems solution).
(Iohannes Flinn, the World Bank Vice-President).
7. Almaty declaration signing.

ALMATY DECLARATION

We, Presidents of the brotherly states - the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tadjikistan, Turkmenistan and the Republic of Uzbekistan,

moved by the will to the independence and sovereignty of our countries and our peoples living standards increasing,

taking into account that ecological safety is one of the national security components and the most important aspect of the Central Asian states interests and priorities defense,

taking into account the Aral Sea region ecological situation's negative influence on the millions of people environment and living conditions not only in the Aral Sea basin but in other regions of the earth,

affirming our support to UN Environmental Program (Agenda 21) and our aspiration to develop and implement the common strategy of the Central; Asia sustainable development,

recognizing the ecosystem approach to transboundary water resources management, equitable and reasonable their allocation, which would not make any damage, affirmating previously taken obligations on full-scale collaboration at the international and interstate level,

expressing common opinion of our countries, which have signed the Agreement on Nuclear Weapon non-dissemination, about necessity to pronounce the Central Asia a zone which is free of nuclear weapon,

outcoming from aspiration to undertake common actions to overcome the Aral Sea basin crisis, on the meeting of 28-th February 1997 in Almaty,

DECLARED:

to pronounce 1998 year of environment protection in the Central Asian region under UN supervision,

to apply before the Semipalatinsk polygon 50-th anniversary to all interested states to support idea of proclamation the Central Asia as a zone without nuclear weapon which is free for all states to join it,

to underline the Cenral Asian states efforts which inspite of substantial economic difficulties are undertaking significant actions on the Aral Sea basin, Semipalatinsk polygon and other areas rehabilitation which were under nuclear weapon test influence,

to recognize necessary development of the integral program of ecological security including the Aral Sea problem, the Central Asian zone free of nuclear weapon creation and fight with nuclear technologies and raw materials leakage,

to apply to UN and its special agencies to pay attention to the Aral Sea basin crisis and undertake efficient measures for this region's environment protection with due regard to the Aral side population assistance,

to affirm readiness to support the international organizations and institutions in their activity on the Program of concrete actions and other regional projects implementation,

to complete together with the international organizations elaboration of the Draft Convention on the Aral Sea basin sustainable development.

For the Republic of Kazakhstan
For the Kyrghiz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

N.Nazarbayev
A.Akayev
E.Rakhmonov
S.Niyazov
I.Karimov

DECISION
of Heads of the Central Asian states
on the IFAS structure reorganization

1. To accept the Turkmenistan President S.Niyazov and the Republic of Kazakhstan President N.Nazarbayev proposal about the IFAS management structure complete reorganization.

2. To affirm the IFAS management principle framework suggested by the Republic of Kazakhstan President N.Nazarbayev.

3. To agree with suggestion to elect IFAS President for two years and EC IFAS President on the IFAS President's proposal for the same period.

Is executed in Almaty on 28-th February 1997 in one copy in Russian.

Original copy is kept in the Kazakhstan Government Archives which will send to each state signing this Decision its assured copy.

For the Republic of Kazakhstan
For the Kyrghiz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

DECISION
of Heads of the Central Asian states
on the IFAS activity

1. To affirm IFAS and its President N.Nazarbayev activity. To underline that new President N.Nazarbayev apply to the world states' heads is a very important and timely step for attraction of the world community attention to the Aral Sea tragedy and the Aral side population needs connected with ecological crisis.

2. IFAS Executive Direction, EC ICAS and other interstate institutions should be directed in their activity to use positive position of the leading world countries and international organizations (the World Bank, UNDP, GEF, etc.) to the Aral Sea tragedy for finance attraction to the ecological crisis problems' solution.

Is executed in Almaty on 28-th February 1997 in one copy in Russian.

Original copy is kept in the Kazakhstan Government Archives which will send to each state signing this Decision its assured copy.

For the Republic of Kazakhstan
For the Kyrghiz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

DECISION
of Heads of the Central Asian states
on the IFAS President re-election

Heads of the Central Asian states - IFAS founders have decided:

1. To elect The Republic of Uzbekistan President I.Karimov for IFAS President.

Is executed in Almaty on 28-th February 1997 in one copy in Russian.

Original copy is kept in the Kazakhstan Government Archives which will send to each state signing this Decision its assured copy.

For the Republic of Kazakhstan
For the Kyrghiz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

DECISION
of Heads of the Central Asian states
on the IFAS funds formation

Heads of the Central Asian states - IFAS founders have decided:

1. To accept IFAS Executive Director A.Nurushev's information about Heads of states' decision fulfillment related to membership fees.

2. Since 1998 IFAS membership fee will be determined as a budget income share: for the Republic of Kazakhstan, Turkmenistan, the Republic of Uzbekistan - 0,3%, the Kyrghiz Republic and the Republic of Tadjikistan - 0,1% in USD according to the national currency official rate.

3. IFAS founders' governments should to take into consideration their current fees and previous fees debt for 1995 and 1996 and provide annual money transfer.

Is executed in Almaty on 28-th February 1997 in one copy in Russian.

Original copy is kept in the Kazakhstan Government Archives which will send to each state signing this Decision its assured copy.

For the Republic of Kazakhstan

For the Kyrghiz Republic

For the Republic of Tadjikistan

For Turkmenistan

For the Republic of Uzbekistan

DECISION

of Heads of the Central Asian states on the World Bank Vice-President Iohannes Flinn's report about the Aral Sea Program implementation

To agree with ICAS decision of 27-th February 1997 in Almaty on the World Bank Vice-President Iohannes Flinn's report.

Is executed in Almaty on 28-th February 1997 in one copy in Russian.

Original copy is kept in the Kazakhstan Government Archives which will send to each state signing this Decision its assured copy.

For the Republic of Kazakhstan

For the Kyrghiz Republic

For the Republic of Tadjikistan

For Turkmenistan

For the Republic of Uzbekistan

INFORMATION

about IFAS activity

IFAS was founded in 1993 according to the decision of the 5 Central Asian states Heads. Its main goal is finance accumulation, coordination and financing the Aral Sea inter-regional programs, including donors' grants, multilateral assistance of the World Bank, UNDP and other international organizations.

At the moment the states-founders have not fully covered their obligations before IFAS related to money transfer for the regional problems solution.

Since 1993 till February 1997 was transferred: from Kazakhstan - 61563 th. tenghe, from Kyrghizstan - 800 th. soms, from Tadjikistan - 21303 th. tadjik rubles, from Turkmenistan - 101500 th. manats, from Uzbekistan - 56060 th. sums.

During given period the main institutional problems were solved by IFAS.

According to the IFAS Regulation the Executive Direction's 3 branches are established: in Turkmenistan - Tashauz, in Uzbekistan - Nukus, in Kazakhstan - Kzyl Orda.

According to Heads of states decision of 3-d March 1995, accepted during the meeting in Tashauz, IFAS Executive Direction staff was made international. Three states' representatives from Kyrghizstan, Tadjikistan and Uzbekistan are recruited as a consultants. There is no decision yet about Turkmenistan representative.

On the ICAS meeting of 28-th February 1997 in Almaty the Agreement "About ICAS and IFAS and their organizations status" has been considered and signed and passed to Heads of states for approval on today's meeting.

For exact distribution of functions and responsibilities between ICAS and IFAS the Memorandum of collaboration and activity coordination has been signed, where IFAS is determined as a financial institution and ICAS as executive body for the programs and projects.

IFAS financial means according to its regulation were directed to the regional programs and projects financing, which were determined and approved by ICAS, and remuneration to the regional institutions: EC ICAS, IFAS Executive Direction and its branches, and since 1-st January 1997 according to IFAS Board of Directors' decision of 20-th November 1996 № 8, Commission for Sustainable Development executive bodies: Secretariat and Information Center.

In 1996 according to the ICAS decision on own expense the Program "SyrDarya channel regulation and delta development" was financed jointly with Italian "Italconsult" in amount of 1278 th. tenghe.

Taking into account that possible expenditures for the region rehabilitation could be very high (up to billions USD) and a process could be very long (a few decades) additionaly to the Plan of concrete actions, the Program of urgent assistance was elaborated by IFAS together with ICAS, which was directed to the Aral side population urgent needs. Its cost was estimated as 2 mln. USD. The program financing was executed on the

expense of IFAS (1000 th. USD; 300 th. USD - own funds, 700 th. USD - financial means allocated to IFAS and ICAS for their potential development) and 1000 th. USD on expense of the World Bank grant.

According to ICAS decision these means are allocated between the Central Asian countries as follow: Kazakhstan - 35%, Kyrghizstan - 5%, Tadjikistan - 5%, Turkmenistan - 27,5%, Uzbekistan - 27,5%.

Within the framework of this program a lot of ambulances, autowater-cisterns, filters for water cleaning, fishery nets, technical equipment for children institutions and hospitals are provided and some payment to poor families is made.

Program of Urgent Assistance to Aral side population is the first actual help which has been provided by IFAS. Financial means being allocated to the republics were equal or exceeded own republics' investments to the problem solution.

For instance, Kazakhstan transferred to the IFAS 61563 th. tenghe and got assistance of 34919 th. tenghe; Kyrghizstan, accordingly 800 th. and 792,4 th. soms; Tadjikistan - 21303th. and 29372,4 th. tadjik rubles; Turkmenistan - 101500 th. and 2240525 th. manats; Uzbekistan (Karakalpakstan) - 50060 th. and 22236,3 th. sums.

Substantial means are paid for taxes including allocated grants. For example, only under the Program of Urgent Assistance taxes were paid in amount of 6,3 mln. tenghe, including grants - 3,7 mln. tenghe.

Big job has been done by IFAS to attract financial means of foreign donors. It was one of the reasons for international conference of countries-donors in 1994 in Paris. On this conference decision has been made to finance preparatory work of the Program of concrete actions phase 1, approved by Heads of states.

This work was evaluated by countries-donors as USD 41 mln. and obligations were given for USD 31 mln. financing.

At the moment USD 14,13 mln. is allocated. USD 5,3 mln. from this sum was allocated to the government of Uzbekistan, Turkmenistan and Kazakhstan for the Program "Clean water and health".

The financial support has been done by the following countries: the Netherlands - USD 3,437 mln., Japan - USD 3,02 mln., the World Bank - USD 3 mln., Switzerland - USD 1,5 mln., European Union - USD 1,04 mln., Kuwait - USD 0,58 mln., Italy - USD 0,5 mln., GEF - USD 0,5 mln., Great Britain - USD 0,25 mln., Finland - USD 0,2 mln., Turkey - USD 0,1 mln..

At present IFAS is continuing to work with the countries-donors, IFAS President N.Nazarbayev in February 1997 applied to Heads of the world leading countries with request to consider possibility of financial support strengthening within the framework of the Aral Sea Program and the Program of Urgent Assistance.

It is being planned to discuss also actual principle of financing. At present time the countries-donors avoiding IFAS finance directly the regional programs. From our point of view it is reasonable to accumulate financial means within IFAS for provision balance of interests of all Central Asian states and for unified control on the projects quality and expenditures.

IFAS is planning to strengthen the Program of Urgent Assistance in the Aral side regions and carry out it further on a stable base. Within the program it is supposed to arise population living standard due to support of private business, population health improvement, drinking water provision, etc.

It would be reasonable to use the World Bank long-term loans for these purposes to support small and middle business in the field of agricultural production processing in the Aral side. There are some projects in KzylOrda province on a small raw materials processing, where such loans could be allocated.

Uzbekistan delegation complements to the information about IFAS activity

In general, information encompasses all aspects of IFAS activity. At the same time it is assumed that some additional explanations are necessary.

1) From expected according to the donors promises USD 31 mln. only 15,478 mln. USD were allocated to the Program of the Aral Sea basin financing by the countries-donors through the World Bank and USD 7 mln. were allocated by European Union.

On 1-st January 1997 USD 15,478 mln. was expended. Expected financial support for 1997 is USD 7 mln., through USD 20 mln. are needed for fulfilment of planned program.

USD 15,478 mln. are expended mainly for remuneration of the foreign consultants and local specialists, office equipment and computers purchase and USD 0,9 mln. for population assistance (5,8%). Description of money allocation is shown in the sheet attached.

2) The Project of Urgent Assistance (PUA) is being implemented on the World Bank President Mr. Wolfenson initiative.

First part of this Project (USD 950 th.) has been implemented on the expense of the World Bank special grant, which has been allocated for IFAS and ICAS capacity building. Second part of this project in amount of USD 1 mln. will be implemented on the expense of the World Bank grant too.

about Heads of states decision realization on IFAS means formation

IFAS accumulates its means on the expense of states-founders and attraction of international organizations and states-donors' funds.

Preliminary the fees were established in amount of 1% national income. Later, taking into account economic difficulties according to IFAS President N.Nazarbayev suggestion their amount was decreased to 0,3%.

But even in this amount financing is not executed in full volume. Only Kazakhstan, Uzbekistan and Turkmenistan paid their fees fully accordingly, 500 th. tenghe, 56060 th. sums and 76500 th. manat (in IFAS Tashauz branch). Tadjikistan paid only 8980 th. tadjik rubles (33,3%) and Kyrgyzstan - 800 th. soms (17 %).

According to Turkmenistan President S.Niyazov suggestion its payment was transferred to IFAS Tashauz branch. He insisted to expend these money only for internal problems solution. But no concrete projects were suggested. As result all these means are not still used. With a time due to devaluation real cost of this fee decreased from USD 1020 th. to USD 18,7 th. (55 times).

The Kyrgyz Republic and the Republic of Tadjikistan owe to IFAS accordingly 4000 th. soms and 18020 th. tadjik rubles. Permanent devaluation of the national currencies significantly decreased their real cost. For instance, Kyrgyz som decreased 1,7 times (fee cost decreased from USD 400 th. to USD 323,6 th.), tadjik ruble decreased 2,3 times (fee cost decreased from USD 138,615 th. to USD 59,082 th.).

There are the same problems with annual membership-fees. During 1995 the fees were paid by only 3 republics: Turkmenistan and Uzbekistan - 100%, Kazakhstan - 67%. No any decisions were made by Tadjikistan and Kyrgyzstan.

In 1996 annual fee has been transferred by Uzbekistan - 16 mln. sums (100%), Kazakhstan - 36,5 mln. tenghe (50%) and Tadjikistan - 12,3 mln. tadjik rubles (76,2%). Turkmenistan and Kyrgyzstan fees have not been determined.

In 1997 annual membership-fee is supposed by only Kazakhstan - 104,4 mln. tenghe. Tadjikistan supposes only to cover its debt for 1996 - 16,5 mln. tadjik rubles.

As experience shows, annual fee payment in national currencies is difficult to be used due to absence of national currencies convertibility. That is why IFAS proposes to determine annual fees in hard currency, for example, in USD. This principle during 40 years is used by the Mekong Commission Secretariat.

About charter and annual fees of the IFAS

**states-founders and their expense on
1-st February 1997**

Preliminary the states-founders charter fees were determined as 1% of annual national income. In accordance with the states-founders they were decreased to 0,3% and current fees to 0,006% of internal national income.

Republic of Uzbekistan through its Central Bank began to transfer money to IFAS since 1997. Total payment for the period 1994-1996 was 54020 th. sums and 1700 th. tenghe (2040 th. sums). Total was 56060 th. sums.

Kazakhstan, Kyrgyzstan and Tadjikistan transferred their money in tenghe. Turkmenistan transferred its fee to IFAS Tashauz branch.

The remaining means of the Republic of Uzbekistan 45883 th. sums are on the Central-Asian Bank account and not converted in USD and tenghe and can be used only by the Republic of Uzbekistan .

Rest 8137 th. sums was expected to:

EC ICAS staff support (1994-1996) - 7152 th. sums;

IFAS Nukus branch staff support (1996) - 985 th. sums.

For the Program 4.4 "SyrDarya channel regulation and delta development" 1278 th. tenghe were expended from IFAS means. This program is expected to be performed within the framework of the "Program of concrete actions", but its performance has not been affirmed by ICAS. IFAS has been expended these means under condition that later they would be compensated after the World Bank grant will be allocated. Under the same condition 19117 th. tenghe were expended for the Program of Urgent Assistance to the Aral side population realization.

7,1 mln. tenghe were transferred by IFAS to the Aralecobank as a charter fee. In July 1996 this bank was liquidated and transferred money have not come back to the IFAS.

SHEET
about charter and annual fees of the states-founders of IFAS
and their expenditures on 1-st February 1997

#	Items	Fees and expenditures			
		Unit	National currency	Kazakh. currency tenghe	Fees share %
I.	INCOME				
1	States-founders fees:				
	Kazakhstan	th.tenghe	-	61563	100
	Kyrghizstan	th.tenghe	-	1293	17
	Tadjikistan	th.tenghe	-	6672	33
	Turkmenistan (are allocated in IFAS Tashauz branch)	th.manats	101500	-	100
	Uzbekistan		54020	-	100
		th.sums		1700	100
2	Charity fees from	th.tenghe		1364	
3	organizations			82508	
	Income from keeping money on deposit (IFAS and grant)				
				155100	
II.	TOTAL:				
1	EXPENDITURES	th.tenghe		7100 ¹	
2	Charter fees "Aralecobank"				
	Ecological projects financing:				
	2.1) Program 4.4				
	"SyrDarya channel regulation and delta development"	th.tenghe		1278 ²	
	2.2) Program of Urgent Assistance (PUA)				
	(19 water-cisterns are purchased for KzylOrda and Tashauz provinces)	th.tenghe		19117 ²	
3	EC ICAS financial support	th.sums		7152	
4	(on expense of Uzbekistan)				
	IFAS Nukus branch financial support (on expense of Uzbekistan)	th.sums	985		
5	IFAS Tashauz branch financial support (on expense	th.manat	47780		

¹ Kazakhstan initial fee.

² These means were used as a loan and should be returned on expense of special grants in the first half of 1997.

#	Items	Fees and expenditures			
		Unit	National currency	Kazakh. currency tenghe	Fees share %
6	of Turkmenistan) IFAS KzylOrda branch financial support (on expense	s		2160	
7	of Kazakhstan) Executive Direction financial support (on expense of Kazakhstan)	th.tenghe th.tenghe		27876	
III.	TOTAL:			57531	
	REMAINDER OF MEANS				
	a) In Uzbekistan national currency	th.sums	45883		
	b) In Turkmenistan national currency	th.manat s	53720		
	c) In Kazakhstan national currency	th.tenghe		97589,0	
d) Including hard currency account	th.USD			239,9	

MINUTE of 15
Interstate Coordination Water Commission (ICWC)
of the Republic of Kazakhstan, the Kyrgyz Republic,
the Republic of Tadjikistan, Turkmenistan and
the Republic of Uzbekistan meeting

13-th December 1996

Djambyl

Participated:

T.T.Sarsenbekov	from the Republic of Kazakhstan State Committee on Water Resources Chairman
A.V.Kostyuk	from the Kyrgyz Republic First Deputy Minister for Water Management
T.A.Abdujabarov	from the Republic of Tadjikistan Deputy Minister for Reclamation and Water Management
T.A.Altiyev	from Turkmenistan Deputy Minister for Reclamation and Water Management
T.K.Kamalov	from the Republic of Uzbekistan First Deputy Minister for Agriculture and Water Management

Invited:

K.K.Kudaibergenov	from the Republic of Kazakhstan Committee on Water Resources Deputy Chairman
N.A.Alibekov	Djambyl Province Committee on Water Resources Chairman
B.K.Nuraliyev	Shu-Talas Water Basin Association Head
A.Amirkhanov	Aral-SyrDarya BWO Head
A.Kutjanov	KzylOrda Province Committee on Water Resources Chairman
Kh.P.Pulatov	South-Kazakhstan Province Committee onr Water Resources Head
T.Yu.Yusupov	from the Kyrgyz Republic Water Resources Department Head
A.E.Bekenov	SIC ICWC Kyrgyz branch Head
A.Isabekov	Shu Province Committee on Water

Resources Head

A.Kamolitdinov	from the Republic of Tadjikistan Minvodkhoz Technical Department Deputy Head
A.O.Ovezov	from Turkmenistan Minvodkhoz Main Department Head
Yu.V.Bobko	from the Republic of Uzbekistan EC ICAS Technical Director
U.K.Buranov	EC ICAS Council Member
M.Kh.Khamidov	BWO "SyrDarya" Head
Yu.V.Tolstunov	BWO "SyrDarya" Deputy Head
I.D.Kalandarov	BWO "AmuDarya" Head
K.A.Sayatov	BWO "AmuDarya" First Deputy Head
V.A.Dukhovny	SIC ICWC Director
G.A.Negmatov	ICWC Secretariat Head
Sh.G.Negmatov	ICWC Secretariat Chief specialist

Chairman: T.T.Sarsenbekov, the Republic of Kazakhstan State Committee on Water Resources Chairman.

AGENDA

1. Consideration and affirmation of water-intake limits, SyrDarya and AmuDarya water reservoirs cascades operational regime and water supply to the Aral side and Aral Sea in 1996-1997 with due regard to perennial cycle of the river basins humidity (responsible BWO "SyrDarya" and BWO "AmuDarya").
2. About relationship with international donors on the Aral Sea problem (responsible SIC ICWC).
3. ICWC Secretariat report about its activity in 1995-1996 (responsible ICWC Secretariat).
4. About the ICWC report on the ICAS meeting "About the ICWC activity since April till December 1996" (responsible SIC ICWC).
5. About the trip of water managing organizations leaders of Central Asia in Israel (responsible SIC ICWC).

ICWC members exchanging opinion have decided:

On the first item:

1. To approve BWO "SyrDarya" and BWO "AmuDarya" activity on water-intakes limits realization and approved operational regime of reservoirs cascades provision on vegetation period 1995-1996.

2. To take into account actual water-intake limits usage and operational regime of water reservoirs cascades on AmuDarya and SyrDarya since October till November 1996.

To mark insufficient water supply to the Aral Sea 1,8 cu. km on AmuDarya and 0,08 cu.km on SyrDarya in 1995-1996 hydrological year.

To agree with proposed operational regime of the water reservoirs cascade on the non-vegetation period.

3. To affirm the water-intakes limits from AmuDarya and SyrDarya in 1996-1997 including non-growing period and water supply to the Aral Sea and Aral side.

4. To accept as a base the AmuDarya and SyrDarya reservoirs' cascade operational regime on 1996-1997 with due regard to perennial cycle of the river basins' humidity. After receiving information from Glavgidromets of the Central Asian countries BWOs should correct reservoirs' operational regime on growing period and agree it with ICWC members till March 15.

To prevent water releases to Arnasay sink and flooding adjacent areas BWO "SyrDarya" must accumulate water in upper reservoirs in winter.

5. Taking into account possibility of low humidity years cycle (1997-2000) and critical situation created by energetic regime of the water reservoirs cascade ICWC members should apply to their governments with request to sign Intergovernmental Agreement about water-energetic resources usage of the SyrDarya river basin according to the Bishkek meeting of 23-24-th August 1996 minute.

On the second item:

1. To mark delay in the "Program of concrete actions" implementation due to each of financing program preparation from the local sources and international funds. To apply to EC ICAS to decide through IFAS how to finance the preparatory work according to plan approved by ICWC. To apply to EC ICAS together with SIC ICWC to look for donors on the priority directions agreed with ICWC.

2. SIC ICWC should enlight the Aral Sea problem more widely in global scale and to strengthen publications on this subject.

3. To apply through ICAS to UNDP, the World Bank and European Union which are responsible for Capacity building program to allocate money for water-related organizations strengthening, including training program for specialists of high and middle level, regional organization rigging and information systems' creation.

4. To apply to EC ICAS for preparation and admission to ICAS "Interrelations between international donors organizations and the Aral Sea basin organizations" in the "Program of concrete actions" financing.

On the third item:

1. To mark ICWC Secretariat bad work.

2. To improve ICWC Secretariat work to apply to ICAS about financing of its activity on expense of IFAS.

On the fourth item:

1. To approve main provisions of a plan prepared "About ICWC activity since April till December 1996" and draft ICWC decision.

2. To ask First Deputy Minister of Agriculture and Water Management of the Kyrghiz Republic ICWC member Mr. J.V.Bekbolotov to make presentation on the next ICWC meeting about ICWC activity since April till December 1996.

On the fifth item:

1. To approve the water-related organizations leaders' trip to Israel.

2. To agree with the main directions of collaboration and charge SIC ICWC to admit ICWC decision to Israeli Ministry of Foreign Affairs.

AGENDA

of the ICWC meeting dedicated to its 5-th anniversary

1. Report about water resources limits use in non-growing period 1996-1997 and approval of AmuDarya and SyrDarya water reservoirs cascades operational regime on growing period (responsible BWO "SyrDarya" and BWO "AmuDarya").

2. About the "Program of concrete actions fulfilment on improvement of socio-economic and ecological situation in the Aral Sea basin (responsible ICWC members, BWO "SyrDarya", BWO "AmuDarya", SIC ICWC).

3. About draft agreements on improvement of water-management organizations' activity in the Aral Sea basin (responsible SIC ICWC).

4. About perfection of the legislative documents on the Aral Sea basin water resources management (responsible SIC ICWC, BWO "SyrDarya" and BWO "AmuDarya").

ICWC meeting dedicated to its 5-th anniversary to carry out in Dushanbe on March 1997.

To charge SIC ICWC, BWO "SyrDarya" and BWO "AmuDarya" to prepare a special leaflet devoted to ICWC 5-th anniversary and proposals on its regulations and functions development.

5. About next ICWC meeting agenda.

For the Republic of Kazakhstan
For the Kyrghiz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

T.T.Sarsenbekov
A.V.Kostyuk
T.A.Abdujabarov
T.A.Altiyev
T.K.Kamalov

ICWC Protocol Decision

13-th December 1996

Djambyl

1. To charge BWO "SyrDarya" and BWO "AmuDarya" to create a commission from interested sides, EC ICAS representative, and within a month to observe Shurabad canals' viaduct across the Vakhsh river; Chubek head water-work on the Vakhsh river; to determine main works volume under Makhram pumping station operation regime of water's lifting from the Kayrakkum reservoir.

2. To apply to EC ICAS for financing of this work by IFAS.

3. Work fulfilment results to be considered at the next ICWC meeting.

For the Republic of Kazakhstan
For the Kyrgyz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

T.T.Sarsenbekov
A.V.Kostyuk
T.A.Abdujabarov
T.A.Altiyev
T.K.Kamalov

ICWC Protocol Decision

13-th December 1996

Djambyl

To recommend to SIC ICWC to submit its plan to EC ICAS in Bishkek.

For the Republic of Kazakhstan
For the Kyrgyz Republic
For the Republic of Tadjikistan
For Turkmenistan
For the Republic of Uzbekistan

T.T.Sarsenbekov
A.V.Kostyuk
T.A.Abdujabarov
T.A.Altiyev
T.K.Kamalov

**ABOUT ICWC ACTIVITY
SINCE APRIL TILL DECEMBER 1996**

During given period ICWC activity was addressed to support the basin water resources sustainable management and prospective development and the "Program of concrete actions" fulfilment.

ICWC meeting, which was held in Bishkek on August 9, 1996, underlined that water-intake limits, reservoir cascade operational regime in non-growing period 1995-1996 are fulfilled. At the same time water supply to all republics - water consumers has provided equal water distribution over the systems and water-intake limits realization. BWO "AmuDarya" is charged to identify the Tuyamuyun reservoir operational regime with due regard to water demand to the end of the year, including water supply to the Aral Sea and Aral side. Unfortunately the planned water supply to the Aral Sea and Aral side was not been achieved in 1996.

The necessity of "Agreement on water-energetic resources of Naryn-SyrDarya cascade in 1997 and mutual supply and payment for electric energy, gas and coal" was underlined. This agreement signing to the beginning of the next year is reasonable.

Worth to be noted that three-fold Interstate Council (Kazakhstan, Kyrgyzstan, Uzbekistan) acts in this direction more decisively and insistently, but EC ICAS does not pay to it necessary attention. As a result Tadzhikistan does not take part in elaboration of joint decisions on the SyrDarya basin and it can cause some interruptions in Kayrakkum reservoir operation in a unified cascade.

To observe the hydrounit state under BWOs' administration special working groups were created which have observed all structures in detail. ICWC on the base of this commission's conclusion decided to consider water-structures state as satisfactory and in shortest time to eliminate shortcomings being found, Ministers-ICWC members are charged to make possible efforts for rehabilitation works financing.

At the same time is evident that BWO "SyrDarya" has not received finance being promised and approved that does not allow to maintain, manage and rehabilitate water-intakes and others structures on the rivers.

Developing prospective works on management improvement, water resources and nature protection planning and development ICWC has completed the 1-st stage of the 1-st phase Program 1.1 and WARMAP Program.

The main results of SIC ICWC organizations are the following:

- principle provisions of the Aral Sea basin water strategy, its contents and directions, which are elaborated combining national and regional aspects on the base of consensus are developed and agreed;
- plan for main stage of Program 1.1 is prepared and agreed with the World Bank and all national institutes; TORs and works description for program 1.2 "Water resources management perfection in the interest of avoiding conflicts between energetics and irrigation" and for program 1.3 "Increase reliability of the structures, dams, reservoirs and channels of the

main water sources of the basin". Taking into consideration ICWC responsibility for all kinds transboundary waters management, principle provisions about transboundary waters classification were worked out;

- set of regional measures for water resources productivity increase is worked out. It is shown, that under high technical level of the systems and water saving water productivity 20-50% higher compared to average regional level as for full water consumption, for consumption without return can be reached. New technical-economic indices of water resources management efficiency on the economy branches (irrigation and energetics) are identified. New approaches are prepared to water productivity determination in different branches and in irrigated farming on the base of biologic water demand of the crops;

- the set of institutional, legal and engineering solutions on water quality improvement is elaborated, including:

- rivers and tributaries pollution limits establishment and penalties for their violation;

- drainage outflow diversion management according to river water quality;

- hydroecological monitoring system establishment;

- ecological stabilization of the natural processes due to interrelations "river - irrigated lands" management at the basin level;

- drainage effluent "in-system" utilization in interconnection with ecological equilibrium achievement;

- the set of water-managerial and nature-protective measures is elaborated for decreasing Aral side desertification processes intensity, Aral Sea level and water quality stabilization;

- pricing policy is elaborated for water resources utilization in different branches of industry, agriculture and domestic use, which has a purpose to evaluate water as a resource, preparation of method for shearing expenditures in water economy between state and water consumers; mechanism of water-consumers attraction in management, proposals for economic mechanism of water resources re-allocation, water preservation and pollution prevention incentives. Principle "Polluter pays" is formulated at state and interstate level;

- principles of the information system of water resources complex use and protection in the Aral Sea basin are elaborated. The system is interstate four-level where regional level is adjusted with five national information systems at the level "irrigation system (aggregated water consumer) - farm (complex water consumer) - field". Field level is expected to be filled up with the pilot projects system, where in 34 farms of 5 states information about typical farms - water consumers is being prepared. Given system is dedicated to reliable information provision to all consumers, what is obligatory condition of the international water right;

- principles of engineering-rehabilitation measures optimization for improvement of ecological situation in upper water recharge zones.

In 1996 "Main provisions of the water strategy in the region" have been completed and official confirmation by the governments of Kazakhstan,

Kyrgyzstan, Tadjikistan, Turkmenistan and Uzbekistan on the national aspects of this strategy are received. Terms of reference on the regional and national aspects of the strategy have been prepared and addressed to the World Bank. The same TORs have been prepared for the Programs 1.2 and 1.3.

In spite of absence of financing due to close collaboration with the EU Program four agreements for necessary legal, economic and institutional documents creation within the block, describing improvement of interstate water management entities and increase of their operation sustainability have been drafted.

Moreover, the unified information system in the Aral Sea basin creation and rigging have been started. Main positions have been elaborated and agreed with national groups. Data collection as well as equipment provision and information system filling up in each Minvodkhoz, two BWOs and SIC ICWC have been started. The agreement is achieved between regional and national groups about common methodology of modelling at regional and national level.

The pilot projects' program on irrigated farming and main supply system has been elaborated, which on the base of commonly agreed principles of all 5 states includes 34 farms belonging to typical natural-meliorative conditions for all irrigated lands of Central Asia: Kazakhstan - 4, Kyrgyzstan - 6, Tadjikistan - 4, Turkmenistan - 5, Uzbekistan - 14, which are agreed by all Ministries of Agriculture and Water Management. Common system of observation, data collection, water consumption and other water and land parameters monitoring is completed, which will allow to prepare the pilot projects' TORs and address them to donors for financing.

According to the "Program of concrete actions" and taking into account fact, that main part of work is not fulfilled on expense of the donors, ICWC affirmed the plan on 1996-1998 for regional and national institutes, which allows to continue these very important researches on the expense of Minvodkhozs.

These researches are very important because the World Bank and other donors do not give money for development of ideas and alternatives, but only for ready solutions and approaches, which are elaborated on expense of ICWC. Financing SIC ICWC research on expense of IFAS will help in acceleration of the "Program of concrete actions".

ICWC affirmed main directions of SIC ICWC activity on water strategy development and WARMAP Program and decided to charge ICWC members to coordinate regional and national groups activity and give them necessary assistance.

Preliminary report on regional water strategy is submitted to ICAS for consideration and approval. This report is disseminated by EC ICAS to all governments.

BWO "SyrDarya" has started work on river water quality monitoring organizing through permanent sampling.

REFERENCE
about regional projects' financing allocation within the
"Program of concrete actions" on 01.01.1997, mln. dollars USA

Project number and title	Project importance (regional or national), countries-borrowers	Project executors, who used financing		Country -donor	Amount of means USD	Expected financing in 1997
		Foreign	Local			
1.1 Water allocation, rational water use and water resources protection in the Aral Sea basin	Regional. Kazakhstan Kyrghizstan Tadjikistan Turkmenistan Uzbekistan	World Bank	SIC ICWC, Kyrghizgiprovod-khoz, TadjikNIIGiM, Turkmengiprovod-khoz, Uzvodproekt	The Netherlands	0,387	0,013
1.2 Existing water reservoirs efficiency increase for irrigation and energetics	Regional. Kazakhstan Kyrghizstan Tadjikistan Turkmenistan Uzbekistan	Project has not been started. TOR is prepared by SIC ICWC and "Energy"		World Bank's special grant	0,004	-
1.3 Dams and reservoirs sustainability	The same	The same		-	-	
2.1 Regional unified system of hydrometeorologic information, account and forecast of water resources and environment monitoring in the Aral Sea basin (Hydromet-service)	Regional. Kazakhstan Kyrghizstan Tadjikistan Turkmenistan Uzbekistan	Swiss mission	Uzglavgidromet, Tadjgidromet, Turkmengidromet	Switzerland, Great Britain	0,750	1,0
2.2 SIC ICWC data base and	Regional.	Project has not been started. TOR		World Bank's	0,007	-

Project number and title	Project importance (regional or national), countries-borrowers	Project executors, who used financing		Country -donor	Amount of means USD	Expected financing in 1997
		Foreign	Local			
information system management	Kazakhstan Kyrgyzstan Tadjikistan Turkmenistan Uzbekistan	is prepared by SIC ICWC		special grant		
3.1a Water quality assessment and management	Regional. Kazakhstan Kyrgyzstan Tadjikistan Turkmenistan Uzbekistan	American TVA company	State Committee for nature protection of Uzbekistan, national experts The Netherlands	GEF	0,125	-
					0.257	-
3.1b Improvement of irrigation water quality	Regional. Kazakhstan Kyrgyzstan Tadjikistan Turkmenistan Uzbekistan	Dutch ILRI	The same	The Netherlands	0,35	
3.2 Collector-drainage network and AmuDarya right bank collectors	National. Uzbekistan	British McDonalds and Turkish Temilsu	Uzmeliovodkhoz	Japan, Netherlands	-	1,400 0,400
4.1 Wetlands creation in AmuDarya delta and on the desiccated Aral Sea bottom	National. Uzbekistan	Dutch Euroconsult	Local consultants	The Netherlands	1,100	-

Project number and title	Project importance (regional or national), countries-borrowers	Project executors, who used financing		Country-donor	Amount of means USD	Expected financing in 1997
		Foreign	Local			
4.2 Aral Sea northern part restoration. Northern bay	National. Kazakhstan	Project is not started		Japan, Netherlands	-	-
4.3 Environmental study in the Aral Sea basin and Aral side	Regional. Kazakhstan Turkmenistan Uzbekistan	Project is not started. TOR is prepared by SIC ICWC		World Bank's special grant	0,004	-
4.4 SyrDarya river bed clearing downstream Chardara water reservoir. SyrDarya delta arrangement	National. Kazakhstan	Italian	Kazgiprovodkhoz	World Bank's special grant Italy	0,034	-
		Italconsult			0,520	-
5.1 Clean water and health, Uzbekistan	National. Uzbekistan	British Binnie and partners	Goskomprognoz-stat Uzbekistan	Japan Kuwait Germany World Bank loan	0,69 0,8 0,8 0,15	0,11 - 0,7 2,0
5.2 Clean water and sanitation, Turkmenistan	National. Turkmenistan	Britain Alexander GIBB	Turkmengiprovodkhoz	Japan	0,406	0,406
5.3 Clean water and sanitation, Kazakhstan	National. Kazakhstan	Britain Alexander GIBB	Kazgiprovodkhoz	Kuwait	0.200	1.000
6. To carry out water-related and	Regional.	World Bank	SPA SANIIRI	World Bank's		

Project number and title	Project importance (regional or national), countries-borrowers	Project executors, who used financing		Country-donor	Amount of means USD	Expected financing in 1997
		Foreign	Local			
concrete measures to rehabilitate situation in upper watersheds	Uzbekistan, Kyrghizstan		KyrghizNIIGiM TadjikNIIGiM	special grant	0,006	-
				Finland	0,200	-
				Turkey	0,100	-
7. Automated system of AmuDarya and SyrDarya basin water resources management	Regional. Kazakhstan Kyrghizstan Tadjikistan Turkmenistan Uzbekistan	Canadian UMA	SIC ICWC BWO "SyrDarya" BWO "AmuDarya" Ministries of Water Management of Kazakhstan, Kyrghizstan, Tadjikistan, Turkmenistan, Uzbekistan	World Bank's special grant Canada	0,005 -	- 2,218
8 Regional programs support and interstate organizations technical rigging	Regional.	World Bank	EC ICAS IFAS Direction	World Bank's	0,760	0,390
				special grant	0,832	0,268
9 Project of Urgent Assistance	Regional. Kazakhstan	World Bank		ICAS and	0,891 ³	

Project number and title	Project importance (regional or national), countries-borrowers	Project executors, who used financing		Country-donor	Amount of means USD	Expected financing in 1997
		Foreign	Local			
aimed to urgent needs solution in Aral side zone of disaster	Kyrghizstan Tadjikistan Turkmenistan Uzbekistan			IFAS special grant World Bank's special grant		1,034 ⁴
WARMAP Program. Improvement of water and land resources management in the Aral Sea basin: - agreements preparation; - information system establishment; - water productivity system; - technical-economic background for 10 pilot projects.	Regional. Kazakhstan Kyrghizstan Tadjikistan Turkmenistan Uzbekistan	Italian	EC ICAS	EU	2,34	-
		Aquater, German Ground wasser	SIC ICWC, Kazgiprovodkhoz. Kyrghizgiprovodkhoz, Turkmen-giprovodkhoz, TadjikNIIGiM, Uzvodproekt	EU	3,76	0,95
TOTAL:					15,478	11,889

⁴ From given sum Uzbekistan share was in 1996 - USD 240 th., in 1997 - USD.303,6 th.

**ABOUT NARYN-SYRDARYA RESERVOIRS
CASCADE OPERATIONAL REGIME FORECAST
FOR THE PERIOD BY 2000**

Naryn-SyrDarya water reservoirs cascade's operational regime is determined by inflow amount to the reservoirs of long-term regulation: Toktogul, Andijan, Charvak, lateral inflow to different sites of the river and water requirements. Significant disadvantage of cascade which decreases its efficiency is absence of information about SyrDarya basin water resources for future. Long-term forecast of cascade regime which is based on the long-term water-resources availability for the same period, will allow to increase reliability of the reservoirs of long-term regulation management, to spend water rationally and decrease water losses. Importance of this approach became evident during last dry year 1995 which was unexpected only because of such forecast absence. That is why in January 1996 in Chardjou at the ICWC meeting decision was made to carry out forecast calculations for the cascade operation in irrigation regime on 1996-2000 for assessment of reliability of water-related economy in the Aral Sea basin.

All alternatives were based on the following positions:

- restrictions on Naryn-SyrDarya reservoirs cascade operation: common and passport restrictions, when filling has not to exceed full volume and dead volume practically is not used; additional or special restrictions, when, for example, is necessary to provide pumping stations functioning, pumping water directly from Kairakkum reservoir, etc.;

- water resources (natural inflow to upper reservoirs and lateral inflow to SyrDarya and its tributaries) are determined together with Uzglavgidromet specialists;

- water-intakes are determined according to the limits which are affirmed by ICWC annually and are practically stable for last 5-6 years.

Naryn-SyrDarya cascade operational irrigation regime coincident with natural SyrDarya river hydrological cycle, was supposed in special note "Identified scheme of SyrDarya river basin water resources use and protection"; to meet irrigated lands demand in water charge and leaching and channel reservoirs filling out in winter. It was also taken into account average long-term inflow to Chardara reservoir in amount of 12 km³/year with permitted depletion in dry years to 10 km³ under water provision percentage - 90%.

Soviet Union collapse in 1991 and new independent states in Central Asia creation changed the cascade regime. Lack of fuel in the Kyrghiz Republic drew to increase of electric energy share and Toktogul hydropower station production on expense of load increase in autumn-winter period, when releases from Toktogul achieved 6-8 km³ with according decrease in growing period. Such shift from the project and the largest reservoir transition to energetical regime which is opposite to natural river regime, drew a long line of negative consequences.

In spite of the fact that next after this event period, especially 1992-1994, has high water supply main damage was done in winter period when due to big releases from Toktogul channel reservoirs were filled out to January and extra water was thrown to Arnasay reservoir, flooding downstream lands and influencing soil conditions in Djizak and Golodnaya steppes. In dry 1995 situation was worsening, when necessity to limit water-intake during growing period has appeared. To overcome difficulties special interstate agreements started to be established, which stated energetical resources provision as a compensation measure from Uzbekistan and Kazakhstan to Kyrgyzstan for vegetation releases from Toktogul reservoir (6500 mln. m³), which allow to meet needs of irrigated farming in the region; winter releases have to be in the limits of 7000-7500 mln. m³, but during two last years they exceeded 8000 mln. m³. Toktogul reservoir provided this regime in given period, but within next few dry years situation could change to worse and the main tasks of the forecast calculations is assessment of possible damages.

There are two options of Toktogul reservoir operational regime: irrigation, which was executed till 1992, and established in last years which can be called energetical on releases regime in non-growing period. These options were laid in the base of forecast calculations by 2000. Results obtained are shown in the table attached.

Calculations affirmed optimal character of irrigation regime of the cascade; in spite of drought all requirements of irrigated agriculture in the SyrDarya basin are covered and all reservoirs work in planned regime without any interruption. But under actual political-economic situation implementation of this project is impossible.

For energetical regime of Toktogul reservoir in autumn-winter period amount of releases is excepted equal to 8200 mln. m³ and in growing season - 6500 mln. m³.

It worth to underline that two first years water supply is almost the same and equals to 88% for 1996-1997, 87% for 1997-1998, 92% for 1998-1999 and 96% for 1999-2000. But under existing winter releases the reservoir would be empty within the first two years. If in growing period releases of 6500 mln. m³ are provided by natural inflow, in winter the amplitude of the reservoir's worked off horizon increases, that makes impossible to provide energetical releases, which gradually decrease to 7,6; 3,9 and 5 km³ in 2-nd, 3-d and 4-th calculated years. It is worth to underline that in the first two years of calculated period water supply to the Aral Sea and Aral side achieved under actual regime 6-7 km³, but without working volume in the reservoir this share will decrease to 4 km³.

Thus, the Toktogul reservoir, which is released in winter to dead volume, loses its most important function - Naryn-SyrDarya reservoirs cascade regulation. Moreover, water supply for irrigation interruptions will increase. If water deficit for the first year is 1220 mln. m³, for the third year - 2780 mln. m³ in spite of total water resources increase, because with its winter releases decrease and bigger depth of horizon in the Toktogul

reservoir the Chardara reservoir filling out in winter period became impossible. For the last calculated year deficit is least - 830 mln. m³.

This is possible result of the Toktogul reservoirs' energetical regime in dry years. As a possible option it was decided to study interim option of the Toktogul reservoir regime in winter period, when releases equal to 4,9-5 km³. Results obtained are presented in the table attached. The Toktogul reservoir volume under this option varies between 10,3 and 14 km³, what relates to water horizon in upper part - 861,8-879,3 m, which provides head necessary for energy generation 1200 th. kWt (under altitude higher than 863,00). But under the reservoir's energetical regime energy generation will decrease starting since the second calculated year and will become minimum at last.

All results are available under releases of 6500 mln. m³ in growing period, which was accepted by interstate agreements. But releases of 8100-8200 mln. m³ in winter would be executed under fulfilment of their obligations by all sides, accepted in the interstate agreements. Actually coal provision from Karaganda is going with delay and releases from the Toktogul reservoir are increasing and could achieve 8800 mln. m³ and more. In this case energy generation will fall in the second year. If agreements would not be fulfilled they will cut releases in growing period in order to keep them in winter. Calculations show that water deficit will rest under vegetation releases 3500 mln. m³ (8800 mln. m³ in non-vegetation period) and in the third calculated year the Toktogul reservoir will be empty. Thus the both branches energetics and irrigated agriculture will be in danger.

Current practice of interstate collaboration in Central Asia, under which Kazakhstan and Uzbekistan provide Kyrghizstan with coal, gas and electric energy, allows to meet requirements of irrigated agriculture in growing period, but it does not touch the Toktogul reservoir regime in winter, which is under supervision of "Kyrghizenergoholding" which interested in energy generation to meet Kyrghizstan needs. But forecast evidently shows that interruption of the Toktogul reservoir's regime is impossible especially in dry years. Above mentioned is really related to the Kairakkum reservoir in which water preserved in summer due to special regime of the Makhrum pumping station, is released in winter over filling the Chardara reservoir and forcing to throw water in the Arnasay sink.

Proposed by BWO "SyrDarya" Toktogul reservoir operational regime will allow to solve critical problems of energetics and irrigated agriculture. But the Bishkek power station and electric energy flows from Uzbekistan and Kazakhstan are limited and other sources of energy-resources, for example, from Turkmenistan, should be looked for.

The cascade regime has to be regulated according to corrected forecast of Uzglavgidromet. It was done by BWO "SyrDarya" for non-vegetation season 1996-1997. Water supply limits to the Aral Sea and Aral side from SyrDarya river are elaborated and approved on ICWC meeting in December 1996 in Djambyl. Taking into consideration forecasts by 2000 the water-intake limits have been corrected and decreased in amount of expected deficit 1220 mln. m³ or 5,7% of total volume. Working meeting of energetical and water

related economy representatives recommendations are also taken into account. This meeting was held in Bishkek 23-24-th August 1996 with participation of Kazakhstan, Kyrghizstan, Tadjikistan and Uzbekistan. For vegetation period 1997 releases from the Toktogul reservoir will be equal 6,5 km³. The condition of this regime is acceptance electric energy in amount of 1,1 bln. kWt/h by Uzbekistan and Kazakhstan from the Toktogul power station in summer and return of this energy to Kyrghizstan in autumn-winter period and by provision to Kyrghizstan gas from Uzbekistan and Karaganda coal from Kazakhstan. Water supply to the Aral Sea and Aral side is expected 5,83 km³.

It is worth to mark, that the Kayrakkum reservoir release limitation in growing season up to 1878 mln. m³ under conditions of the pumping stations operation and under dead volume of the reservoir 900 mln. m³ decreases reservoir useful volume on 1 km³, which could help to minimize expected water deficit during 3 calculated years and significantly decrease water deficit in 1998-1999.

Information is prepared
by BWO "SyrDarya"

Results of Naryn-Syrdarya reservoir cascade
operational regime forecast for 1996-2000, mln. m³

YEARS	Releases volume from Toktogul reservoir		Toktogul reservoir volume to the end of period		Water resources			Water requirements			Water supply to the Aral Sea and Aral side	Deficit
	Non-vegetation	Vegetation	Non-vegetation	Vegetation	Total	Including		Total	Including			
						Non-vegetation	Vegetation		Non-vegetation	Vegetation		
October 1, 1996			15187									
	Toktogul reservoir irrigation regime											
1996-97	2830	9408	14524	13172	28830	10528	18302	25258	4207	21051	2758	-
1997-98	2830	9408	12592	10973	28516	10302	18214	25258	4207	21051	3410	-
1998-99	2830	9408	10711	10193	28642	10223	18419	25258	4207	21051	3005	-
1999-2000	2830	9408	10004	9729	29541	10725	18816	25258	4207	21051	3991	-
	Toktogul reservoir energetical regime											
1996-97	8216	6502	9844	11397	33071	17607	15464	25258	4207	21051	6880	1220
1997-98	7558	6502	5500	6787	30338	15030	15308	25258	4207	21051	6387	1300
1998-99	3855	6502	5500	7888	26761	11248	15513	25258	4207	21051	4295	2780
1999-2000	5030	6502	5500	8131	28834	12925	15910	25258	4207	21051	4345	830
	Toktogul reservoir suggested regime											
1996-97	4908	6502	12447	14000	28070	12606	15464	25258	4207	21051	3693	1220
1997-98	4908	6502	11342	12626	27688	12380	15308	25258	4207	21051	3737	1300
1998-99	4908	6502	10289	12677	27814	12301	15513	25258	4207	21051	3658	1090
1999-2000	4908	6502	10411	13042	28713	12803	15910	25258	4207	21051	4225	830

PROGRAM of water quality improvement in the Aral Sea basin

In 1994 the World Bank supported EC ICAS with programs preparation, which have been approved by Heads of states of Uzbekistan, Kazakhstan, Kyrgyzstan, Tadjikistan and Turkmenistan in 1995.

At the second meeting on the third program, which was held 28-30-th March 1995 in Shymkent (Kazakhstan) on the World Bank request the ILRI representative Mr. Art participated. On this meeting water quality assessment management and its improvement for Uzbekistan agriculture were considered. After meeting Mr. Van Art has visited Uzgipromeliovodkhoz institute, SPA SANIIRI and Central Asian Institute for Irrigation in Tashkent.

In April 1995 the World Bank applied to ILRI to submit for consideration TOR on water quality for agriculture improvement.

The institute specialists proposed to include in the program the following issues:

- dates of recommendations;
- the second meeting minute on Program 3;
- additional information about consultants;
- list of working groups' members.

At the third meeting 16-17-th May 1995 in Tashkent Mrs. Van Art and Bosh on behalf of ILRI suggested their proposals on the technical project. On 21-st June 1995 ILRI and the World Bank have signed the contract for consultancy on Program 3. Under this contract the first stage duration 6 months and pilot project duration 3 years are supposed.

The pilot project's program has to consist of 10 subprogram including following studies:

- prepare inventory for pollution sources and assess irrigation water quality;
- evaluate surface water quality for irrigation including crops influence, salination and socio-economic aspects;
- assess possibilities of collector-drainage water desalination or treatment according to its quality requirements;
- assess possibility of collector-drainage water reuse for purposes of environment improvement using water treatment on bioplateau and inflow to the Aral Sea;
- assess possibilities of rivers and collectors self-treatment;
- assess possibilities of river water quality improvement by means of its diversion in small basins and water management perfection;
- assess possibilities of meliorative systems technical improvement by means of water discharge decrease and its quality improvement;
- design pilot projects on existing irrigation systems with consideration of water discharge decrease and its quality improvement;
- prepare proposals on introduction of a new equipment into infrastructure and find sources of financing of water pollution decrease as a result of irrigation;

- study rational and ecologically acceptable schemes on collector-drainage water use with its diversion to the Aral Sea.

Since 1 till 21 July Mr. Van Art stayed in Tashkent and actively worked. As main project coordinator Uzgipromeliovodkhoz institute was appointed. Program leader Dr. V.G.Konyukhov preliminary formed a small working group which included 3 organizations: Uzgipromeliovodkhoz, SANIIRI and Ecological Center for Water Management. This group's main task was to prepare the project first stage's plan. It has been done since 15-th July till 15-th September 1995. It was submitted under title "Measures on situation management in the SyrDarya and AmuDarya river basins and water and land resources utilization".

Since 26-th August till 29-th September 1996 Mrs. Van Art and Denecke have visited 5 republics and established contacts with 50 local experts. Each expert took part in the first project elaboration or one of ten programs preparation.

Preliminary draft report was submitted to the World Bank and ICAS 15 October 1996 and then it was passed to Uzgipromeliovodkhoz and five republics.

Since 18-th November till 15-th December Mrs. Van Art, Bosr and Vos from ILRI together with Mr. Roist from the Center (Wageningen) have visited Uzbekistan.

They supported working group for the report preparation. Moreover, they participated together with Uzgipromeliovodkhoz personnel:

- in field trips to Charwak, Djizak and Fergana valley;
- in meetings with scientists, ministries staff, agencies and foreign consultants;
- in data on water management correction;
- in preliminary report preparation;
- in data processing;
- in the republics' reports consideration;
- in preparation and execution of the 12-th December workshop in Tashkent for assistance to working groups.

Unfortunately dutch consultants could not meet local experts in Kazakhstan, Kyrghizstan, Tadjikistan and Turkmenistan, but they had opportunity to meet them during working meeting in Tashkent.

UZBEKISTAN - ICID MEMBER

In 1994 on the Uzbekistan government initiative Uzbekistan became a member of International Commission on Irrigation and Drainage (ICID). According to its regulations and status this organization is international scientific-technical, non-governmental which devoted its activity to land and water resources management improvement to provide people all over the world with food and clothes. Presently ICID has its branches in 85 countries with irrigated agriculture as a National Committees. ICID National Committee of Uzbekistan has been established by the Cabinet of Ministries Decree of 27-th April 1994 N° 247. ICID National Committee includes: institutes, ministries, universities, etc. (13 members). Current leadership is executed by UzICID Chairman and Secretary. All UzICID expenditures (membership fees, current payments) are executed on expense of Ministry of Agriculture and Water Management. With its extension its functions could be changed.

Uzbekistan became the first ICID member among the CIS countries. Ukraine was the second and Russia is ICID member after the Soviet Union.

ICID during 50 years of its existence organized and carried out 16 International Congresses on irrigation and drainage (16-th International Congress held in September 1996 in Cairo), about 30 regional scientific conferences, few decades of international workshops and special technical sessions. ICID publishes (inspite of congress and conferences proceedings) monthly "News review", quarterly "News letter", annual reports and scientific journal (twice a year), guide books, bibliography, etc. In this activity ICID is based on its national committees of ICID members-countries, NGOs and governmental organizations in these countries and other international organizations.

Uzbekistan specialists and scientists take active part in ICID activity. On 5-th ICID Congress in 1995 in Moscow big group of Uzbekistan specialists presented their reports. In September 1976 in Tashkent the first Asian regional ICID conference was held, where more than 200 scientists and specialists from Asian, African and other countries participated.

After Nukus meeting of Central Asian states' Presidents (1994), where the "Program of concrete actions on ecological situation in the Aral Sea basin improvement" has been accepted, ICID organized a special working group on the Aral Sea problems consisted of 9 famous scientists from USA, France, Japan and headed by former ICID President Mr. Shachrizalla Abdullah. The World Bank representative and Mr. V.Dukhovny also became members of this group.

This group representative take part in all international meetings dedicated to the Aral Sea problem. The group members meet once a year together with ICID International Executive Council. The main goal of this group is support and assistance in lot of projects revision and expertise

which are procured under financing of the World Bank, UNEP, UNESCO, etc. From our point of view, EC ICAS insufficiently uses its possibilities in this field. UzICID organized a group of specialists with the same scope. Cooperation between these two commissions should be established.

It would be quite useful and reasonable to organize next ICID working group meeting in Tashkent at the end of 1997 or in 1998 under supervision of EC ICAS for current problems consideration.

In 1996 UzICID regularly receives ICID publications and disseminates them among its member. Some publications have been translated in Russian. But very small staff (only 2 persons) does not permit to UzICID to work more intensively together with Water Council support and assistance of organizations-members are necessary for collaboration between RWC and UzICID.

UzICID Secretary
A.Kadirov

LOW PRESSURE TUBES FABRICATION METHODS

Concrete tubes utilization requires to overcome certain difficulties connected with concrete properties to decrease its volume under hardening and drying up. This settling can be so strong that under any obstacles such as armature sated induces high extension tensions and during long time actions leads to concrete destruction.

Settling consequences decrease is achieved, as a rule, by constructive measures, for example, by means of armature sated or vibropressure. But these measures increase a cost of tubes and cut the time of operation.

Demand for low pressure tubes (0,3-0,5 MPa) especially for drinking water supply systems is very high.

Low pressure tubes are not fabricated by industry and demand is satisfied by direct utilization of high pressure tubes of 2-nd and 3-d classes.

This problem solution can be executed by means of tube fabrication from extensive and tensioned concrete (TC).

Some methods of tensioned concrete fabrication were licensed in Germany, France, Sweden, Italy and USA.

There is a big practice in Uzbekistan in tensioned concrete constructions fabrication. Low pressure tubes from tensioned concrete can give economic effect due to economy of concrete, armature and shipment.

Tubes are fabricated after one universal technology by centrifugal hire.

Another method of these tubes fabrication is concrete tube impregnation by mastic, which fabricated by centrifugal or other method.

Special study of USA Redcon liquid carried out by SPA SANIIRI laboratory of construction materials shows that Redcon penetrating into concrete creates interrelation between concrete minerals like a gel.

SPA SANIIRI jointly with A & O Industries Inc. (USA) first in Uzbekistan started fabrication of the Redcon firm's products.

This product introduction is implementated for drinking water tanks lining with volume 1100 m³ on the oil processing plant in Kuyu-Mazar in Bukhara district.

Redcon application for drinking water structures is agreed by scientific-research institute for sanitation, hygiene and professional deseases of Uzbekistan.

Redcon test results by different institutes of Canada, India, Israel and USA showed that this product is efficient as deeply penetrating substance, which forms protective cover. Redcon is silicate product based on water.

Protective cover Redcon is non-toxic, colourless, odorless, provides long life to concrete and bricks. Laid on surface of new or old concrete, brick and has the following advantages:

- provides waterproofness under humidity, increased resistance under unfreezing;
- decreases chlorine-ion penetration, protect from corrosion of concrete and armature;

- decreases surface grinding, protects from chemicals and oils, and mould creation;

- arise resistance to sliding.

Redcon is laid on isolated surface by means of machinery or by hand.

Lining can be executed under temperature from -5°C to -40°C . It does not require to fill out fissures but fills it out itself.

It can be put on horizontal or vertical surface as well.

SPA SANIIRI tests showed that before lining concrete sample resisted to hydrostatic pressure 0,15-0,20 MPa and after lining 0,4-0,6 MPa.

Under sufficiently strong concrete structure substance Redcon makes it waterproof under pressure 8-10 atmospheres.

Low pressure tubes fabrication by means of non-pressure tubes Redcon lining is possible and provides significant economic effect.

Sh.Makhmudov, J.Djalilov

IPTRID WORKSHOP MINUTE OF 10-12-ND MARCH 1997 IN MOSCOW

Participants: A.Vidal, IPTRID Central Network, Cemagref Montpellier
I.Bondarik, IPTRID in Russia, Executive Director
E.Vorojzova, Russian IPTRID, Moscow
A.Gogolev, IPTRID in Ukraine, Odessa, Executive Director
A.Pulatov, SIC ICWC, Tashkent
V.Dukhovny, SIC ICWC, Director

1. Training for national networks of IPTRID (Russia, Ukraine, Uzbekistan) specialists on IPTRID database use and management.

Main objective of training was study for managers of national networks from former Soviet Union on use and management by IPTRID international data base on research projects in irrigation and drainage.

Teaching was carrying out on contents and functions of data base, elaborated in MS Access (use of international database Cemagref management by regional and national information, discussing of main rules) and its utilization (forms, table guiding function). Possibility of input in Russian also was considered with consequent translation in English. Some improvements were suggested related to MS Access appearance for Windows 95. A new database version will be passed to the network partners.

2. Institutional aspects. Relationship between national/regional networks and IPTRID Central Network.

Attention was dedicated to review and discussion of institutional problems between managers from the former Soviet Union and their relationship with IPTRID Central Network. Main comments and recommendations are given below.

- Russian, Ukrainian and Central Asian partners will develop their information exchange and address in HR Wallingford the articles and reports about their activity for GRID bulletin.

- Central Asia will prepare to 2 April the proposals to INTAS under supervision of ILRI (with participation of HR Wallingford and Cemagref), directed to its policy development on scientific information dissemination, including expenditures for translation (russian publications, translated in English and IPTRID database, partially translated in Russian).

- It is recommended carrying out 1-2 weeks seminar-training in one of Central Network organizations for all IPTRID national and regional managers (database on research projects, bibliography service, DRAIN database, Technical Reference) experience exchange organizing between national managers and Central Network.

- IPTRID network development particularly for information dissemination on irrigation and drainage, software and also reports and documents' copies, which evidently will not upper without the World Bank financial support.

- Participants want to find in database more information about innovative, reproductive and changeable character of the projects available (does Central Network need it and has money for it ?).

- They would like to find more technical information about different materials (it is important for national/regional networks).

- They would like to check possibility of own Web pages for national/regional networks, but within the limits of one partner of Central Network Web.

In conclusion is evident, that in spite of Internet availability in the former Soviet Union, which allows to connect through E-mail and use communication means of IPTRID network through the Web, their communications are not reliable enough. That is why better equipment for national/regional networks should be found (for example, replace local telephone lines by cellular telephones) and appropriate financing should be looked for.

Boards of Editors:

V.A.Dukhovny

A.G.Pulatov

B.K.Turdybaev

Address:

SIC ICWC,

11, Karasu-4, Tashkent,

700187, Uzbekistan

