



SCIENTIFIC -  
INFORMATION  
CENTER  
ICWC IN CENTRAL ASIA



According to the Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan and the Republic of Uzbekistan on Co-operation in Joint Management of the Use and Conservation of Water Resources in Interstate Sources (18 February 1992), an Interstate Commission for Water Coordination (ICWC) was established to engage with regulation, sound use, and protection of transboundary water resources. ICWC comprised of the heads of national water authorities in the five countries.

On the 5<sup>th</sup> of December 1992, ICWC during its fourth meeting made a decision to form a Scientific-

Information Center (SIC) of ICWC to deal with water-related issues as part of the Research and Manufacturing Association of the Central Asian Irrigation Research Institution (NPO SANIIRI). In 1996, SIC ICWC evolved into a standalone organization.

By the decisions of the Heads of Central Asian State of 23 March 1993 and 9 April 1999 ICWC and its executive bodies, including SIC ICWC, has become a part of the Interstate Fund for Saving the Aral Sea (IFAS) with the status of international organizations.

SIC ICWC accredited as an international organization at the Uzbek Ministry for Foreign Affairs.



## OBJECTIVES AND TASKS

SIC as an executive body of ICWC is responsible for drafting decisions concerning the future development and water policies, the more effective use and management of water resources, and environmental improvement in the Aral Sea basin.

In this context, SIC together with constituent organizations and its partners designs and develops projects for the Central Asian region in the following relevant areas: common water policy; common regional water conservation

program; improvement of environmental situation and mitigation of consequences from drying up of the Aral Sea and exhaustion of water sources; stabilization of fluvio-morphological processes in rivers; enhancement of water measurement and accounting; development of automated management systems; economic assessment of water management and protection measures; and, development of a common information base on water and land use and monitoring.

In addition, SIC is in charged of:

- developing cooperation for application of water conservation technologies and other measures to achieve better use of water;
- issuing periodical publications and providing national water-management organizations with information about scientific and technological achievements and best practices in the water sector;
- developing the regional information and reference fund;
- coordinating and carrying out an expertise of all international projects implemented to solve regional water problems in the Central Asian countries as part of

the “Program of concrete actions for environmental improvement in the Aral Sea Basin”;

- establishing joint regional partnerships;
- organizing regional training courses for water sector professional development;
- preparing, on regular basis, analytical reports on performance of water management system in Amu Darya and Syr Darya River basins; and
- promoting advanced methods for assessment of water resources and their use.

## ORGANIZATION OF ACTIVITY AND STRUCTURE



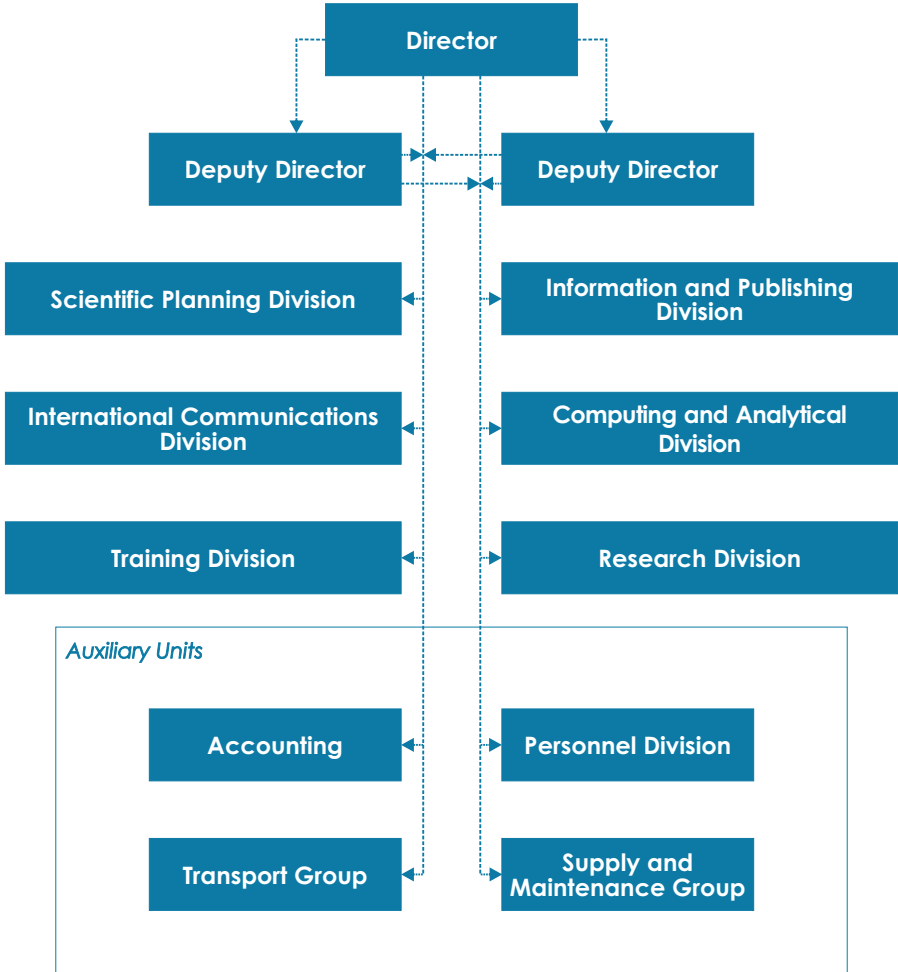
The headquarters of SIC is located in the city of Tashkent, with the branches available in Kazakhstan, Kyrgyzstan, and Tajikistan. SIC ICWC organizes its activity itself and through its branches, with the involvement of design and research institutes and other organizations from ICWC member-states.

SIC is headed by its Director appointed by ICWC decision. The Director acts with the help of the

executive office (see the structure below).

SIC is supported by its highly qualified, holding graduate degrees, and well experienced staff in the areas of water management, information technology, and data exchange and networking.

# Structure of the Scientific-Information Center of the Interstate Commission for Water Coordination in Central Asia



## PREPARATION OF ICWC MEETINGS



SIC together with other executive bodies of ICWC (BWO Amu Darya, BWO Syr Darya, Secretariat, and Coordination-Metrological Center) provides backstopping and analytical support in preparation of ICWC meetings and monitors implementation of its decisions.

SIC regularly submits to ICWC members analytical notes on the matters of particular concern and is actively involved in the design of

proposals for implementation of the “Program of concrete actions for environmental improvement in the Aral Sea Basin”.

SIC also submits project proposals aimed at enhancing the interstate cooperation in water management and use based on advanced international practices, including in legal and institutional areas.

## RESEARCH AND EXPERTISE



SIC undertakes research and works in different international, regional, and national projects to promote innovative approaches and best practices for regional water management ([cawater-info.net/projects/](http://cawater-info.net/projects/)).

The key topics of research, practice, and design work of SIC include:

- **All-round and scientifically grounded promotion of integrated water resources management (IWRM).** SIC managed to achieve better understanding and

application of theoretical grounds of IWRM as a single system integrating institutional reforms with new technical, technological, legal, and information methods and financial and economic mechanisms. This was unique for the Central Asian region and outside it (major project “Integrated Water Resources Management in the Fergana Valley”, 2001-2012, which had as a follow-up the Rural Enterprise Support Project (RESP-II), 2009-2011, and the Water Resources Management Sector Project (WRMSP), 2009-2013);

■ **Water saving and improvement of water and land productivity.** As a result of implementation, the ways to solve the problems hampering water and land productivity at plot level were identified. In addition, a mechanism was established for rapid assessments of situation in irrigated agriculture and for transfer of innovations through the communication chain among various entities that are to accumulate agronomic knowledge and water management expertise, translate them into the form, which is understandable for farmers, train trainers and ensure dissemination (Water Productivity Improvement at Plot Level Project, 2008-2012);

■ **Adaptation to climate change.** SIC proposes approaches and the modeling tool, which helps to assess climate impacts under various scenarios of water, socio-economic, agrarian, environmental, and energy development in the basin countries and with account of national development plans for irrigated agriculture and hydropower (the basis was laid in such projects as the Dialogue on Water and Climate, 2001-2002; Water Scarcity and Drought due to Climate Change Project, 2002-2005, with the follow up in the "Transboundary water management adaptation in the Amu Darya basin to climate change uncertainties", 2015-2017);

■ **Monitoring and conservation of aquatic ecosystems in the Aral Sea basin.** The categories of socio-economic direct and indirect damage were identified and

consequent losses were assessed (Project "Assessment of Socio-Economic Consequences of the Environmental Disaster – the Aral Sea Shrinkage", 2000-2001). The developed approaches to mitigation of consequences of the Aral Sea drying up included construction of artificial water bodies and optimal schemes for their location (Project "Integrated Water Resources Management for Wetlands Restoration in the Aral Sea Basin", 2000-2003). As a result of expeditions to the dried bed of the Aral Sea, measures were recommended for the reduction of environmental risk (Project "Stabilization of the desiccated Aral Sea bed in Central Asia", 2005-2007) and the assessment was given on future water availability and effects of surface (river and drainage) water and groundwater in the Amu Darya Delta and Prearalie ("Dynamics of Surface and Ground Water Change in the Amu Darya Delta and the Aral Sea" as part of the CAWa Project, 2009-2012);

■ **Mainstreaming social and gender aspects in water management.** SIC is a pioneer in initiating gender surveys and dialogue in the region. With the support of ADB, the Gender and Water Network was created in Central Asia ([gender.cawater-info.net](http://gender.cawater-info.net)), to promote gender equality in water resources management in the Central Asian countries by empowering women in decision-making processes. Gender aspects are considered and mainstreamed in all projects implemented by SIC;

■ **Education and capacity building in the water sector.** Virtually all past and on-going projects of SIC include a training component. Additionally, SIC implemented a number of direct educational projects, such as: "Water Resources Management Project", 2000-2005 aimed at increasing the capacity of water management professionals; "Environmental Safety, Promoting the Rational Use of Natural Resources and Environmental Education" under the Program "Water and Education" (2007-2008); "Cooperative Program for Capacity Building in Integrated Water Resources Planning and Management in Central Asia" (2009-2012), including the development of an online tool to

serve for training purposes (popular version of ASBMM (Aral Sea Basin Management Model)); "Legal and Policy Issues related to Water Resources Management in Central Asia and Ways for its Improvement", which developed an e-learning course for the Eurasian Center for Food Security at MSU (2014-2015); and "Capacity and needs assessment of institutions responsible for training provision", Technical Capacity Building component of the Program on "Sustainable Management of Water Resources in Rural Areas in Uzbekistan" (2017), upon completion of which a unified technical capacity building program in the water sector will be prepared.

## INFORMATION AND PUBLICATION ACTIVITY



Collection, processing, analysis and dissemination of information are central to the mission of SIC. Three main tools of SIC information mission include:

- 1) Web-portal CAWater-Info;
- 2) Regional Information System;
- 3) Publications.

### **Web-portal CAWater-Info (cawater-info.net)**

CAWater-Info is a regional web

portal that contains regularly updated information on water management situation and environmental issues across the Central Asian region and beyond. This information is provided by national water authorities and ICWC executive bodies or collected from other trusted sources and organizations.

By 2017, the portal contains 44 websites of more than 45 GB. The information is grouped into 4 main

## Geographical distribution of the Portal's users



blocks, such as the database, knowledge base, analytics, and modeling tools. The critical mass of information (and particularly of the knowledge base) accumulated on CAWater-Info since its opening (mid-2004) allowed transforming it into the Water and Ecological Knowledge Portal. The portal has traffic of about 8000–9000 visits per day.

### Regional Information System on Water and Land Resources Use in the Aral Sea Basin – CAWater-IS ([cawater-info.net/data\\_ca/](http://cawater-info.net/data_ca/))

The Regional Information System was created to serve as a practical tool to assess water situation in the region based on data about available water resources, their distribution among river reaches, provinces and water-management systems, operation regimes of reservoirs and HEPS; losses, deficits, imbalances; environmental flows; water quality, etc.

In combination with a set of simulation models on Aral Sea Basin Water Management (ASB-mm), Regional Information System can serve as a means for regional and national organizations to use the same 'information language' that increases data credibility and, ultimately, water management efficiency. The models use CAWater-IS databases that provide data on more than 150 parameters accumulated since 1980 till present. The Information System is covered by Uzbek patent.

Of particular importance is the analytical work undertaken by SIC in partnership with BWO Amu Darya, BWO Syr Darya, CDC "Energy" and national water management organizations. Analytical papers reflecting planning and monitoring of annual water management every ten-days provide the information on fulfillment of water releases from reservoirs, water bypass along rivers, and water allocation among the countries.



## Publication activities

SIC publishes periodicals and digests on ICWC activities, collections of laws and regulations, collection of scientific papers, research monographs, digests on the best international water management practices, proceedings of conferences and

symposiums. SIC distributes its publications to members of ICWC, ministries and departments, as well as to partners within Central Asia and beyond. Over its lifetime, SIC has published more than 900 books and brochures with total circulation of more than 400 000 copies.

## PROFESSIONAL DEVELOPMENT AND TRAINING



ICWC at its 21st meeting in October 1998 approved the proposal by SIC, BWO Amu Darya and BWO Syr Darya about the establishment of Central Asian water sector professional development courses at SIC. The founders of the courses were national ministries of agriculture and water resources of the five Central Asian countries, SIC, BWO Amu Darya and BWO Syr Darya.

In 2000, the water sector professional development courses were transformed into the Regional Training Center (RTC) at SIC, with the support of the Canadian International Development Agency (CIDA). The Urgench branch of the Training Center was established for the staff of water-management organizations in lower Amu Darya basin at the premises of BWO Amu Darya in 2003. Then, branches were

established in Kazakhstan (Almaty), Kyrgyzstan (Bishkek and Osh), Tajikistan (Khudjand), and Uzbekistan (Urgench, Andijan, Fergana, and Akbarabad).

Later on, as part of the Cooperative SIC and UNESCO-IHE Program for Capacity Building in Integrated Water Resources Planning and Management in Central Asia (2009-2012) 34 national trainers from the five Central Asian countries were trained and curricula and training modules were developed on integrated water resources management, improvement of irrigated agriculture, international water law and policy, and regional cooperation in transboundary rivers.

Since then, more than 6,000 specialists benefitted from the ICWC training programs.

The priorities of SIC capacity

building activities are as follow:

- Ensuring that all levels of water hierarchy are covered by demand-driven training tailored to setting and particular needs: training centers for water professionals, knowledge centers and extension services for farmers, special programs for rural women;
- Building new skills and knowledge but also fostering new mindset and attitudes: interactive trainings, dialogues, social mobilization;
- Enhancing linkages between training, applied research and best practices in the region and worldwide: study tours, invited international lecturers, joint regional and international trainings and projects to promote advanced and locally adapted experiences;
- Introducing an innovative cycle of knowledge transfer from

knowledge generators such as research institutions through information centers where information is translated into user-friendly and easily understandable language and form to information disseminators who convey it to farmers and receive their feedback;

- Establishing user-friendly databases (regional and national) and knowledge bases (curriculums, guidelines and other practical and information materials) and connecting them to training needs;
- Providing a platform for communication and dialogue to foster peaceful cooperation on transboundary waters in the region;
- Investing in the future water leaders by delegating young water specialists to complete master and PhD programs at the universities of Germany (LUCA, ClinCa projects) and the Netherlands (IHE-UNESCO).



## COMMUNICATION AND COLLABORATION

In addition to information dissemination, SIC works closely with the five countries' water authorities and other national, regional and international institutions in joint programs and projects. SIC's experts are engaged in the work of inter-agency working groups and task

forces on water-related issues, participate in various water-related meetings at national, regional, and global level.

SIC continues collaboration with international networks and associations, such as the World Water Council (WWC), International

Network of Basin Organizations (INBO), Global Water Partnership (GWP), International Water Resources Association (IWRA), International Commission on Irrigation and Drainage (ICID), and International Association for Water Law (AIDA). In this work SIC tries to maintain links between the international water community and the Russian-speaking audience.

SIC is also a founding member of regional networks, such as the Eastern Europe, Caucasus, and Central Asia Network of Water Management Organizations (EECCA NWO) ([www.eecca-water.net](http://www.eecca-water.net)) and the Gender and Water Network of Central Asia (GWANET) ([www.gender.cawater-info.net](http://www.gender.cawater-info.net)).

The Center organizes study tours for ICWC members, representatives and experts of regional executive bodies for exchange of experience (Australia, India, Israel, Canada, USA, etc.) and facilitates their

participation in international events. SIC's experts actively cooperate and exchange with academia and educational institutions in the Central Asian countries and abroad, including the UNESCO-IHE Institute for Water Education, the Global Green Growth Institute (GGGI), Kazakh-German University, Wuerzburg University (Germany), U.M. Sultangazin's Space Research Institute (Kazakhstan) and many others.

SIC maintains close connections with embassies, development banks (WB, ADB, EBRD), development cooperation agencies (SDC, GIZ, CIDA, DFID) as well as United Nations agencies (UNDP, UNESCO, FAO, UNRCCA).

The Center also takes an active part in organization and facilitation of Central Asian international research conferences on regional water problems and water industry exhibitions.

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This brochure is published with the financial support of OSCE