

SIC ICWC

INTERNATIONAL
COLLABORATION



REGIONAL
COOPERATION



INFORMATION
ACTIVITY



TRAINING CENTER
ACTIVITY

SCIENTIFIC INFORMATION CENTER OF THE INTERSTATE COMMISSION FOR WATER COORDINATION

Interstate Commission for Water Coordination (ICWC) on water resources regulation, rational use and protection was established after signing of the Agreement between Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan on February 18, 1992 in Almaty.

The Commission is a parity collective body of Central Asian States acting on the basis of equity, equality and consensus. According to the Decision by the Heads of State of March 23, 1993, ICWC was included in the International Fund for Saving the Aral Sea (IFAS) and has the status of an international organization.

Executive bodies of ICWC are River Basin Authorities (BWOs) SyrDarya and AmuDarya, Scientific-Information Center (SIC ICWC) and Secretariat.

BWOs are in charge of planning and managing water flow schedules and water re-

sources distribution, as well as direct implementation of the decisions made by ICWC relevant to water allocation, schedules of water flow and releases, water quality control. SIC ICWC is an information and analytical body, which develops methods and approaches of perspective development, improvement of water management and ecological situation in the basin.

SIC ICWC is collaborating with a network of scientific and design organizations of the five countries of Central Asia, has national branches in other four countries which, in turn, organize scientific and information exchange at the national level.

Information comes to SIC ICWC from all over the world, it is processed, translated and disseminated among all water sectors within Central Asia.



REGIONAL COOPERATION

The main objectives of SIC ICWC are as follows:

- ▶ Coordination of all joint activities in the region;
- ▶ Permanent providing information to all ICWC members about all changes in the field of water management;
- ▶ Strengthening legal base and capacity building;
- ▶ Strengthening collaboration in water resources management and use based on the up to date world experience;
- ▶ Initiating and coordination of regional projects;
- ▶ Organization of the Training Center activity.

According to the above objectives SIC ICWC together with BWOs and Secretariat arrange ICWC quarterly meetings under chair of representatives of different states. By January 2001 28 meetings were conducted.

Among the main issues considered at the meetings are the following: developing the common water management policy and its major guidelines taking into account the interests of the population and sectors of economy, rational water resources use and conservation, programs designed to increase the amount of water available in the river basins and measures ensuring their implementation; approving annual water use limits for every state regarding main water sources, operational schedules of large reservoirs; managing water allocation and its adjustment according to the actual water availability and current water management situation.

ICWC works on the ecological programs connected with the Aral Sea desiccation and water sources exhaustion, setting up annual

water supply to the Aral Sea as well as sanitary flows in rivers and canals.

At the meetings the following issues are discussed: draft interstate agreements on common water resources use, water use legal aspects, development of the common information base on water resources use, irrigated lands monitoring, hydro meteorological aspects, scientific-technical provision of the regional water systems, etc.



Regional Information Center is working on the regional information system on water resources and environmental management

As a result of the work of the conciliatory commissions composed of Central Asian states' representatives, draft agreements "About strengthening institutional structure of water resources management, development and protection in the Aral sea basin" is at present being elaborated with a view of submitting them to IFAS and ICWC for consideration.

By ICWC 30th meeting decision thematic working groups (legal, institutional, financial-economic, technical and training) have been created; main directions of their activity are approved.

In September 2001 the first meeting of legal group was held. Work plan on 7 directions is endorsed among which major direction is finalization of interstate agreements: "About formation and functioning of national and basin database on water resources complex use and protection in the Aral sea basin"; "About main principles of joint and rational use of transboundary water resources in SyrDarya basin"; "About transboundary water protection, their quality control and ecological sustainability maintenance in the region".

Local experience in WUA establishing, water legislation unification for transboundary water resources joint management, operation measures, emergency situation preventing and mitigating are being studied and disseminated.

Proposal made to invite to the Training Center courses representatives from the Ministries of Foreign Affairs and Ministries of Justice of all countries.

In November 2001 the first meeting of technical and training group was held, where issues ranking is made: Amudarya flow losses reduction; flow forecast in real time and hydrological recording improvement; modeling development.

Regional information system on water and land resources management has been created and being developed as well as the national data bases with realization in Internet. Base of reference on the Aral Sea basin water resources management has been created.

Along with scientific research, SIC ICWC together with its branches facilitates inter-branch collaboration process in the region, taking an active part in inter-branch meetings, conferences, commissions on integrated water management in the AmuDarya and SyrDarya basin in interest of power engineering, irrigation and environment.

SIC ICWC facilitates IFAS efforts in the regional integration for the Aral Sea problems solution.

SIC ICWC jointly with research and design institutes of Central Asia coordinates and arranges research within the framework of ICWC international program. This program is approved by ICWC once every two or three years, financed by Ministries of Agriculture and Water Resources and aimed at scientific grounding for the main elements of ICWC policy in development of irrigation, water saving and water resources management and use without conflicts.

At 25th ICWC meeting in Bishkek new program for 2000-2002 was approved "The problem of sustainable water resources management in the Aral Sea Basin on the threshold of XXI century" in which all institutes of the region are involved.

The following topics can be considered the most important: development of methods for rational use of water and land resources with regard to its sustainability and in connection with UN "Vision XXI" program; development of recommendations on national planning of water resources use; water-energy consortium activity; water resources integrated management; common set of mathematical models of the basin and planning zones with common interface; development of economic-mathematical models and data base for effective re-use of drainage water for irrigation in the region.

Research outputs serve as a ground for water practice perfection and were presented at the workshops and in SIC ICWC publications.



INTERNATIONAL COLLABORATION

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ICWC initiated joining the International Commission of Irrigation and Drainage by all Central Asian states and establishment within ICID a special working group on the Aral Sea Basin. ICWC participation in ICID congress in Hague in 1993 (Messrs. Giniyatullin, Dukhovny), in Cairo in 1996 (Messrs. Sarsembekov, Bekbolotov, Ashurov, Deryakuliyev, Jalalov, Dukhovny), in Spain in 1999 (Messrs. Sarsembekov, Altiyev, Jalalov, Dukhovny), in the 47th ICID Conference in Oxford in 1996, in the 49th Conference in Indonesia in 1998, in the 50th Conference in Grenada, Spain in 1999.

Study tours to developed countries are of great significance for decision-makers to gain the world experience in water management. The tours to the following countries were arranged:

- to France in 1994, funded by the World Bank;

- to Italy and Belgium in 1995, funded by the European Union;

- to USA and Canada in 1996, 1997, 1998, funded by CIDA; in 2000, funded by CIDA and USAID;

- to Spain in 1995, 1997, funded by Israel and the European Union;

- to India in 1999, funded by Indian government;

- to Pakistan in 1999, funded by SDC.

In March 2000, a big delegation of ICWC and IFAS took part in the Second World Forum in Hague, the Netherlands, where perspective global water problems were discussed. The principal goal was to find consensus between water demand for the environment, food production and human beings and the world. It is possible under the following conditions: water resources integrated management; transboundary waters management based on equality and parity for the

benefit of riparian countries and the environment; capacity building; development of the information system; water conservation and improved productivity.

At the special seminar dedicated to the Aral Sea Basin problems the regional report "Water Vision of XXI century for the Aral Sea Basin" was presented. ICWC members Messrs. A. Ramazanov, K. Beshekeyev, A. Nazirov, T. Altiyev, A. Jalalov, R. Giniyatullin, V. Dukhovny and M. Khamidov took part in the Ministerial Conference which took place during the Forum. Many contacts were established which would contribute to further collaboration.

V. Dukhovny, SIC ICWC Director and P. Umarov, SIC ICWC Deputy Director are members of the World Water Council for Water Supply and Sanitation. They actively participate in its conferences, congresses and other events.

SIC ICWC is a member of international organizations:

- ▶ TECHWARE – "Technology for Water Resources";
- ▶ World Council for Water Supply and Sanitation;
- ▶ World Water Council;
- ▶ Network of Basin Organizations – INBO;
- ▶ Global Water Partnership

V. Sokolov, SIC ICWC Deputy Director is a member of the International Water Resources Association (IWRA).

Permanent cooperation is maintained with the Embassies of the Great Britain, the Netherlands, Israel, India, Indonesia, China, USA, France and international organizations accredited in the region as well as with OSCE on water resources management, environmental aspects, etc.

SIC ICWC collaborates with UNESCO in development and implementation of the "Global Water Vision of XXI Century". SIC ICWC experts contributed to the development of the regional report "Water and Food", updated the Globesight model for analysis of development scenarios for the Aral Sea Basin.

SIC ICWC coordinates activity of scientific group of experts (SABAS) which prepares special reports on two UNESCO programs: PCCP – "From potential conflicts to cooperation potential" HELP – "Hydrology for ecology, life and policy".

Close collaboration with FAO, the World Bank, IPTRID, UNDP, EU, GWP, WWC, UN Economic Commission for Europe is being developed.

Under SIC ICWC initiative GWP Secretariat and Technical Committee support regional water partnership establishing in central Asia and Trans-Caucasus. Under Denmark government support (DANCEE) the first Regional Partnership Conference will be held in Almaty in February 2002, which will organized framework for actions for 8 countries.

SIC ICWC took part in implementation of the international programs:

- ▶ Principal Provisions of the Water Management Strategy in the Aral Sea Basin; funded by the Global Environmental Facility (GEF), 1995-1997;
- ▶ Upper Watershed Management, Project 6.1 (GEF and the World Bank), 1996;
- ▶ Water Pricing under Transition to Paid Water Use in Central Asian Republics (demonstrative project No. 11), funded by USAID, 1996;
- ▶ Agricultural Development in Uzbekistan, the World Bank, 1996-1997;
- ▶ Preparation of FAO technical paper No 15 "Irrigation in the Former Soviet Union Countries in Figures", 1997;
- ▶ Evaluation of Previous Pilot Projects on Irrigation and Drainage in Central Asia, the World Bank, 1997-1999;
- ▶ Operative Management and Control of Water Resources in the SyrDarya River Basin (Project 7, Phase 1), CIDA, 1997-1999;
- ▶ CROPWAT Model Adaptation for Assessment of Agricultural Crops Water Con-

- sumption in Central Asia, FAO, 1997-1998;
- ▶ Development of Recommendations on Cost and Incomes Distribution under Joint Interstate and Inter-Sectoral Use of Water-Power System on Transboundary Rivers, USAID, 1999-2000;
- ▶ Modeling of the Optimal Regime of the Naryn-SyrDarya Cascade Operation (EPIC Program), USAID, 1999-2000;
- ▶ Water Resources and Environmental Management in the Aral Sea Basin, Component A-2 – Participation in Water Conservation, (GEF, the World Bank), 1999-2000;
- ▶ Water Resources and Environmental Management in the Aral Sea Basin", Component E - Wetlands Restoration, "Sudochie lake" (GEF, the World Bank), 1999-2000;
- ▶ Diagnostic report on UN/SPECA project "rational and effective water resources use in Central Asia"
- ▶ Activities within WARMAP-2 Program are completed. During 5 years 8 centers of WARMIS information System were established: 3 regional (SIC ICWC, BWO SyrDarya and BWO AmuDarya) and 5 national (4 SIC ICWC branches and MAWR's Computer Center). 6 centers of WUFMAS system were established (regional in SANIIRI and 5 national centers) based on 9 farms. All centers are equipped with modern facilities and skilled personnel (the outputs are described in the report).

ISEAM project "Remote Monitoring of Agricultural Production in Uzbekistan and Kazakhstan" is close to completion. Field investigations were conducted in 5 farms in Uzbekistan and 1 farm in Kazakhstan including investigations of irrigation, ground and drainage water quality, soil salinity and crops development. The outputs will be analyzed in detail with satellite imagery together with western partners, and recommendations will be given to MAWR. Findings will be transferred to MAWR Scientific Center and equipment - to Uzbekkosmos.

Research within INTAS project "Assessment of Social-Economic Consequences of the Aral Sea Desiccation" is being implemented. Factors of natural complex degradation are defined and analyzed. Categories of social and economic damage are defined as well. Preliminary losses calculation and assessment are made. Based on obtained outcomes NATO "Science for Peace" tender has been won and work is started on the project

"Integrated water resources management for creation of wetlands in the AmuDarya delta". A brochure is prepared and sent to organizations in Central Asia and outside for comments.

UNDP project "Aral Sea Basin Development Program" aimed at creation of a model tool on the basis of interrelations between water resources, social-economic development and environment in Central Asian countries for decision-makers is being implemented. Based on this model test calculations were made for the region development forecast up to 2030 under 6 various scenarios.

Under program 7 "Water Resources Management and Control in the SyrDarya and AmuDarya River Basins, Dustlik SCADA automatic system of water management was installed, adjusted and put into operation on the Dustlik canal headworks by UMA Engineering, BWO SyrDarya and SIC ICWC with CIDA funding. The Dustlik Canal provides water for 220 ha of irrigated lands in Kazakhstan and Uzbekistan. Main dispatch office is located in Gulistan (BWO SyrDarya). System has been successfully operating since 1999. A similar locally produced "Sigma" system has been installed on the Verkhne-Chirchik hydrounit on the South-Golodnostepsky canal. It is planned to install similar unit on the Pakhtaabad canal with USAID and assistance and on the Uchkurgan hydrounit with SDC assistance. Project proposal on AmuDarya hydrostructures modernization has been prepared. Donors search is underway for its realization.

In 1999, by UNDP request Prof. V. Dukhovny prepared a report on IFAS activities and the Aral Sea Basin Program development. In 2000 the second version of this report was prepared which included the analysis of changes occurred within the period of 1999-2000. The reports were approved by EC IFAS.

In April 2000, Prof. V. Dukhovny, and Z. Jurabekov prepared 4 papers on the integrated water resources management in the Aral Sea Basin, with analysis of special features of the AmuDarya, SyrDarya and Zerafshan river basins. The papers were presented at the special World Bank seminar in Washington.

Along with above mentioned, SIC ICWC is preparing terms of reference for grant projects from the European Union (INTAS, Copernicus, TACIS), the World Bank, ADB, GEF, NATO and USAID in Central Asia.

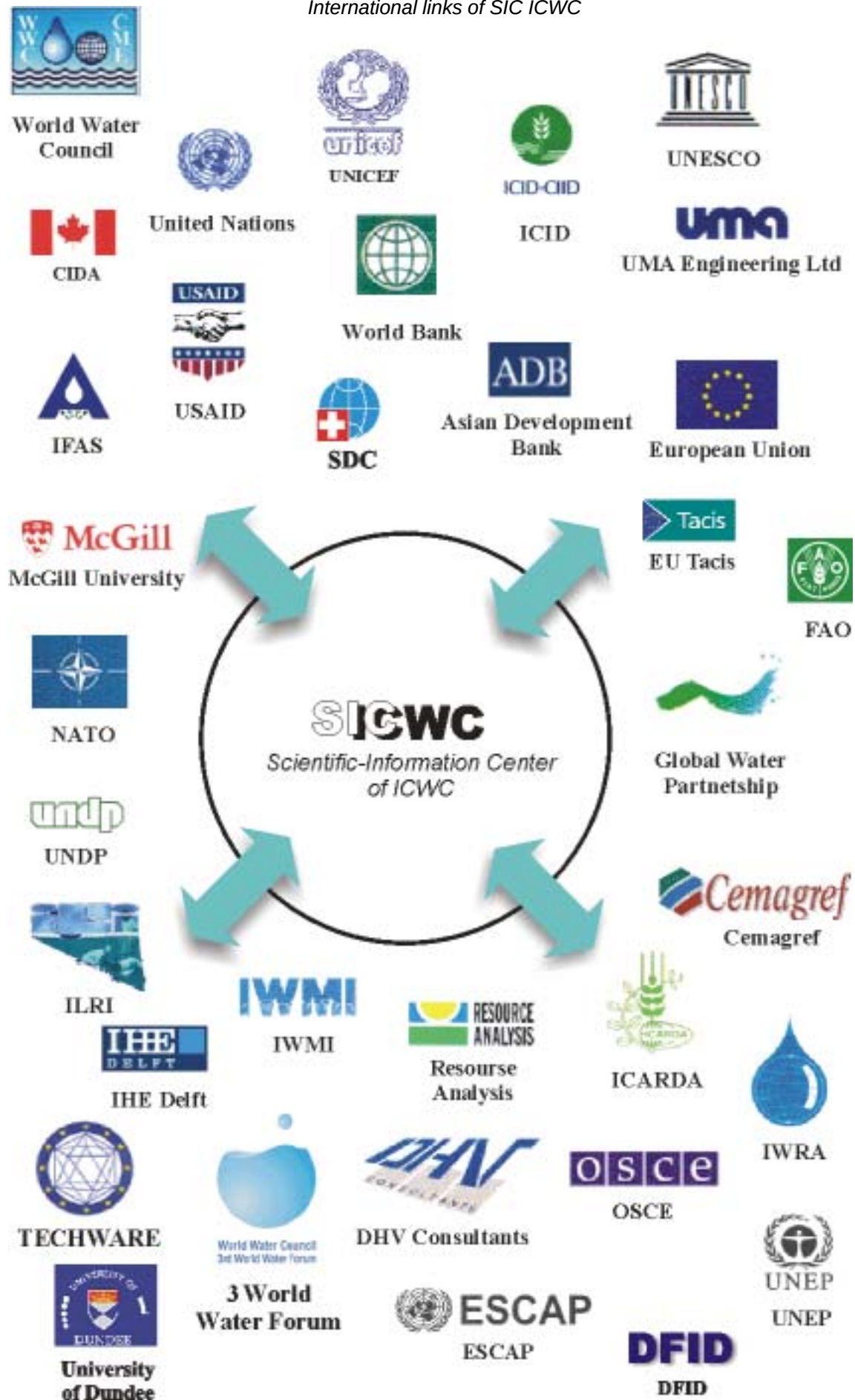
One of large projects initiated by SIC ICWC jointly with EC IFAS is the project "Water Resources and Environment Management" which costs \$22.0 mln. is now under implementation.

In 2000 Copernicus program grant was received jointly with the Lisbon Agrarian University, Portugal, for the project "Management of crop water requirements as a basis for water conservation and prevention of desertification in the Aral Sea Basin on the example of Fergana valley" (2000-2002). Institutes from Kazakhstan, Tajikistan and Uzbekistan take part in this project.

Kick-off seminars have been conducted and work started on the project "Integrated management of irrigated agriculture in Fergana valley" planned to be implemented on the territory of Kyrgyzstan, Tajikistan and Uzbekistan jointly with IWMI under SDC funding for the period of 2001-2003 and "Best practice in water conservation in AmuDarya and SyrDarya basin in Central Asia" (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, IWMI, SDC).

Technical proposals are prepared for the projects "Collector-drainage water use in the Aral Sea Basin" and "Integrated water resources management in Zerafshan valley" approved by EC IFAS. The donors for this project implementation are being searched.

International links of SIC ICWC



In November 2001 ICWC on its 31st meeting in Dushanbe has approved a program of regional cooperation strengthening to Third World Water Forum in Japan to be held in March 2003.

New forum in Japan should show ways and possibilities of transition from vision to action in integrated water resources management to provide sustainable development for nearest

25-30 years.

SIC ICWC is registered by WWF-3 Secretariat as "Water Voice" Messenger and Coordinator of Regional Virtual Forum. This will allow to invite all concerned to cooperation in this direction, develop partnership and integration in Central Asia according special program.



INFORMATION ACTIVITY

In 1993 SIC ICWC joined IPTRID network (International Program of Technology and Research in Irrigation and Drainage) established by the World Bank, ICID, UNDP and FAO and based on grid information centers:

- ▶ ICID Headquarters, Delhi, India
- ▶ FAO Headquarters, Rome, Italy
- ▶ ILRI, Wageningen, the Netherlands
- ▶ IWMI, Colombo, Sri-Lanka
- ▶ US Bureau of Reclamation
- ▶ CEMAGREF, Montpellier, France
- ▶ HR Wallingford, Wallingford, Great Britain

Besides SIC ICWC information exchange is performed by:

- ▶ IWASRI, Lahore, Pakistan
- ▶ Salinity Institute, Carnal, India
- ▶ ESCATO, Thailand
- ▶ TECHWARE, Brussels, Belgium.

Information received is processed by qualified staff and disseminated among Central Asian countries through periodical collections.

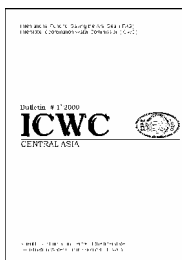


Publishing division is processing information coming from IPTRID



Visit our Web site in Internet

www.icwc-aral.uz



SIC ICWC publications:

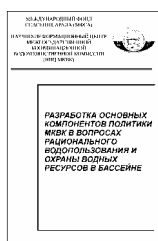
SIC ICWC bulletins are prepared and issued in Russian and English as an official quarterly ICWC publication. Total number of bulletins is 29 in Russian and 19 in English. They contain official documents and information on the actions of regional and national organizations working in the field of water resources and irrigated land management and development (agreements, protocols, official review, communiqué).

Bulletin in English is sent to 20 foreign organizations, bulletin in Russian is sent to ICWC bodies through SIC ICWC branches and MAWRs as well as by e-mail.



Reference review of foreign publications on water and land reclamation problems contain references on books and papers coming to the SIC ICWC library through IPTRID networking and other sources. Totally 14 issues have been issued.

If necessary, papers and their translations could be requested in SIC ICWC.



Five **Scientific Collections** are issued where researches of 1998-2000 results are summarized. Similar collection for 2001 is being prepared.



Monthly **Bulletin of IFAS** is issued funded by UNDP Project “Aral Sea Basin Development Program” in Russian and English, with information on IFAS activity in the region related to water resources, environment and social-economic conditions improvement. By present 50 issues of this bulletin have been prepared which were sent to 55 addresses in Russian and 34 addresses in English. The electronic version of the Bulletin can be found on the ICWC web site. Besides, Program specialists disseminated 75 copies in Russian and 37 copies in English via e-mail.

Legal collections on water law:

-  № 1 "Water laws in Central Asian countries"
-  № 2 "International water law"
-  № 3 "Constitutions and status of international organizations in the Aral Sea Basin"
-  № 4 "Water law abroad"
-  № 5 "Constitutions of Central Asian countries"
-  № 6 "Land law in Central Asia, vol. 1, Republic of Uzbekistan"
-  № 7 "International water law"
-  № 8 "Land right of Central-Asian states vol. 2: Republic of Kazakhstan, Kyrgyz Republic"
-  № 9 "International and national water right and policy"



Collections contain main water laws and legislation, regional organizations' status, water legislation of different countries all over the world.

Information collections contain most interesting information about international collaboration in water and land resources management and use.

Totally 15 issues have been made:

-  №№1, 2, 4 "Reclamation and water economy"
-  №3 "Brothers in trouble: Aral Sea Basin analogues"
-  №5 "Water is a priceless gift of nature"
-  №6 "Water use in Asia"
-  №7 "Water conservation and water protection measures"
-  №8 "Mekong river basin - example of collaboration"
-  №9 "Water sector in Great Britain and Wells: economy, privatization and pricing"
-  №10 "Water resources management in Spain - modern situation and future development"
-  №11 "Modern situation and problems in irrigation in India"
-  №12 "Water for food production in XXI century"
-  №13 "Water sector problems in Australia (Murray-Darling Basin)".
-  №14 "Water security in the world and the region"
-  №15 "Water management in USA"



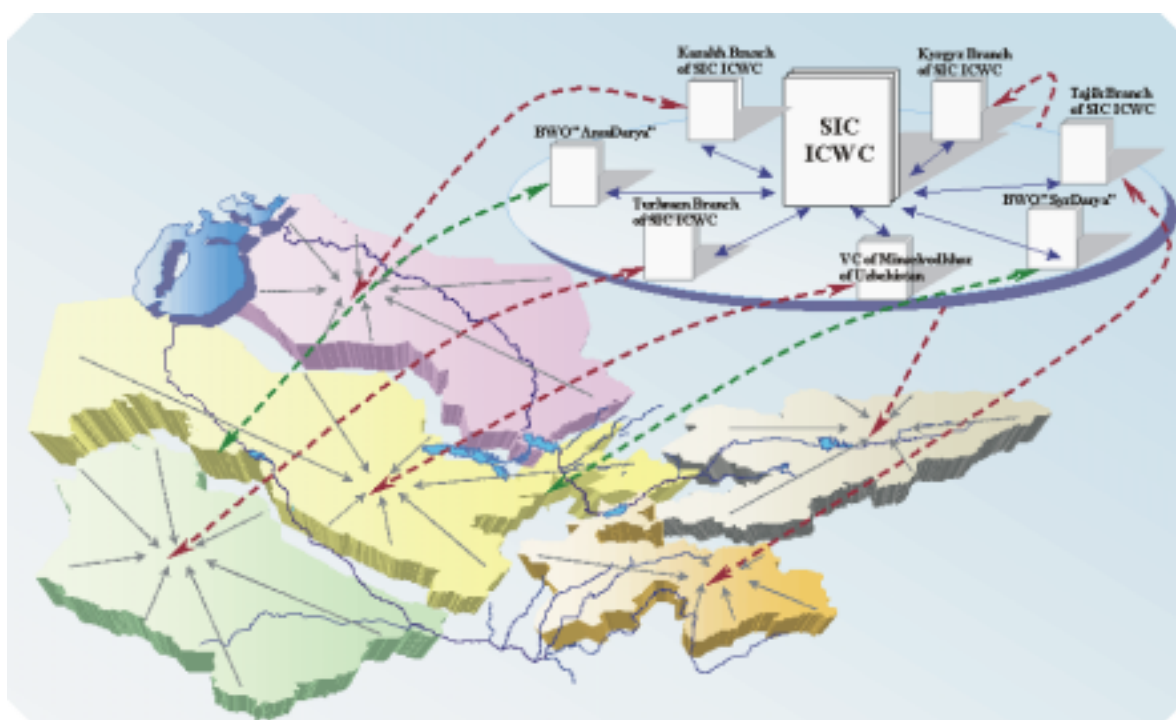
Under assistance of UNDP project "Aral Sea Basin Development Program" the **Annotated Bibliographical Guide** of literature on the Aral Sea Basin problems was issued. It includes 6 sections: general, water and land

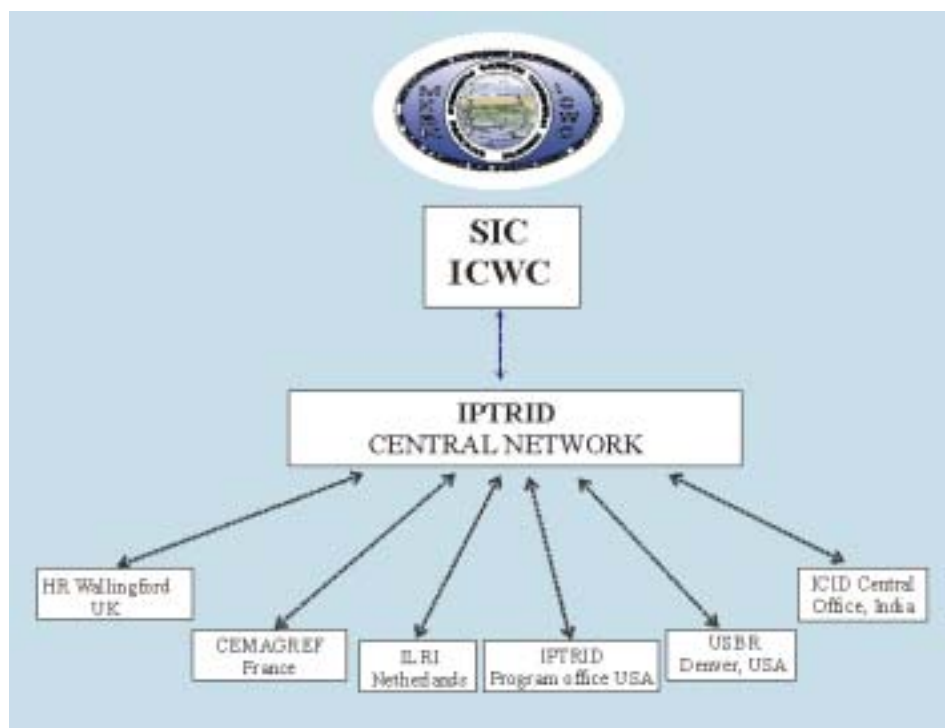
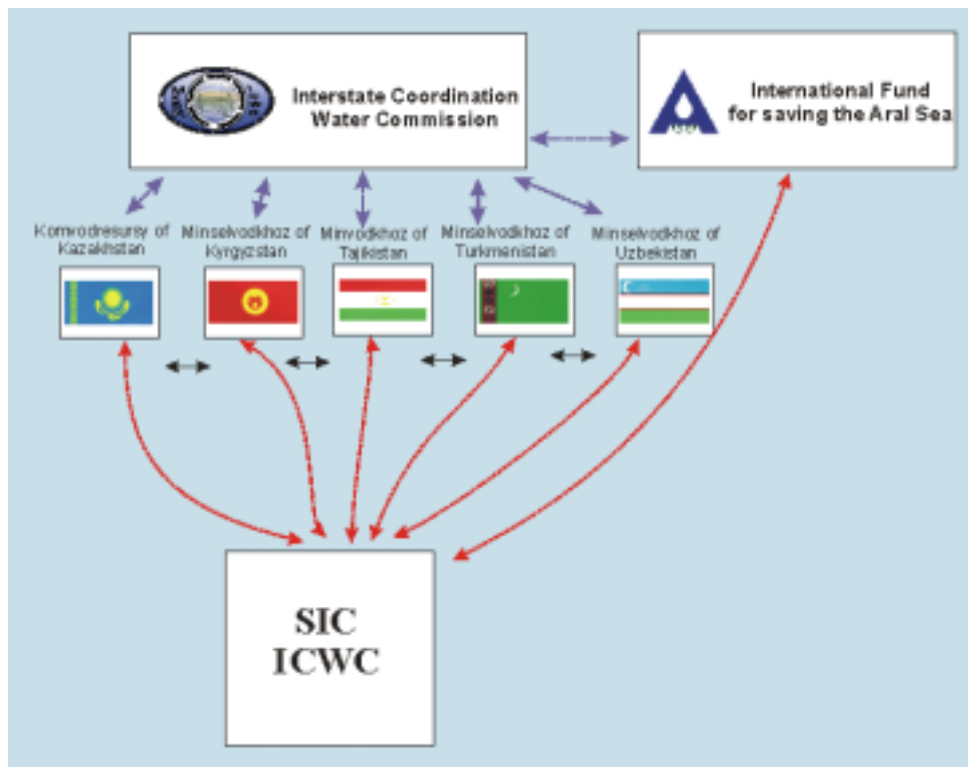
resources use, ecological problems and their solution, social-economic problems, activities of international organizations and international collaboration.

Under FAO financial support 2 FAO publications have been translated into Russian: №24 “Crop water consumption” and №56 “Crop evapotranspiration”.

Under IWMI sponsorship collection “Ways of Water Conservation” is issued including outcomes from GEF sub-component A-2 “Water resources and environment management in the Aral sea basin” and WUFMAS sub-project.

Documents to GWP meeting in Bishkek (September 2001), the project INTAS/RFBR and NATO project “Assessment of social-economic consequences of ecologic disaster-Aral sea desiccation” have been prepared and issued.







TRAINING CENTER ACTIVITY

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IC ICWC pays attention to professional training of water specialists. Based on the experience gained during international workshops held in 1997-2000 jointly with CIDA, FAO, WMO, MASHAV, ICARDA, UNESCO, IWMI, WARMAP SIC ICWC together with BWO "SyrDarya" and BWO "AmuDarya" initiated establishment of the Training Center for water sector experts of Central Asia.

By the ICWC decision the Training Center was established under CIDA sponsorship with participation of McGill University and Mount Royal College (Canada).

The principal activity of the Center is professional training of high and medium level specialists in water and land resources management, irrigation and drainage, and environment protection. Along with education it facilitates interstate collaboration in development of the common approaches among specialists and decision-makers.

The training system will help to learn the world experience and move "from vision to action" to distinguish priorities and improve the level of education through computerization, information and knowledge globalization. The Training Center will be a source of advanced technologies and research in irrigation and drainage.

The opening ceremony of the Training Center was visited by the representatives of the Central-Asian MAWRs, CIDA, McGill University, Mount Royal College, UNDP, USAID, World Bank, GEF Agency and ambassadors of several countries of the world.

The first orientation workshop took place on September 18-25, 2000. The participants were chosen from among high officials from

the water sector of the region. Training is arranged through monthly 10 days workshops for 20-30 trainees from 5 countries.

Training program includes 2 study tours to USA and Canada. The first study tour 2 weeks long was arranged for the leaders of ministries and water and agricultural departments with the objective to exchange opinions with American and Canadian specialists on transboundary water resources and agriculture management improvement and was held in November 2000. The second tour is arranged for the heads of ministry departments and regional organizations in February 2001.

Between October 30 and November 9, 2000, and between December 11 and 21, two workshops took place for provincial organizations leaders on the topic "Integrated water resources management". On January 22-31, 2001, in February 19-March 1 and March 23-31 the third, fourth and fifth workshops were held.

In March and April it is planned to arrange the workshops on the topic "Management of transboundary water resources" with participation of representatives from other sectors (power engineering, water supply, environment).

In September and November 2001 the workshops on the topic "International and national water right and policy" took place with participation of specialists from Dundee University, Great Britain under DFID sponsorship.

In December 2001 workshop "Irrigated agriculture improvement in Central Asia" was held. In February-April 2002 the three workshops on the irrigated agriculture improvement will be arranged.

It is planned to create Training Center's branches under sponsorship of international organizations. Agreement is achieved with Tajikistan MWR on branch establishing in Dushanbe under the World Bank support. This branch will be oriented on participants from Southern Tajikistan and Uzbekistan (Surhandarya and Kashkadarya oblast).

Negotiations with Kyrgyz MAWR Water Department on branch establishing in Osh under SDC sponsorship. This branch will be oriented on specialists from three countries within Ferghana valley.

Center's branch establishing in Turkmenistan is being planned as well.



Computer hall of the ICWC Training Center

For attention of the leaders of water organizations,

The ICWC Training Center can organize training for your specialists on any topic of your interest led by the experts from Central Asia, USA, Canada, The Netherlands, Israel and other countries on the commercial base.

Graduates are awarded with certificates of the established format.

Additional information can be received on Web site: www.tc.icwc-aral.uz

SIC ICWC invites to collaborate

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