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MAIN FUNCTIONS OF REGIONAL WATER ORGANIZATIONS. COORDINATION OF NATIONAL INTERESTS AND BASIN CONSTRAINTS. ROLE OF INTERNATIONAL ORGANIZATIONS AND DONOR COUNTRIES IN DEVELOPMENT OF REGIONAL COOPERATION.

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I. INTRODUCTION

Aral Sea basin is located in the center of Euro-Asian continent. Big distance from Atlantic and Pacific oceans determines extreme climate aridity. Dry hot summer, big amount of sunny days and almost full absence of precipitation during growing period causes necessity of irrigation. World experience for such conditions showed that agriculture – main economic sector in CAR – could exist and develop only under irrigation and water always was for population source of life and prosperity.

Questions of regional water relations, objective water allocation between water users, belonging to different states, different territorial-administrative units, located on water resources, having transboundary position were always very important for people. That is why transboundary rivers were subjects of inter-relations between the states, diplomatic weapon and sometimes source of contradictions and politic pressure leading to wars.

II. REGIONAL COLLABORATION ON WATER-RELATED QUESTIONS IN SOVIET PERIOD

Transboundary character of major rivers of the basin – AmuDarya and SyrDarya – always required regulation of regional water relations in inter-republican water allocation, coordinated actions on combat with flood and high flow, creation of regulating capacities, organized drainage water withdrawal. Development of one such regional organization in AmuDarya lower reaches, UPRADIC predecessor of BWO "AmuDarya" can serve an example of regional collaboration.

Based on parity commission in Tashkent in 1927 Department of AmuDarya deltaic irrigation systems (UPRADIC) has been established located in Urgench. It undertook irrigation and reclamation systems construction and rehabilitation. Its obligation included inter-republican water allocation on principle of objectivity. Along with irrigated lands development irrigation network developed as well. In 1940 Tash-Saka hydrostructure was constructed with capacity 202 cu. m/s. It included water intakes Shavat, Palvan, Gazavat, Yarmysh and others creating Tash-Saka system.

For water supply of consumers 350 km interstate irrigation canals, 60 hydrostructures and 110 gauging stations were operated.

In the letter of USSR Minister of Reclamation and Water Resources N. Vasiliyev to governments of CAR was stated that AmuDarya water resources practically are fully used. As a re-

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sult even in year of average humidity situation within the basin was tense. Situation was aggravated by absence of unite bodies for water resources management. Created annually operative groups on water allocation have low efficiency. Ministry intends to create in 1987 basin department on inter-republican water resources distribution subordinated directly to Ministry with transfer under its administration of main headwork.

In accordance with Communist Party Central Committee (CPCC) decision (1985) and CPCC and Soviet of Ministers of USSR of 23.10.1984 No 1 082 "About long-term program of reclamation, reclaimed lands efficiency improvement and sustainable growth of food production" SyrDarya and AmuDarya basin organizations were established on inter-republican water resources distribution and hydrostructures operation with location in Tashkent and Urgench which included Gulistan, Uchkurgan, Chardara, Chirchik, Nukus, Chardjou, Kurgan-Tyube and Urgench territorial production organizations on water resources use regulation and hydrostructure operation.

Questions of water allocation between the states of Aral Sea basin, in particular between Turkmenistan and Uzbekistan, were considered at different levels. Current flow distribution was accepted by USSR Ministry's protocol decision approved by Minister N. Vasiliyev on 03.12.1987:

• Coming from current water consumption, existing irrigated areas and taking into account specific water consumption to establish water diversion from AmuDarya river at the level of full water resources exhaustion in the following amount:

	cu. km	%
Uzbek SSR	29.6	48.2
Tajik SSR	9.5	15.4
Kyrgyz SSR	0.4	0.6
Turkmen SSR	22.0	35.8
Total	61.5	100
including Kerki gauging station		
Uzbek SSR	22.0	50.0
Turkmen SSR	22.0	50.0
Total	44.0	100

• Under year humidity higher than calculated excessive water should be accumulated in water reservoirs and under very high humidity part of water should be supplied to the river lower reaches for improvement of sanitary-epidemiological situation. Under humidity lower than calculated diversion should be proportionally cut down.

III. DEVELOPMENT OF COLLABORATION ON COORDINATION OF WATER-RELATED QUESTIONS UNDER CENTRAL ASIAN COUNTRIES INDEPENDENCE

In February 1992 in Almaty (Kazakhstan) plenipotentiary representatives of Central Asian states - leaders of water-related organizations gathered and approved "Agreement between Kazakhstan, Kyrgyzstan, Tadjikistan, Turkmenistan and Uzbekistan about collaboration in the sphere of water resources from interstate sources use and conservation joint management":

- guided by necessity of agreed and organized solution of questions related to joint management of water resources from interstate sources and further coordinated policy carrying out in interests of economics development and population living standard increase;
- based on historical unity of people living on the territories of these states, their equal rights and responsibility for water resources rational use and conservation;
- recognizing unseparable relations and inter-link of all states interests in water resources joint use based on common principles and equitable regulation of their consumption;
- considering, that only unity and joint coordination of actions will promote creation of favorable conditions for social-economic issues solution, will allow to mitigate and stabilize economic tension which arisen as a consequence of water resources exhaustion;
- respecting existing structure and principles of water allocation and basing on acting bylaws on water resources from interstate sources distribution;

have signed above agreement.

In accordance with Article 7 of this Agreement, sides have made decision to establish on principles of parity Interstate Coordination Water Commission (ICWC) on problems of water resources from interstate sources regulation, rational use and conservation including in it the leaders of water organizations with quarterly meetings.

According to Article 8 of this Agreement, ICWC is charged by the following:

- determination of water policy in the region, development of its directions with regard for needs of all economic branches, integrated and rational use of water resources, prospective program of water provision to the region and measures on its implementation;
- development and approval of water consumption limits annually in each state and the region as a whole, appropriate schedules of water resources operation, its correction according to updated forecasts depending on actual water availability and water-related situation.

Executive and inter-sectoral control bodies of ICWC basin water associations – BWO "SyrDarya" and BWO "AmuDarya" are determined, which should function on conditions that all water structures on the rivers and water sources operated by them, are property of states and considered provisionally transferred under their administration since 01.01.1992.

BWO are funded at expense of national water organizations on base of parity and sharing.

ICWC and its executive body provides:

- strict following regime of releases and water consumption limits;
- measures fulfillment on rational and economic water resources use, trespassing of sanitary releases along the trunk of all rivers and irrigation systems, supply to the Aral Sea and delta guaranteed volumes of water to improve ecological situation, water quality according to agreements achieved.

ICWC decisions on following established limits, water resources rational use and conservation are obligatory for all water consumers and water users. This agreement was signed in Almaty and came to force on 18.02.1992.

In December 1992 in Tashkent leaders of water organizations of 5 countries have signed "Provision of Interstate Coordination Water Commission in Central Asia". On January 4,

1993 in Tashkent Head of states meeting approved establishing International Fund for the Aral Sea saving (IFAS). Fund meeting to be carried out in Kzylorda, Nukus and Tashauz.

Necessity of Central Asian countries collaboration in sphere of transboundary water joint management and protection is explained by current situation on interstate rivers AmuDarya and SyrDarya due to Aral Sea desiccation and environment degradation. Recognizing danger of these processes for health and wellbeing of living here population as well as their negative impact on ecological situation in other regions taking into account necessity of uniting efforts, Presidents of states have signed on 26.03.1993 in Kzylorda "Agreement on joint actions for the Aral Sea and coastal zone problems solution, ecological rehabilitation and social-economic development of the Aral Sea region".

According to this Agreement states-participants recognized as common tasks the following:

- rational use of limited water and land resources within the Aral Sea basin with purpose of necessary social-economic development and wellbeing of all people;
- maintenance appropriate water quality in rivers, water bodies and aquifers by means of reduction and further prevention of un-treated industrial, municipal, polluted and saline collector-drainage waters releases;
- guaranteed supply to the Aral Sea water volumes allowing to support its sustainable aquatic surface at ecologically acceptable level;
- water use discipline strengthening, development of appropriate interstate legal standards and by-laws foreseeing application of principles of damage compensation.

States-founders have decided:

- establish on principle of parity Interstate Council on the Aral Sea problems and under its supervision:
- a) Permanently acting Executive Committee;
- b) Commission on social-economic development, scientific-technical and ecological collaboration (CSD);
- c) Interstate Coordination Water Commission acting in accordance with Agreement, signed on 18.02.1992 in Almaty (ICWC).

At the Head of states meeting in Kzylorda "Provision of International Fund for the Aral Sea saving" was approved.

According to this Provision IFAS had the following structure:



At the Head of states meeting in Tashkent on July 13, 1993 "Provision of Interstate Council on the Aral Sea basin problems" has been approved. According to this decision Interstate Council includes 5 representatives from each state and functions through Executive Committee and interstate commissions:

- on coordination ecological, social-economic and scientific-technical collaboration (CSD);
- on coordination of water-related activity (ICWC).



Head of states at their meeting in Nukus on January 11, 1994 have approved "Program of concrete actions on ecological situation improvement in the Aral Sea basin for the next 3-5

years" and adopted main provisions of Concept for Aral Sea problems solution with regard for social-economic development of the region. This program including 10 measures foresees as follow:

- development of common strategy of water allocation, water resources rational use and conservation and preparation on its base draft interstate legal documents and acts regulating questions of joint water use and protection from pollution with regard for social-economic development of the region;
- development and introduction of common system of water resources account and use as well as regional monitoring system and data base on environment particularly in zones of flow formation;
- development and introduction of normatives on limit of water expenses for agriculture and industrial production as well as different technological needs;
- development of principle of water quality improvement, restriction of all types of pollution, undertaking measures on redaction and further full cessation of releases to rivers and other sources and territories of neighboring countries of highly saline and polluted collector-drainage waters as well as un-treated industrial and municipal wastes;
- fulfilling measures on increase of passage capacity of SyrDarya channel and Chardara hydrounit's structures in order to provide calculated water supply to the Aral Sea;
- equipment of BWO "AmuDarya" and BWO "SyrDarya" with automatic system of water resources management with establishing information centers.

Realizing these and other measures requires regional collaboration and closely coordinated actions of correspondent bodies of states.

According to ICWC decision of 05.12.1993 SIC ICWC was established, its provision was approved in Bishkek on 09.08.1996.

BWO "AmuDarya" and BWO "SyrDarya" constitutions were approved in Ashgabat on 06.09.1992.

ICWC decided on 10.10.1993 to establish ICWC Secretariat in Khodjent (Tadjikistan).

Head of states at their meeting in Ashgabat on 28.02.1997 have decided on base of President of Turkmenistan S. Niyazov and President of Kazakhstan N. Nazarbayev proposal about IFAS management structure revision and adopted principal scheme of the Fund management, proposed by N. Nazarbayev. This structure remains without changes until now.

Water relations between Uzbekistan and Turkmenistan are being permanently discussed at different levels. Principal and most important questions are being solved at the highest level; as example can serve "Agreement between Turkmenistan and Uzbekistan about collaboration in water-related questions", signed in Chardjou (Turkmenistan) on 16.01.1996 by Presidents S. Niyazov and I. Karimov.

Guided by friendly and good-neighboring relations confirming necessity of joint water resources from interstate rivers use, refusal of economic and other methods of pressure, recognizing interrelation of water problems and responsibility for water resources rational use, paying attention to water supply to the Aral Sea, recognizing necessity of respect of mutual interests and dispute peaceful resolution, aspiring to further development and strengthening friendship and collaboration the states have agreed upon the following:

- Sides recognize that lands under water structures, transferred to Uzbekistan are property of Turkmenistan;
- Sides recognize, that all water structures and organizations of Karshi and Amu-Bukhara canals, Tuyamuyun water reservoir, located on the territory of Turkmenistan are property of Uzbekistan;
- Sides agreed upon that lands of Karshi, Amu-Bukhara canals and Tuyamuyun hydrounit and other water structures and interstate water system have been transferred on paid basis. Order and conditions of payment are determined on base of Agreement between Governments of the Sides, which in inseparable part of given Agreement and should be signed within a month after its signing;
- Sides will undertake necessity efforts for normal operation of interstate water structures located on their territory;
- Sides agreed upon that enterprises and organizations including connected with interstate water structures, located on the territory of other Side, function according to international laws and legislation of Side, on which territory they are located;
- Sides determined AmuDarya flow distribution in equal shares (50/50) and agreed to release water to the Aral Sea proportionally of their shares as well as jointly undertake measures on land reclamation improvement, interstate collectors operation and reconstruction, irrigation system operation, water ways construction;
- Sides agreed upon undertaking measures on prevention of channel deformation and flooding adjacent territories, caused by operation of Amu-Bukhara, Karshi, Sovietyab, Tashauz, Tashsaka, Klychbay and Shavat-Gazavat water systems;
- Before permanent embankments completion annual works on channel and against flashing and water logging of adjacent territories to water intakes and canals will be fulfilled;
- Sides will undertake necessary efforts against land flooding, locating along Daryalyk and Ozerny collectors going on the territory of Turkmenistan, these collectors operation and reconstruction with contribution which is proportional to drainage outflow volume;
- Sides agreed upon, according to previous agreements, starting since 1999, to stop drainage water release from both banks of the river;
- According to mutual agreement Sides will make necessary amendments in this Agreement which will be confirmed by protocols and will be inseparable part of this Agreement.

IV. INSTITUTIONAL STRUCTURE AND MAIN FUNCTIONS OF THE REGIONAL WATER-RELATED ORGANIZATIONS ON MANAGEMENT OF TRANSBOUNDARY WATER RESOURCES OF THE ARAL SEA BASIN

Main goal of ICWC establishing is approval of principles of collegiate decision-making on common water-related questions as well as measures on common program implementation on base of mutual respect of interests of sides.

Main tasks of ICWC are as follow:

• Determination of single water policy, development of its main directions with regard for population and economics branches interests, water resources rational use and conservation, programs on river basins water availability increase and measures on their implementation;

- Elaboration and approval of the limits of annual water consumption for each state on main water sources, large water reservoirs operation regime, water allocation management under conditions of actual water availability and water-related situation;
- Elaboration and implementation of ecological programs connected with the Aral Sea desiccation and water sources exhaustion, establishing annual water supply volume to the Aral Sea as well as sanitary releases over rivers and canals;
- Development of recommendations to the governments for single water pricing and possible damage compensation connected with joint management of water resources as well as on legal base of water use;
- Coordination of large water-related works and joint use of existing potential of the states;
- Creation of common information system on water resources use, irrigated lands monitoring, hydrometric provision;
- Coordination of joint research for scientific-technical grounding of regional water-related problems. ICWC while developing ecological programs attracts appropriate organizations from abroad;
- Promotion of cooperative links development in water saving, advanced methods of irrigation and irrigation technique;
- Development of joint programs on prevention and liquidation of natural disasters and accidents.

ICWC consists of the leaders of water organizations of the states.

At present its members are:

From the Republic of Kazakhstan:	Chairman of the Committee of Water Resources of the Ministry of Natural Resources A. Ramazanov
From the Kyrgyz Republic:	Deputy Minister, Director General of Water Depart- ment of MAWR B. Koshmatov
From the Republic of Tadjikistan:	Minister of Land Reclamation and Water Resources A. Nozyrov
From Turkmenistan:	Deputy Minister of MAWR, Chairman EC IFAS T. Altiyev
From the Republic of Uzbekistan:	First Deputy Minister of MAWR A. Jalalov

ICWC meetings are carried out quarterly under chairmanship of representatives of correspondent state.

ICWC creates executive bodies for realization of planned programs and provides their financing on principle of parity at expense of water organizations fees with shared participation opf each side, as well as creates special interstate investments funds for joint work financing related to water-economy development and other tasks.

ICWC provides fulfillment of its decisions for all water users and water consumers of states-founders.

BWO "AmuDarya" and BWO "SyrDarya" determine annually water supply volume to the Aral Sea. This volume can not be used for other purposes. Water conveyance to the Aral Sea

and deltas is executed under permanent control of ICWC members and is considered at each ICWC meeting.

BWO "AmuDarya" and BWO "AmuDarya" are major ICWC executive and control bodies. ICWC has the following functions:

- 1. Approves annual limits of water diversion by states from interstate water sources (with splitting for growing and non-growing periods) with regard for predicted water-related situation and established releases to the Aral Sea and deltas. Considers and makes decisions on water diversion limits correction;
- 2. Permits to BWOs operative correction of water diversion within established limits;
- 3. Considers and approves annual BWOs activity plan and financing limits for capital investments, O & M, etc.

ICWC decisions on regulation, use and conservation of water resources are obligatory for all water users regardless of their belonging and ownership.

SIC ICWC

In accordance with ICWC decision of December 5, 1993 SIC ICWC has been established. SIC ICWC status is approved at ICWC meeting on August 9, 1996 in Bishkek (Protocol No 14).

SIC ICWC consists of: SPA "SANIIRI", PKTI "Vodavtomatika", 5 leading national scientific-information centers:

- 1. Kazgiprovodkhoz
- 2. Kyrgyzgiprovodkhoz
- 3. TadjNIIGiM
- 4. Turkmengiprovodkhoz
- 5. Uzvodproekt

6 national organizations:

- 1. KazNIIVH
- 2. Kyrgyz NII irrigation
- 3. IWP of Kyrgyzstan
- 4. Tadjikgiprovodkhoz
- 5. IWP of Turkmenistan
- 6. IWP of Uzbekistan

SIC ICWC is executive body of ICWC in draft decisions preparation on water policy, water use management perfection, environment implementation, etc.

SIC ICWC grounds and prepares projects on the following directions:

- unite water policy, development of its main provisions with regard for interests of population and economic branches;
- unite program of water saving and water availability increase in the basin;

- continuation of work on scientific ground of water transfer from other basins to the Aral Sea basin;
- stabilization of channel processes on AmuDarya and SyrDarya rivers, development of measures on river banks protection;
- set of measures on water measurement and account perfection, creation of new high-effective technical means;
- scientific ground and metrological preparation of automatic management systems creation and development for BWO "AmuDarya" and BWO "AmuDarya";
- economic assessment of water protection measures;
- creation of unite information base on water resources use, water and irrigated lands monitoring.

Besides SIC ICWC is charged to fulfill the following tasks:

- 1. Development of cooperative links on introduction of water saving technologies, advanced irrigation technique, water measurement and account, irrigation systems and water use perfection including reference objects in water saving and other advanced technologies;
- 2. Provision of water organizations with information about scientific-technical achievements, modern methods, new products of ICWC members;
- 3. Organization of the regional reference information fund of the states development with information exchange;
- 4. Coordination and expertise of all international projects implemented within "Program of concrete actions ...";
- 5. Creation of joint ventures of the regional meaning;
- 6. Organization of the regional training courses for water sector's specialist.

SIC ICWC coordinates fulfillment of the plan approved by ICWC for scientific research and design works at expense of donors, accepts and approves stages completed.

SIC ICWC has own publishing base for periodic issues of collections, bulletins, scientific-information achievements, information leaflets.

States-ICWC members receive all issues free of charge.

SIC ICWC financing and its national centers is executed through MAWRs of the republics for:

- development and maintenance of information system on base of cost estimates approved by ICWC and agreed with EC IFAS at expense of contributions to the IFAS proportionally to water resources used;
- ICWC bulletins and other information materials publication in equal shares over republics;
- Prospective planning and development of scientific, design and other problems of SIC ICWC plan on base of plan approved by ICWC.

Regional Council is managerial body for SIC ICWC. It includes all organizatrions and SIC ICWC branches directors.

Regional Council is charged with:

- preparation of joint work plans submitted to ICWC approval;
- coordination of water-related problems on scientific-technical provision, development of ecological programs and measures on water resources use and conservation;
- preparation of proposals for ICWC on nomination of projects' executors funded by international organizations.

SIC ICWC Director:

- manages all Center activity during period between Regional Council meetings, represents Center's interests, concluded contracts;
- issues orders, hires staff, sets up salary and additions;
- quarterly on Regional Council meetings reports about work fulfilled.

SIC ICWC is juridical person, has stamps, bank account, own balance and property. It is located in Tashkent and subordinates to legislation of the Republic of Uzbekistan and ISC decisions about status of international bodies in the Aral Sea basin.

SIC ICWC executes economic relations with international organizations on the problems of the Aral Sea basin development, including scientific-technical collaboration, creation of joint ventures, external trade links, donors and grants attraction.

ICWC Secretariat

Permanently activity body (Secretariat) is established on October 10, 1993 by ICWC decision in Nukus. Secretariat works according to Agreement between 5 states in sphere of joint water resources use and conservation from interstate sources and Provision of ICWC. Location – Khodjent.

Secretariat is charged by:

- organization of ICWC commissions fulfillment;
- preparation jointly with BWOs of programs, measures and draft decisions to ICWC meetings;
- preparation of cost estimates for O & M and capital works for BWOs financing at expense of states-members;
- account and reporting on capital construction and O & M fulfillment;
- control over ICWC members' contributions for BWOs on O & M, capital construction, etc.;
- coordination of international links.

Secretariat can control protocol decisions fulfillment by BWOs.

SIC ICWC branches

In accordance with Provision on SIC ICWC its national branches have been established in Kazakhstan, Kyrgyzstan, Turkmenistan and Tadjikistan. Main goal of the branches is linkage of national programs with regional water strategy and programs and information exchange organization between ICWC national and regional bodies.

Branches works according to tasks assigned with involvement of MAWR, BWOs and other institutes specialists and with regard to plans and programs approved by SIC ICWC.

V. FORECAST OF COLLABORATION DEVELOPMENT IN THE REGION

At present time institutional structure strengthening on transboundary water resources management, protection and development is under progress. Agreement is being prepared for signing which gives ICWC more possibilities. Most important items of Agreement are as follow:

- ICWC session will be carried out with participation of Vice Premier Ministers (Deputy Chairman Cabinet of Ministers) supervising agriculture and water economy and representatives of Ministries of Finance, environment, power engineering, hydrometservices and major water consumers. Most important decisions will be made at the session;
- ICWC Secretariat, SIC ICWC and BWOs directors participate in the session without right of vote. Each Side may invite participants as well as observers and consultants.

Commission functions:

- Transboundary water resources management and prospective development;
- Annual water diversion limits approval from transboundary sources for the Sides, Aral Sea and coastal zone, determination of release schedules from reservoirs annually and for multiyear period;
- Protection of the regional interests of the Aral Sea and coastal zone;
- Development and implementing measures on water supply and distribution approved regime observation, on distainability on environment;
- Preparation of proposals on strategy of transboundary waters management;
- Preparation of legal documents on management, development and rational use and conservation of transboundary water resources.

Commission:

- Approves status of all ICWC organizations; accept own working groups with participation of side's experts and foreign specialists;
- To set up offices on the territory of Sides;
- Approves budget of the bodies necessary for their activity and ICWC work programs.

Amendments introduction in ICWC status will allow more effectively regulate interstate issues within the region.

Some amendments are being prepared to be introduced in SIC ICWC status:

• SIC ICWC as the ICWC regional scientific-information center includes SIC ICWC staff and national branches. It collaborates with regional and national scientific-research institutes.

SIC ICWC is headed by Managing Director appointed by Commission on base of rotation for 5 years from representatives of Sides. SIC ICWC form Regional Council, consisting of Managing Director, directors of branches and national institutes. Regional Council is headed by Managing Director and serves as consultative body for SIC ICWC and its branches. Regional Council is located in Tashkent.

SIC ICWC is responsible for collection and dissemination of information on transboundary water resources, world experience in water management and executes research related to rational use of water resources of the Aral Sea basin.

It is proposed to include in SIC ICWC functions:

- development of scientific-methodological recommendations on preparation of regional water strategy;
- development of measures on ecological situation implementation on transboundary water sources;
- scientific ground and methodological preparation of automatic management systems creation on base of BWOs;
- preparation of periodic publications and provision with information of water-related organizations;
- participation in prospective planning and design of regional structures and search for financing;
- establishing regional training center for water specialists;
- preparation of proposals to ICWC meetings on transboundary water resources forecast, planning and use;
- regional data base management and operation.

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