

**ICWC**

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**UNECE**

**CENTRAL ASIA REGIONAL WATER INFORMATION BASE  
PROJECT  
'CAREWIB'**

**Progress Report for 2008**

**January 2009**

**Tashkent – Arendal – Geneva**

**Contents**

- 1. Summary ..... 3
- 2. Key project results achieved during the reporting period ..... 4
  - 2.1. Enhancement of information scope and coverage of CAREWIB Portal and Information System including strengthening of mechanisms for data collection ..... 4
  - 2.2. Production and dissemination of publications and other types of information 16
  - 2.3. Capacity building in water management organizations and among other users and integrating CAREWIB into decision-making processes of national, regional and international bodies as well as in the public debate ..... 18
  - 2.4. Ensuring of long-term political and financial support to CAREWIB ..... 22
- 3. Milestones and outputs of the project ..... 24
- 4. Constraints and lessons learnt ..... 26
- 5. Outlook for 2009 ..... 26
- 6. Annexes..... 27

# 1. Summary

The “Central Asia Regional Water Information Base (CAREWIB)” Project was developed in support for the ASBP-1 approved by the decision of the Heads of State on 11 January 1994 (Project 2 – “Data base and management information system for water and environment”) and ASBP-2 approved by the IFAS Board on 28 August 2003 (Item 6 – “Reinforcement of material/technical and legal basis in interstate organizations, development of the regional information system designed to manage water resources of the Aral Sea basin”).

The CAREWIB Project is implemented within the framework of the Swiss Regional Medium-Term Program for Central Asia 2002-2006 in support for “Natural Resources and Infrastructure Management” (Swiss Water Policy for Central Asia 2002-2006); - “Management, Security and Conflict Prevention” (raising transparency and public awareness); - and cross-cutting “environmental” issues (relation between water and environment) in accordance with the Aarhus Convention.

The CAREWIB Project is implemented under the decision made at the 37<sup>th</sup> ICWC meeting (22-24 December 2003, Karshi). The progress of project activities was considered at the 42<sup>nd</sup> (28-29 April 2005, Almaty), 43<sup>rd</sup> (2 November 2005, Almaty), 46<sup>th</sup> (8-10 March 2007, Ashgabat), 48<sup>th</sup> (11 October 2007, Khodjent) and 49<sup>th</sup> (19 March 2008, Tashkent) ICWC meetings.

The Project is funded by SDC and implemented by SIC ICWC in Tashkent with the assistance of the UNECE and UNEP/GRID-Arendal Office in Geneva, in close cooperation with five national water management organizations. Phase 1 of the CAREWIB Project started on 1 December 2003 and came to the end on 31 December 2006.

At the meeting of the Project Steering Committee (20 October 2006, Bishkek), it was decided to continue activities between Phases 1 and 2. The bridging period lasted from 1 January to 31 July 2007. Phase 2 of the project started 1 August 2007.

Phase 2 of the CAREWIB Project is aimed at further improvement of information support to water and environmental sectors in Central Asia initiated in Phase 1 of the CAREWIB Project.

The "critical mass" of information accumulated on the portal and structured in the thematic knowledge bases makes it possible to conclude that CAREWIB is the first and exclusive knowledge portal about water resources and ecology in Central Asia. With time it is becoming even more important with the steadily increasing of available information, an enhanced thematic coverage, and improved access to this information for portal visitors.

Training workshops were held for personnel of national focal points with participation of representatives from national water management organizations in all ASB countries.

An important result in the establishment of national information systems is the political approval to the process from ICWC members. Responsible persons for information input in NIS were appointed in DWR and each BWA in Kyrgyzstan. In Kazakhstan, two pilot basins were selected for the development of NIS. If this is successful, the experience will be transferred to other basins as well. ICWC members for Tajikistan, Turkmenistan and Uzbekistan also provide support to the project.

A important project event was a meeting organized in Moscow, 11-12 December, on transfer of CAREWIB experience and on the establishment of a Russian-speaking network of water management organizations with financial support from UNECE.

## **2. Key project results achieved during the reporting period**

The major result achieved by the regional team in 2008 is the consolidation of the national teams needed to establish the national information systems and the active involvement of these teams in the development of the portal through the creation and maintenance of web-pages dedicated to each of the national focal points.

### **2.1. Enhancement of information scope and coverage of CAREWIB Portal and Information System including strengthening of mechanisms for data collection**

#### **2.1.1. Block 1a. Further development of the regional information portal CAWater-Info**

##### **Objectives for 2008:**

- 1.a.1. Continuously collect, process and disseminate information on water and environment in CAR to develop the portal into a "knowledge portal"
- 1.a.2. Introduce a Content Management System (CMS)
- 1.a.3. Modernize and fill the bibliographic database on land and water resources use
- 1.a.4. Develop a database on foreign water management and donor organizations (Water Atlas)
- 1.a.5. Hold electronic conferences to discuss actual water and environmental problems of Central Asia
- 1.a.6. Structure available information as a hyper-textual Knowledge Base (KB)
- 1.a.7. Expand the Portal Knowledge Base with information collected by the "IWRM-Fergana" Project
- 1.a.8. Make the Portal bilingual (Russian and English).

The "critical mass" of information accumulated on the portal and structured in the thematic knowledge bases makes it possible to conclude that CAREWIB is the first and exclusive knowledge portal about water resources and ecology in Central Asia. With time it is becoming even more important with the steadily increasing of available information, an enhanced thematic coverage, and improved access to this information for portal visitors.

### **Result 1a.1. On-line information available in the Internet for the following areas:**

- water information for countries in the region;
- water and environmental projects;
- official news from governmental sources and international organizations;
- foreign mass media on the region;
- international conferences;
- tenders/calls for project proposals;
- innovative equipment and technologies;
- list of scientific, water management organizations;
- international and local non-governmental organizations;
- electronic library.

#### **SIC:**

- Information on the matters related to the Aral Sea basin is tracked on a daily basis. Information sources are the websites of leading news agencies in CAR, donor organizations, SIC partner organizations, and projects. A part of information is taken from publications in hard copies (newspapers, magazines, brochures, monographs) and received mailings. Information comes from national project coordinators in CARs and from partner organizations, with whom agreements have been concluded.
- In the portal section “News” 1154 messages in Russian and 229 in English were placed in 2008.
- The electronic library of the portal has been upgraded to improve access to available materials (documents have been provided with abstracts, according to which the contents of a publication can be assessed before downloading its to user’s computer).

#### **5 national focal points:**

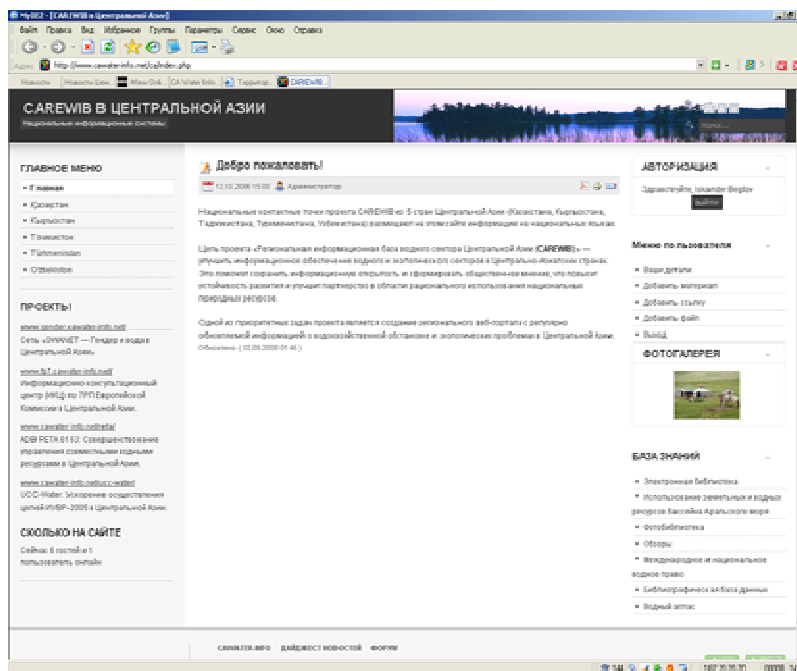
- The materials on the CAWater-Info portal as well as their own information on national water management organizations have been translated into national languages of Central Asian countries selected by NCPs.
  - Kazakhstan: news - 31, documents - 33
  - Kyrgyzstan: news - 94, documents - 22
  - Tajikistan: documents - 9
  - Turkmenistan: documents - 9
  - Uzbekistan: news - 41, documents - 116

Indicators: Increased information flow obtained through the CAREWIB correspondent network. Information in national languages of Central Asian countries has been placed on the portal. Quantity of the portal visitors is up to 1000 persons per day (December).

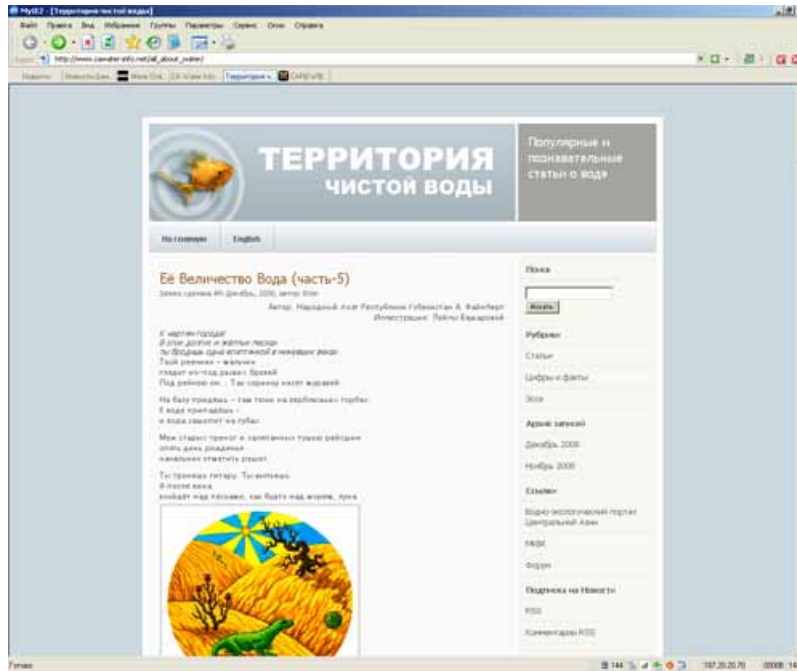
## Result 1a.2. Working content management system (CMS) for extending capabilities to provide services for portal visitors.

SIC:

- CMS Joomla has been installed for operation of one of the portal websites in national languages of CARs. Components, modules and a template for the sections of the National Focal Points have been installed and set up. Such an approach enables the national teams to independently add information in national languages of CARs online to the website at any convenient time.
- CMS WordPress has been installed for the portal section “Clean water space” (popular and informative articles about water).



General view of section in 5 national languages of CARs



The portal section "Clean water space" - the popular and informative articles about water

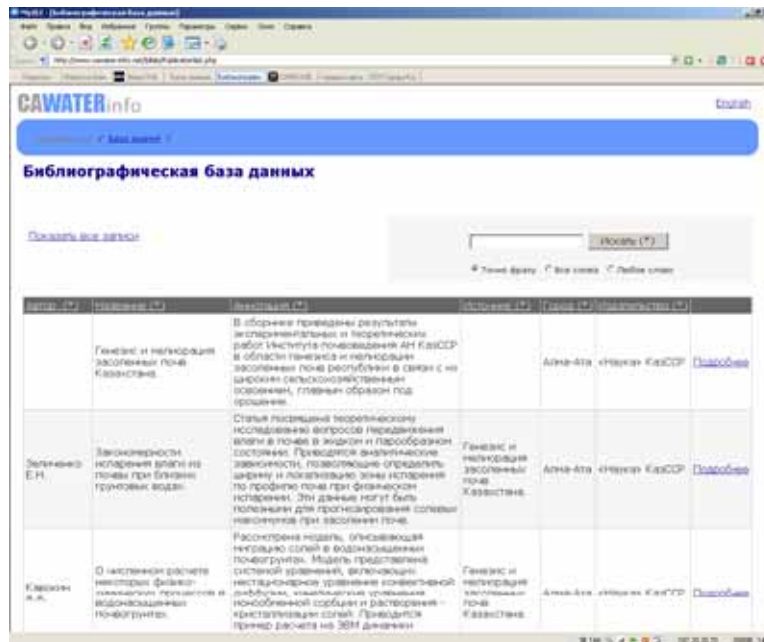
*The God has given water to the World as a sacred gift and ordered to not allow its damage, because He has not made that. In our century of infinite race for benefit, riches, in century of petroleum idol and golden calf only faith in and devotion in clean water, and its miracle power for health, fertility, saving of all beautiful things can personify the God's Will! The website "Clean Water Space" is dedicated to this.*

Indicators: CMS Joomla и WordPress were installed on the portal. Capabilities of the portal websites to meet customer requirements for prompt and easy access to information are increased. 100% of the planned work for year is fulfilled.

**Result 1a.3. The bibliographic database on land and water resources use modernized and filled.**

SIC:

- DB web-interface has been modernized considerably: an English language part has been added, and a capability for information input by registered users has been provided. New bibliographic information including in English has been entered.



Indicators: The quantity of bibliographical records in DB increased to 2703. 100% of the planned work for year fulfilled.

#### Result 1a.4. A database on foreign water management and donor organizations (Water Atlas) was placed on the Internet (“Water Atlas”)

SIC:

- Material has been gathered for the database on foreign water management and donor organizations “Water Atlas”
- A database “Water Atlas” in MS Access has been developed in Russian and English
- A web-interface has been developed for the database, and a test version placed on the portal.





Indicators: DB "Water Atlas" was developed first as DB MS Access, then it was placed on the portal (380 records). 100% of the planned work for year fulfilled.

**Result 1a.5. A virtual water community of Central Asia has been established. Results of discussions, overviews of participants' feedback, and experience and knowledge exchange at forums on the Portal available.**

SIC:

- 22 themes dedicated to the CAREWIB Project activities, towards the 5<sup>th</sup> World Water Forum, on gender problems and others have been opened to discuss at forum.

5 national focal points:

- Attraction of the personnel from national water management organizations at all levels to participate in discussions. It can be noted with regret that there is a low activity at the forum, which may have been caused by weak concern of the water community or by lack of skills to hold discussions online.

Indicators: 22 themes have been opened to discuss

**Result 1a.6. Knowledge Base on water and land resources use in the Aral Sea basin is available on the portal.**

SIC:

- An interface of the knowledge base has been developed.
- The available information has been structured, represented as a hypertext knowledge base on water and land resources use in the Aral Sea basin, and has been placed on the portal.



Knowledge Base includes the following sections:

- physical-geographical characteristics of the region;
- water resources;
- water resources use;
- desertification and monitoring;
- organizational and legal issues of water resources management and financing.

The knowledge base also includes the results of the past field studies on irrigation and drainage in the region. Inclusion of those studies proceeds from a need to ensure the intergenerational continuity. Recently, most graduates of higher education institutions have been coming to water-management organizations without knowledge of experience in irrigation and drainage as gained in Central Asia over the past 20-30 years. It is assumed also that earlier research works are unknown to most foreign specialists who try to assist the Central Asian states in solving water and environmental problems in the Aral Sea basin.

Indicators: Improved information quality and user friendliness. KB on priority themes of water and land resources use in the Aral Sea basin available in Russian and in English. 100% of the planned work for year fulfilled.

**Result 1a.7. The Portal Knowledge Base is available with information from the “IWRM-Fergana” Project to facilitate effective extension services to WUAs and farmers.**

SIC:

- Documents of the “IWRM-Fergana” Project have been processed and structured.



Indicators: Improved quality and effectiveness of extension services for farmers and WUAs. KB on the IWRM-Fergana Project results has been formed and is gradually being filled with information.

## **Result 1a.8. Portal information is available and updated in two languages.**

SIC:

- The English language content of the portal is increasing progressively: new sections are developed in two languages at once.

Indicators: Increased percentage of bi-lingual website with a good quality of English content: all databases and knowledge bases – 100%; other sections – from 60 to 100%.

### **2.1.1. Block 1b. Further development of the Information System**

#### **Objectives for 2008:**

- 1b.1. Develop new GIS layers.
- 1b.2. Add new information to the database according to the requirements of models and GIS, as well as current information on developed blocks of DB.
- 1b.3. Improve the system's interface in terms of decision support elements, GIS and results interpretation.
- 1b.4. Test the Information System in "modeling" and "analysis" modes.
- 1b.5. Prepare and submit analytical reports to ICWC members according to their requests.
- 1b.6. Systematically provide water management organizations with analytical reports linking hydro-meteorological data to water-related information and analysis of river-channel and basin balances
- 1b.7. Transfer a part of the IS data to the public domain.

An important result in the establishment of national information systems is the political approval to the process from ICWC members. Responsible persons for information input in NIS were appointed in DWR and each BWA in Kyrgyzstan. In Kazakhstan, two pilot basins were selected for the development of NIS. If this is successful, the experience will be transferred to other basins as well. ICWC members for Tajikistan, Turkmenistan and Uzbekistan also provide support to the project.

## **Result 1b.1. GIS layers have been developed: water management network, assessment of land reclamation conditions and productivity, water availability in districts, situation in Prearalie, the Aral Sea, etc. Access to data and information on the Amudarya river basin has been improved.**

SIC:

- Executors have visited the Basin Administrations of Irrigation Systems (Chirchik-Akhangaran, Syrdarya, Djizak, Andizhan, Namangan, Fergana and Samarkand) to correct and add the following GIS information:
  - Main rivers;
  - Main reservoirs and large lakes;
  - Main canals;

- Intake structures;
  - Gauges at the rivers and main canals;
  - Drainage network (*main drains*);
  - Groundwaters formations;
  - Hydroelectric power stations (HEPS);
  - Thermoelectric power stations (TEPS);
  - Meteorological stations;
  - Administrative areas (*districts, provinces, towns, cities etc.*).
- All gathered information was entered in GIS-block of the regional information system “CAREWIB”.
  - These measures have been carried out (Fergana, Andizhan and Namangan provinces in Uzbekistan):
    - analyzing DB on GIS objects;
    - revising and supplementing the list of operating waterworks facilities, and developing thematic GIS layers;
    - analyzing online spatial information, based on available Earth remote sensing data;
    - comparing spatial information with tabular data of CAREWIB DB to assess completeness and reliability of information entered in GIS and code spatial objects;
    - digitizing topographic and thematic maps;
    - mapping to the world coordinate system (for thematic maps in the local coordinate system);
    - adding the attribute information – names of rivers, canals, drains etc.
  - Executors in GIS have agreed thematic information layers with Basin Administrations of Irrigation Systems in the Republic of Uzbekistan.

NFP in Uzbekistan:

- Assistance has been provided to SIC personnel in gathering cartographic information for provinces and districts in Uzbekistan.

Indicators: New GIS layers for Uzbekistan - total 40

**Result 1b.2. All information needed for modeling and GIS is available within DB (ecology, climate and energy)**

SIC:

- DB structure for Hydropower block has been developed.
- Monthly data for the period from 2000 to 2006 obtained from UDC “Energy” have been entered in the Regional DB “CAREWIB” on:
  - Uzbekistan output: by hydroelectric power stations (HEPS) – Farkhad, Chirchik-Boysu, Andizhan PEPS (Shariakhan HEPS), Namangan, Samarkand, Fergana PEPS (Kudash), Kashkadarya, Charvak + Khodzjikent; by thermoelectric power stations (TEPS) – Tashkent GRES-2, Navoi GRES-17, Angren GRES, Tashteploset (Tashkent TEPS), Fer-

- gana TEPS, Ferteploset (2a-8a), Takhiatash GRES (1v), Syrdarya GRES, Novoangrenskaya GRES, Muborak TEPS, Talimarjan GRES.
  - Tajikistan output: by HEPS – Nurek, Vakhsh HEPS cascade, Varzob HEPS cascade, Gorno-Badakhshayskaya, Dushanbe-Vakhsh, Kayrakum; by HEPS – Dasahba TEPS, Yavan TEPS, Gorno-Badakhshay DEPS, Dushanbe-Vakhsh TEPS.
  - Kyrgyzstan output: by HEPS – Uch-Kurgan, Toktogul, Alamedin HEPS cascade, Bystrovskaya, Atbashi; by TEPS – Osh TEPS, Osh PEPS, Jalalabad TEPS, Frunze TEPS.
  - South Kazakhstan output: by HEPS – Chardara; by TEPS – Dzhambul GRES, Chimkent TEPS 1, 2, Dzhambul TEPS-4, Kentau TEPS-5, Kyzylorda TEPS-6.
  - Turkmenistan output: by HEPS – Mary HEPS; by TEPS – Bezmeinskaya GRES, Chardzhou TEPS, Mary GRES.
- Monthly data on power flows over the period from 2000 to 2006 obtained from UDC “Energy” have been entered in the Regional DB “CAREWIB”:
  - From Uzbekistan to Tajikistan, South Kazakhstan, Turkmenistan and Kyrgyzstan;
  - From Kyrgyzstan to Uzbekistan, South Kazakhstan;
  - From Turkmenistan to Uzbekistan;
  - From Tajikistan to Kyrgyzstan, Uzbekistan;
  - From South Kazakhstan to Kyrgyzstan, Uzbekistan.
- Information for the period from 1980 to 2007 obtained from the project correspondents in the five states has been entered in blocks “Drainage” and “Water supply” in “CAREWIB” DB.
- Information for 2007 obtained from the project correspondents in the five states has been entered in earlier entered blocks “Land”, “Economy”, “Water” (1980-2006) in “CAREWIB” DB.

5 national focal points:

- Relations are being established on information exchange with environmental, hydrological and energy departments of the states.

Indicators: The volume of the DB has increased with regard to 20 parameters.

### **Result 1b.3. Improved interface links the database, models and analytical blocks**

SIC:

- The interface of regional information system (with respect to tasks of model complex) and national information systems (by requests of NFPs) has been improved.
- A system has been developed for automating processes of preparation of analytical reports, table structures, queries, program modules, etc. based on data of online DB: selection of analogue years by water inflow to upper reservoirs (by the current situation); prediction of water inflow to upper reservoirs by analogue years for selected period (season, year); analysis of actual and planned operation modes for reservoir; analysis of deviations of actual water withdrawal from planned one per hydro site; analysis of water situation by indicators of water availability and flow distribution evenness.

NFP in Uzbekistan:

- During the training workshop and meetings held under the CAREWIB Project, suggestions for improving the interface of NIS in Uzbekistan were made.

Indicators: New forms have been added, totally 40

#### **Result 1b.4. The system successfully tested by external users and experts**

SIC:

- Testing of information system in modeling regimes while developing analytical program modules.

5 national focal points:

- Training (together with SIC specialists) on handling analytical modules and introducing them into analytical work of the respective country water authorities.

Indicators: Increased accuracy of the system and number of modeling iterations to eliminate discovered errors

#### **Result 1b.5. Analytical reports have been submitted to ICWC members**

SIC:

- Development of analytical tools as applied to water-related tasks of the states.
- Ten-day preparation of a 'brief' analytical report (review) using data of online DB for ICWC members and a monthly 'complete' analytical report for distribution via e-mails of the ministries and agencies has been organized: selection of analogue years by water inflow to upper reservoirs (by the current situation); prediction of water inflow to upper reservoirs by analogue years for selected period (season, year); analysis of actual and planned operation modes for reservoir; analysis of deviations of actual water withdrawal from planned one per hydro site; analysis of water situation by indicators of water availability and flow distribution evenness; an analytical report on the operating efficiency of the water management complexes of the Amudarya and Syrdarya Rivers Basins for the vegetation period 2008 is prepared for the first time.

BWO Amudarya and BWO Syrdarya:

- Information on actual water balance for river sites and reservoirs, lateral inflow; analysis of actual transboundary flow distribution, water intakes and main canals in comparison to limits; prediction calculations of operation modes for reservoirs in the basin have been transmitted to SIC.

5 national focal points:

- Analytical reviews are downloaded from the portal every ten-day period and handed over to the management of the ministry/department of water resources

Indicators: Analytical reports were prepared monthly. Analytical report 2008 is placed on the portal.

## Result 1b.6. Analytical reviews making it possible to identify water resources potential in the region, each country and sub-basins

SIC:

- Identification of persons interested in analytical reviews prepared by SIC and development of procedures for automating preparation of analytical reports for external information users

5 national focal points:

- Identification of persons interested in analytical reviews prepared by SIC, has not been done within the countries

Indicators: Analytical reviews have been prepared and are being updated every ten-days period on the portal section "Analytics".

## Result 1b.7. Most of the Information System is available through the portal

SIC:

- The regional information system has been placed on the portal (blocks: "Land", "Economy", "Water Resources Management", "Municipal water supply", from 1980 to 2007).

Indicators: 98 IS components are available through the portal from 1980 to 2007 on 5 states and their regions in whole.



Group ID	Group Name	Group ID (Internal)	Group Name (Internal)	Group ID (External)
1001	Group 1	1001	Group 1	1001
1002	Group 2	1002	Group 2	1002
1003	Group 3	1003	Group 3	1003
1004	Group 4	1004	Group 4	1004
1005	Group 5	1005	Group 5	1005
1006	Group 6	1006	Group 6	1006
1007	Group 7	1007	Group 7	1007
1008	Group 8	1008	Group 8	1008
1009	Group 9	1009	Group 9	1009
1010	Group 10	1010	Group 10	1010
1011	Group 11	1011	Group 11	1011
1012	Group 12	1012	Group 12	1012
1013	Group 13	1013	Group 13	1013
1014	Group 14	1014	Group 14	1014
1015	Group 15	1015	Group 15	1015
1016	Group 16	1016	Group 16	1016
1017	Group 17	1017	Group 17	1017
1018	Group 18	1018	Group 18	1018
1019	Group 19	1019	Group 19	1019
1020	Group 20	1020	Group 20	1020

**2.2. Production and dissemination of publications and other types of information**

**Objectives for 2008:**

- 2.1. Produce and disseminate publications.
- 2.2. Analyze content downloading statistics to identify user needs.
- 2.3. Distribute English and Russian versions of the CAWater-Info News bulletin and advertising booklets to subscribers.
- 2.4. Produce and distribute CDs with e-learning materials.
- 2.5. Produce and deliver thematic maps upon requests of ICWC members on a timely basis.

**Result 2.1. Analytical and popular scientific publications on water, energy, floods, dams, Afghanistan, etc. have been produced and distributed. IFAS materials, ICWC bulletins, SIC ICWC collected articles with general information, reviews and legal documents have been produced and distributed.**

**SIC:**

- Various brochures, monographs, reports were prepared, published and disseminated. Among the published in 2008, these should be noted:
  - V.A. Dukhovny, A.G. Sorokin: Assessment of the impact of the Rogun reservoir on the Amudarya river water regime
  - Adaptation to climate change: problems in the region in view of world experience
  - Water for food, water for life. Integrated assessment of water management in agriculture. Summary (publication of SIC ICWC on the request of IWMI)
  - Integrated remote and ground surveys on the dried bottom of the Aral Sea
  - A. Fainberg: Its Majesty Water
  - Model legislation of CIS countries in water (Publications of the CAREWIB Project, issue 10)



- 5<sup>th</sup> World Water Forum: political process (by request of the World Water Council)
- Second announcement on the 5<sup>th</sup> World Water Forum (by request of the World Water Council)
- Problems of Aral Sea and Priaralie (collection of scientific papers of SIC ICWC)
- Integrated Water Resources Management: from theory to practice. Central Asia Case Study.
- Searching economic ways to solve interstate transboundary conflicts.
- INBO bulletin No. 16 (ordered by INBO)
- Water Resources of Afghanistan
- Towards 5<sup>th</sup> World Water Forum: reports of Central Asian countries
- Regional Model for Integrated Water Resources Management in Twinbasins "RIVERTWIN"
- The following issues have further been produced: 3 information collections - "Water Resources of Mexico", "Water Economy of Israel" and "Water Management in Central Asia", 2 abstracts collections, 4 ICWC bulletins, 1 legal collection - "Interstate agreements on transboundary waters concluded by countries of Eastern Europe, Caucasus and Central Asia (EECCA)", 3 bulletins "New in Water Management".
- 145 publications in electronic format have been included in the electronic library on the portal
- 161 publications have been included in the Knowledge Base on Water Law.
- Bulletins, brochures and other publications were regularly disseminated at workshops, conferences and so on.

Indicators: 145 new publications were placed on the portal

### **Result 2.2. Analytical report on information needs of users to enlarge the portal's regular audience.**

SIC:

- A statistical analysis of the websites visits has been made and a report prepared.
- Dynamics of the visits number are increasing: from 550 visits per day in January up to 1000 in December (Annex 7)

Indicators: An analytical report on statistics of the portal websites visits has been developed.

### **Result 2.3. IFAS and ICWC press-releases, the "CAWater-Info News" bulletin and advertising booklets of the project have been distributed.**

SIC:

- 99 "CAWater-Info News" bulletins, 8 ICWC press-releases, 6 issues of the GWANET newsletter (in Russian and in English), 3 issues of the INBO newsletter (in Russian) have been distributed via e-mail.
- The database on mailing addresses has 670 Russian-speaking and 240 English-speaking respondents.

Indicators: 99 “CAWater-Info News” bulletins, 8 ICWC press-releases, 6 issues of the GWANet newsletter (in Russian and English), 3 issues of the INBO newsletter (in Russian) have been distributed via e-mail and as hard copies.

#### **Result 2.4. E-learning CDs have been produced and distributed**

SIC:

- A CD has been prepared with the proceedings of the workshop on “Socio-economic stability and water productivity: food and water security in Central Asia” (Tashkent, 18-20 March 2008 )
- A CD with training material on the CAREWIB project (textbooks, handbooks) has been prepared.

Indicators: 2 CDs with e-learning materials.

#### **Result 2.5. Thematic maps are produced upon specific requests of ICWC members and delivered on a timely basis.**

SIC:

- The following maps have been produced:
  - Main rivers (13 provinces of the Republic of Uzbekistan, 2 provinces of the Republic of Tajikistan);
  - Main reservoirs and large lakes (13 provinces of the Republic of Uzbekistan, 2 provinces of the Republic of Tajikistan);
  - Main canals (13 provinces of the Republic of Uzbekistan, 2 provinces of the Republic of Tajikistan);
  - Administrative areas (*districts, towns and other large settlements*) (13 provinces of the Republic of Uzbekistan, 2 provinces of the Republic of Tajikistan).

5 national focal points:

- Cartographic information is being gathered to be integrated into national information systems

Indicators: 60 maps

### **2.3. Capacity building in water management organizations and among other users and integrating CAREWIB into decision-making processes of national, regional and international bodies as well as in the public debate**

#### **Objectives for 2008:**

- 3.1. Train and consult NIS developers in the context of NIS formation
- 3.2. Transmit NIS data (regional level) to IS
- 3.3. Train specialists of national water management organizations to use NIS in their daily activity
- 3.4. Train representatives of NGOs and other stakeholders to use the Portal and IS applications in their daily activities
- 3.5. Integrate CAREWIB into decision-making processes (e.g. IFAS, ICWC,

EurAsEC, national ministries, etc) by presenting CAREWIB capabilities during the meetings of these organizations.

Training workshops were held for personnel of national focal points with participation of representatives from national water management organizations in all ASB countries.

A important project event was a meeting organized in Moscow, 11-12 December, on transfer of CAREWIB experience and on the establishment of a Russian-speaking network of water management organizations with financial support from UNECE.

**Result 3.1. NIS developers are trained: 2 workshops per year have been held in each country, and consultation were provided as required**

SIC:

- Guidelines have been prepared:
  - Guidelines for use of the CAWater-Info portal in daily practice (4th enlarged edition, November)
  - Guidelines for use of the Regional Information System of the Aral Sea basin countries
  - Instructional guidelines for formation of a water information system at national level
  - Content Management System Manual for National Focal Points (2d enlarged edition, October)
  - Guidelines for use of Knowledge Bases of the CAWater-Info portal in day-to-day activity
- User interfaces for national information systems have been upgraded taking into account requests of each national focal point
- Maintenance of equipment transferred to national focal points has been carried out
- Training workshops for NIS developers have been organized on site (see result 3.3)

NFP in Kazakhstan:

- Relations have been established with Basin Water Authorities in the republic in order to receive information on the Syrdarya basin
- Information is being entered into a national information system template
- A national information system development strategy have been developed

NFP in Kyrgyzstan:

- Relations have been established with units of the Water Department at the Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic, with Basin Water Authorities, water and environmental institutions of the republic in order to receive information for the national DB
- Information is being entered into a national information system template
- A national information system development strategy have been developed

NFP in Tajikistan:

- Information is being entered into a national information system template

- A national information system development strategy have been developed

NFP in Turkmenistan:

- Information is being entered into a national information system template
- A national information system development strategy have been developed

NFP in Uzbekistan:

- The structure of the national DB has been developed and agreed with interested agencies
- Sustainable relations have been established with units of the Water Department at the Ministry of Agriculture and Water Resources of Uzbekistan, with Basin Administrations of Irrigation Systems, NGOs, water and environmental institutions of the republic in order to receive information for the national DB
- Information is being entered into a national information system template
- A national information system development strategy have been developed
- Indicators: 9 training workshops and consulting have been organized. National information system development strategies have been developed in all countries of Central Asia.

**Result 3.2. The information system is regularly updated with national data gathered within the Aral Sea basin.**

SIC:

- Structures of national databases with respect to tasks of the ministries and agencies, and according to reporting formats existing there have been developed
- Arrangement of networking with NIS of all the divisions at the ministry – fulfilled partially
- New sub-blocks were developed and entered into the IS:
  - "Land Reclamation" (drainage network, drainage water discharge, drainage water mineralization; drainage coefficient, length of new drainage and of modernized drainage);
  - "Water Management" (water disposal);
  - "Municipal water supply" (water distribution system, water supply sources).

National IS developers:

- Lists of divisions supplying information to NIS have been agreed with the management of the ministries.
- Hystoric information is being gathered by divisions and entered in NIS.

Indicators: Volume of data in regional IS has been increased with regard to 20 parameters.

**Result 3.3. Training workshops for representatives of national water management organizations have been held and consultation is provided upon request. Advanced technologies have been adopted in information supply in Central Asia**

SIC:

- Training workshops have been prepared and held for the personnel of the national focal points with participation of representatives of national water management organizations:
  - 21-27 February, Ashgabat, Turkmenistan (14 participants)
  - 29-30 April, Bishkek, Kyrgyzstan (27 participants)
  - 13-15 May, Astana, Kazakhstan (13 participants)
  - 12-13 June, Tashkent, Uzbekistan (10 participants)
  - 20-27 August - Ashgabat, Turkmenistan (18 participants)
  - 3-5 November - Bishkek, Kyrgyzstan (17 participants)
  - 12-13 November - Khodjent, Tajikistan (17 participants)
  - 2-3 December - Astana, Kazakhstan (15 participants)
  - 25 December - Tashkent, Uzbekistan (15 participants)
- A regional workshop was held 13-14 February 2008 in Tashkent (22 participants), at which problems related to the establishment of national information systems and the work plan of national focal points for 2008 were discussed.
- A regional workshop was held on 22-23 July, 2008, in Tashkent (15 participants), at which the reports about implemented work in the first half year 2008 were considered; further tasks were discussed; and a training seminar on entering information in the portal section in national languages was held.

Indicators: 9 training and 2 regional seminars have been held; total number of participants – 183.

**Result 3.4. Representatives from NGOs and other stakeholders participated in regional workshops**

SIC:

- Representatives of NGOs and other stakeholders have been invited to participate in training workshops

Indicators: Cooperation with Ecoforum NGO of Uzbekistan<sup>1</sup> was established.

**Result 3.5. CAREWIB is acknowledged by IFAS and other important regional and national organizations as an official system for keeping records, collection, use and analysis of data, and modeling of water and land resources in the Aral Sea basin**

SIC:

- CAREWIB Information System and CAWater-Info portal have been presented at:

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<sup>1</sup> Ecoforum NGO of Uzbekistan consist of 30 ecological NGO

- International Conference “Problems of Aral: Impact on the gene pool of population, flora, fauna and international cooperation for mitigating consequences”, Tashkent, 11-12 March (with participation of representatives from IFAS, ICWC and key donors in the Aral Sea basin)
- Central Asia International Scientific-Practical Conference “Problems of climate change, water resources management, governance and capacity building in Central Asia”, Bishkek, 28-29 May (with participation of representatives from IFAS, ICWC, EurAsEC, ministries of the states and other organizations)
- International Conference “Water Resource Systems Management in Extreme Conditions”, Moscow, 4-5 June (with participation of the International Network of Basin Organizations, World Water Council, a number of Russian organizations)
- 1<sup>st</sup> Central Asian international exhibition and conference dedicated to water and water technology – WaterTech Central Asia 2008, Almaty, 16-18 September (with participation of representatives from IFAS, ICWC, ministries of the states and other organizations)
- Regional theoretical and practical seminar “Ecological security - critical factor of water resources use”, Tashkent, 23-25 October (with participation of representatives from OSCE, IFAS, ICWC, ministries of the states and other organizations)
- Seminar-meeting “Development of the water sector information network in CIS: Information System of Central Asian water sector “CAREWIB” case study”, Moscow, 11-12 December (with participation of water management organizations from Russia, Ukraine, Belarus, Kazakhstan, Armenia and Azerbaijan)

#### UNECE

- CAREWIB Information System and CAWater-Info portal have been presented at:
  - Meeting of the Swedish Aral Sea Organization, Uppsala, 20 January 2008 (with member of the organization and other interested representatives of Swedish Academia and public)
  - UNECE Committee for Environmental Policy, 22 April 2008 (with participation of representatives from environmental authorities and NGOs in UNECE member countries)
  - SPECA Water and Energy Project Working Group, 18 November 2008 (with participation of representatives from the water and energy authorities of the five CA states, regional and international organizations and donors).

Indicators: Information System CAREWIB is used as an official information resource by 5 national water management organizations in Central Asia

## **2.4. Ensuring of long-term political and financial support to CAREWIB**

### **Objectives for 2008:**

- 4.1. Keep regular dialogue with partners of importance for future co-funding

and informational support: national authorities in the region, donors, projects, NHMS in CARs. Search for projects and organizations that need tools and information to facilitate their activities.

- 4.2. Sign agreements on information exchange and cooperation (SDC monitoring and information projects, IFAS bodies, international water NGOs).
- 4.3. Advertise the Portal and IS within the region and search for international and regional advertiser companies for the portal.
- 4.4. Develop contacts with Afghanistan for information exchange.

#### **Result 4.1. Financial conditions for further sustainable operation of the CAREWIB fully or partly in place after the Project is completed**

SIC:

- Development of a long term business plan with funding requirements for the next 10 years will be started in 2009

UNECE:

- A project proposal for “Improvement of information exchange on water resources in EECCA with account of CAREWIB experience (Phase 2)” has been prepared together with SIC. Financial support from the Russian Government has been approved.
- A project “Water Quality in Central Asia” funded by the UN Development Account that will fund the establishment of a water quality database was approved. The project will start in 2009.

GRID-Arendal:

- Preparation of technical support for the Caucasus extension of CAREWIB
- Concept development of an add-on component (water resources outlook in the context of climate change)
- Integration of CAREWIB outputs in assessment study of environment and security in the Amu Darya basin and inputs to its follow-up work programme (with potential of co-funding)
- Concept development for elements of Germany’s regional water portfolio

Indicators: Financial support for sub-project implementation from the Russian Government in the amount of 75 000 USD for 2008-2010 has been approved. The Russian-speaking network of water management organizations is established within that sub-project. In the Water Quality project 20 000 USD will be made available in 2009-2010.

#### **Result 4.2. Practical cooperation is established and formalized with key institutions and spheres of activities**

SIC:

- The bilateral cooperation on regular information exchange is established with 13 organizations within region and outside the region - with WWC, INBO, GWP CACENA, Knowledge Hub of the Asia-Pacific Water Forum.

Indicators: The cooperation agreements are concluded and regular information exchange is being implemented with 16 national, regional and international organizations and networks.

**Result 4.3. Advertisers identified and agreements concluded with them on placing ads at the Portal.**

SIC:

- Some attempts to conclude contracts with potential advertisers have been undertaken but not successfully.

Indicators: Income secured through advertising

**Result 4.4. Information and data from Afghanistan are increasingly available at the portal**

SIC:

- News information on Afghanistan has been placed on the portal
- Materials have been translated, and a publication on Afghanistan is issued

GRID-Arendal:

- Maintaining dialogue with Afghanistan’s environment authorities, potential for their inclusion in CAREWIB add-on studies / activities

Indicators: Information about Afghanistan is available through the portal including materials of the Afghan Government and publications of international experts.

**3. Milestones and outputs of the project**

Table 3.1 shows the most important results and milestones for 2008.

**Table 3.1  
Important results and milestones of the CAREWIB Project in 2008**

Item	Place	Date
Swiss mission for water sector monitoring	Tashkent	6 February
Regional workshop on the project with the participation of all NFPs	Tashkent	13-14 February
Training workshop on formation of a national information system in Turkmenistan	Ashghabat	21-27 February
International Conference “Problems of Aral: Impact on the gene pool of population, flora, fauna and international cooperation for mitigating con-	Tashkent	11-12 March



<b>Item</b>	<b>Place</b>	<b>Date</b>
sequences”		
Meeting of the Project Steering Committee	Tashkent	18 March
Discussion on the progress of the project at 49 <sup>th</sup> ICWC meeting	Tashkent	19 March
Mission of Ms. Teresa Adam	Tashkent	14 April
Joint mission to Turkmenistan under the Environment and Security initiative	Ashgabat	13-18 April
Training workshop on formation of a national information system in the Kyrgyz Republic	Bishkek	29-30 April
Swiss mission for water sector monitoring	Tashkent	12 May
Training workshop on formation of a national information system in the Republic of Kazakhstan	Astana	13-15 May
Joint mission to Uzbekistan under the Environment and Security initiative	Tashkent and regions	19-28 May
Central Asia International Scientific-Practical Conference “Problems of climate change, water resources management, governance and capacity building in Central Asia”	Bishkek	28-29 May
International Conference “Water Resource Systems Management in Extreme Conditions”	Moscow	3-5 June
Training workshop on formation of a national information system in the Republic of Uzbekistan	Tashkent	12-13 June
Regional workshop on the project with participation of all NFPs	Tashkent	22-23 July
Training workshop on establishing the national information system in Turkmenistan	Ashgabad	20-27 August
1 <sup>st</sup> Central Asian international exhibition and conference dedicated to water and water technology – WaterTech Central Asia 2008	Almaty	16-18 September
Swiss mission on water sector monitoring	Tashkent	20 October
Regional theoretical and practical workshop “Ecological security - critical factor of water resources use”	Tashkent	23-25 October
Training workshop on establishing the national information system in the Republic of Kyrgyzstan	Bishkek	3-5 November
Training workshop on establishing the national information system in the Republic of Tajikistan	Khodjent	12-13 November
International conference “Water consolidation – Strengthening cooperation in the water resources management in Central Asian Region”	Almaty	17-18 November
Training workshop on establishing the national information system in the Republic of Kazakhstan	Astana	2-3 December

Item	Place	Date
Seminar-meeting “Development of the water sector information network in CIS: Information System of Central Asian water sector “CAREWIB” case study”	Moscow	11-12 December
Meeting between SDC and GRID-Arendal office in Geneva (Geneva Environment and Security Centre)	Bern	16 December
Meeting of SIC project staff on organizational issues (under the guidance of Prof. V.A. Dukhovny)	Tashkent	every month

#### 4. Constraints and lessons learnt

The main constraints to be taken into consideration in further activities are shown in the following findings:

1. A low activity is noted at the forum on the portal. It may have been caused by weak concernment of personnel in national water management organizations at all levels or by lack of skills to hold discussions online.

*More than 4 years experience of supporting the portal shows low activity on the forum during the whole period. Therefore it is suggested to exclude development of forum from the list of current tasks because nobody is interested in it.*

2. Poor activity of NFPs in translation of information into national languages is noted.

*It is necessary to speed up the translation of information into national languages of CARs and filling of respective portal section.*

3. Information in the IS CAREWIB is presented by country.

*For the future, presentation of information at the basin level should be further developed. That will be important when integrated water resources management will be introduced in all countries of the Aral Sea Basin.*

#### 5. Outlook for 2009

The improvement of the IWRM knowledge base will be continued (on the basis of materials of the “IWRM-Fergana” project). This will make it possible to improve quality and efficiency of consulting services for the farmers and WUAs.

The CAREWIB Information System may be included in a meta-database on water resources in EECCA being developed by UNECE.

Partnerships may be established with water management organizations of Azerbaijan, Armenia and Georgia through GWP CACENA to exchange experience on the development of IS. Technical support for facilitating such work can be provided through UNEP / GRID-Arendal's network in the Caucasus.

It is necessary to further strengthen and develop cooperation and relationship with organizations beyond the region within the Russian-speaking water management organizations network which is established. The Portal and Information System should become one of the corner stones in this network. This network will include national water management and environmental organizations in Russia, Ukraine, Belarus, Armenia, Azerbaijan, Moldova, Georgia and Central Asia.

A targeted study of future water availability in Central Asia may be conducted provided that additional resources are available. The study would support the design of SDC regional water strategy, other regional water and environmental processes, and strengthen cooperation with Hydrometeorological services of Central Asian countries and the national Environment Protection Agency of Afghanistan.

## **6. Annexes**

Annex 1. List of Abbreviations

Annex 2. Extract from the minutes of 49<sup>th</sup> ICWC meeting

Annex 3. Extract from the minutes of 50<sup>th</sup> ICWC meeting

Annex 4. List of workshops conducted under project

Annex 5. List of publications under project

Annex 6. List of the CAWater-Info portal links

Annex 7. Statistics of the portal visits

## **Annex 1. List of Abbreviations**

ASB	Aral Sea Basin
ASB-mm	Aral Sea Basin Management Model
ASBP	Aral Sea Basin Program
BWO	Basin Water Organization
CAR	Central Asian Republics
DB	Database
EC	Executive Committee
GRID-Arendal	Global Resource Information Database Centre, Arendal, Norway
GWP CACENA	Global Water Partnership for Caucasus and Central Asia
ICSD	Interstate Commission for Sustainable Development
ICWC	Interstate Commission for Water Coordination in Central Asia
IFAS	International Fund for Saving the Aral Sea
INBO	International Network of Basin Organizations
IS	Information System
MAWR	Ministry of Agriculture and Water Resources
NIS	National Information System
NFP	National Focal Point
NGO	Non-governmental organizations
NHMS	National hydro-meteorological services of Central Asian states
SDC	Swiss Agency for Development and Cooperation
SIC	Scientific-Information Center
UNECE	United Nations Economic Commission for Europe
WUA	Water Users Association
WWC	World Water Council

## Annex 2

Extract

**MINUTES of**  
**49<sup>th</sup> Meeting of the Interstate Commission for Water Coordination (ICWC)**  
**of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan,**  
**Turkmenistan and Republic of Uzbekistan**

19 March 2008

Tashkent

**Chairman of the meeting:** Shavkat Rakhimovich Khamrayev, ICWC member  
Deputy Minister, Head of Water Department,  
Ministry of Agriculture and Water Resources,  
Republic of Uzbekistan

**ICWC Members:**

Anatoly Dmitriyevich Ryabtsev Chairman of Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan

Baratali Turanovich Koshmatov Director General of Water Department, Ministry of Agriculture, Water Resources and Processing Industry, Kyrgyz Republic

Saidi Yokubzod Minister of Land Reclamation and Water Resources, Republic of Tajikistan

Kakadurdy Khankuliyevich Ataliyev Deputy Minister of Water Resources, Turkmenistan

**From the ICWC Executive Bodies:**

Victor Abramovich Dukhovny Director of SIC ICWC, Professor, ICWC Honorary Member

Yuldash Khudayberganovich Khudayberganov Chief of BWO "Amudarya"

Makhmud Khamidovich Khamidov Chief of BWO "Syrdarya"

**Invitees:**

Nariman Kipshakbayevich Kipshakbayev Director of SIC ICWC Kazakh Office, ICWC Honorary Member

Kelesbek Tleulesovich Kenzhaliyev Director of RGP "Yugvodkhoz"

Nurgazy Patiydinovich Mamataliyev Director of SIC ICWC Kyrgyz Office

Anvarzhon Kamolidinov Director of SIC ICWC Tajik Office

Yarash Ergashevich Pulatov Director General of TajikNIIGiM

Khomidzhon Boirov	Chief of Sogd Province Department for Water Resources
Akhmed Mukhammedov	Head of Department, Ministry of Water Resources, Turkmenistan
Nurmukhammad Sheraliyev	Assistant to Head of Water Department, Ministry of Agriculture and Water Resources, Republic of Uzbekistan
Aleksandr Georgiyevich Loktionov	Deputy Chief of BWO "Syrdarya"
Ferdinand Fattakhovich Beglov	Head of Division, SIC ICWC

**AGENDA of  
49<sup>th</sup> ICWC meeting  
19 March 2008, Tashkent**

1. Progress in the implementation of water withdrawal limits and ensuring of the adopted operation mode for reservoir cascades in the non-vegetation period 2007/2008 and expected water situation in the Amudarya and Syrdarya river basins in the vegetation period 2008 (BWO "Amudarya" and BWO "Syrdarya" responsible).
2. Program for financial-economic activities of ICWC and its executive bodies (BWO "Amudarya", BWO "Syrdarya", ICWC Secretariat, SIC ICWC, CMC ICWC, and ICWC TC responsible).
3. Progress in activities under the ADB RETA 6163.
4. Results of the IWRM-Fergana Project assessment and consideration of the Project Document for Phase 4 of the IWRM-Fergana Project.
5. The Statute on ICWC and the Agreement on Strengthening Organizational Framework for Management, Protection and Development of Water Resources from Interstate Sources in the Aral Sea Basin.
6. Results of the 1<sup>st</sup> Asia-Pacific Water Summit.
7. Agenda and venue of the next 50<sup>th</sup> ICWC meeting.

*Additional items:*

1. Central Asian International Scientific-Practical Conference "Towards the 5<sup>th</sup> World Water Forum" (proposed to unite with item 6).
2. Results of the CAREWIB Project for 2007 (included at request of the Swiss Agency for Development and Cooperation).

Having approved the agenda, listened to the speeches of the meeting participants

and exchanged opinions, the members of the Interstate Commission for Water Coordination in Central Asia (ICWC) decided:

**On the first additional item:**

1. Approve the Project Document for Phase 2 of the CAREWIB Project.
2. Take the results of the CAREWIB Project achieved in 2007 into account.
3. Heighten the attention to the development of the work on formation of national information systems.

## Annex 3

Extract

**MINUTES of  
51<sup>st</sup> Meeting of the Interstate Commission for Water Coordination (ICWC)  
of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan,  
Turkmenistan and Republic of Uzbekistan**

**17-18 September 2008 r.**

**Almaty**

**Chairman of the meeting:** Anatoly Dmitriyevich Ryabtsev, ICWC member;  
Chairman of Committee for Water Resources, Ministry of Agriculture, Republic of Kazakhstan

**ICWC Members:**

Baratali Turanovich Koshmatov Director General of Water Department, Ministry of Agriculture, Water Resources and Processing Industry, Kyrgyz Republic

Saidi Yokubzod Minister of Land Reclamation and Water Resources, Republic of Tajikistan

Kakadurdy Khankuliyevich Ataliyev Deputy Minister of Water Resources, Turkmenistan

Shavkat Rakhimovich Khamrayev Deputy Minister, Head of Water Department, Ministry of Agriculture and Water Resources, Republic of Uzbekistan

**From the ICWC Executive Bodies:**

Victor Abramovich Dukhovny Director of SIC ICWC, Professor, ICWC Honorary Member

Umarov Pulatkhon Djakhonovich Chief of TC ICWC

Kdyrhiyazov Burkitbay Tajiniyazovich acting Chief of BWO "Amudarya"

Makhmud Khamidovich Khamidov Chief of BWO "Syrdarya"

Makarov Oleg Stepanovich Chief of CMC ICWC

**Invitees:**

Abdukayumov Rustam Specialist on the projects management, Asian Development Bank

Kenshimov Amirkhan Vice-chairman, Committee on Water Resources at the Ministry of Agriculture of the Republic of Ka-



	zakhstan
Bekniyazov Murat	Main expert, Committee on Water Resources at the Ministry of Agriculture of the Republic of Kazakhstan
Lysenko Oleg Grigorievich	Main specialist, BWO "Amudarya"
Karlykhanov Adylkhan Karlykhanovich	Chief of the Aral-Syrdarya basin water inspection
Djayloobaev Abdybay Shakirbaevich	Head of Division, Department of Water Management at the Ministry of Agriculture, Water Resources Management and Processing Industry of the Republic of Kyrgyzstan
Nurgazy Patiydinovich Mamataliyev	Director of SIC ICWC Kyrgyz Office
Yarash Ergashevich Pulatov	Director General of TajikNIIGiM
Anvarzhon Kamolidinov	Director of SIC ICWC Tajik Office
Kuchkarov Sharifjon Zilril- laevich	Head of department, Ministry of Agriculture and Water resources Management of the Republic of Uzbekistan
Nurmukhammad Sheraliyev	Assistant to Head of Water Department, Ministry of Agriculture and Water Resources, Republic of Uzbekistan
Ferdinand Fattakhovich Beglov	Head of Division, SIC ICWC

## **AGENDA of**

### **51<sup>st</sup> ICWC meeting**

**17-18 September 2008, Almaty, Kazakhstan**

1. Regarding vegetation period and additional measures for its completion (resp. BWO "Amudarya" and BWO "Syrdarya").
2. Regarding work progress in implementation of SCADA systems in interstate water sources.
3. Regarding development of national information systems and their interlinking with operations of national hydrometeorological services.
4. Revision and approval of draft "Provisions on ICWC", "Provision about rotation of ICWC's executive bodies and their directors" and "Agreement on institutional strengthening for management, protection, and development of water resources from

interstate sources in the Aral Sea basin".

5. Regarding agenda and venue of the next 52<sup>nd</sup> ICWC meeting.

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

**On the third item:**

1. Approve work on the component "Development of the national information systems" of the project CAREWIB and acknowledge expedient further continuation of work on the project components.

Make special mention of the work of NFP in Tajikistan on preparation of the Strategy of the national information system development.

2. Ask the ICWC members to control project implementation according to the approved work plan. Draw special attention to development and approval of the strategies of the national information systems development, and to remove barriers to involving organizations outside the water sector of countries in the first place - the national hydrometeorological stations- for the establishing of the national information systems, and to financial supporting including the donors attracting.

3. The ICWC members express gratitude to the Swiss Agency for Development and Cooperation (SDC) for active support.

## Annex 4. List of workshops conducted under project

Activity	Name of Event	Date	No of days	Place	Country	Responsible	Institution	Type of event	Purpose	Target Audience	Number of Participants	Follow up activities
3.3.	Regional seminar on the project attended all National Focal Points	13-14/02	2	Tashkent	Uz	I. Beglov	SIC	Training	Discussing problems on development of the national information systems and the work plan for national focal points (NFP) in 2008	NIS developers	22	
3.3.	The training workshop on development of the national information system in Turkmenistan	21-27/02	7	Ashkhabad	Tm	I. Beglov	SIC	Training	Training on establishment and development of NIs for the NFP's staff	NIS developers	14	Development of NIS
3.3.	The training workshop on development of the national information system in the Republic of Kyrgyzstan	29-30/04	2	Bishkek	Kg	I. Beglov	SIC	Training	Training on establishment and development of NIs for the NFP's staff	NIS developers	27	Development of NIS
3.3.	The training workshop on development of the national information system in the Republic of Kazakhstan	13-15/05	3	Astana	Kz	I. Beglov	SIC	Training	Training on establishment and development of NIs for the NFP's staff	NIS developers	13	Development of NIS
3.3.	The training workshop on development of the national information system in the Republic of Uzbekistan	12-13/06	2	Tashkent	Uz	I. Beglov	SIC	Training	Training on establishment and development of NIs for the NFP's staff	NIS developers	10	Development of NIS

Activity	Name of Event	Date	No of days	Place	Country	Responsible	Institution	Type of event	Purpose	Target Audience	Number of Participants	Follow up activities
3.3.	Regional seminar on the project attended all National Focal Points	22-23/07	2	Tashkent	Uz	I. Beglov	SIC	Training	Review half-year progress reports and discussing problems on development of the national information systems and the work plan for national focal points (NFP) in future	NIS developers	15	According to workshop decision
3.3.	The training workshop on development of the national information system in Turkmenistan	20-27/08	7	Ashkhabad	Tm	I. Beglov	SIC	Training	Training on establishment and development of NIS for the NFP's staff	NIS developers	18	Development of NIS
3.3.	The training workshop on development of the national information system in the Republic of Kyrgyzstan	3-5/11	3	Bishkek	Kg	I. Beglov	SIC	Training	Review progress reports	NIS developers	17	According to workshop decision
3.3.	The training workshop on development of the national information system in the Republic of Tajikistan	12-13/11	2	Khodjent	Tj	I. Beglov	SIC	Training	Review progress reports	NIS developers	17	According to workshop decision
3.3.	The training workshop on development of the national information system in the Republic of Kazakhstan	2-3/12	2	Astana	Kz	I. Beglov	SIC	Training	Review progress reports	NIS developers	15	According to workshop decision
3.3.	The training workshop on development of the national information system in the Republic of Uzbekistan	25/12	1	Tashkent	Uz	I. Beglov	SIC	Training	Review progress reports	NIS developers	15	According to workshop decision

## Annex 5. List of publications under project

The SIC's e-publications distributed through portal and mailing list are included in the list of publications.

Activity	Name	Date	Publisher
2.1.	V. Dukhovny, A. Sorokin: Assessment of the impact of Rogun reservoir on Amudarya river water regime	January	SIC ICWC
2.1.	Adaptation to climate change: regional problems in view of the world experience (Publication of the project CAREWIB, vol. 9)	January	CAREWIB project
2.1.	Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture. Resume (published in Russian by SIC ICWC for IWMI)	February	SIC ICWC
2.1.	Comprehensive Remote Sensing and Ground Based Studies of the Dried Aral Sea Bed	March	SIC ICWC
2.3.	SIC ICWC's Information Collection "Water Resources of Mexico"	March	SIC ICWC
2.1.	Her Majesty Water by A.Fainbergh	March	SIC ICWC
4.2.	5th World Water Forum's Song Sheet	April	CAREWIB project
2.1.	Bulletin of the Information-Consulting Center (ICC) on European Commission Framework Programme FP7 in Central Asia, vol. 22 (2008), FP7 "People" Work programme 2008 Marie Curie action	April	CAREWIB project
2.1.	SIC ICWC's Information Collection "Water Management of Israel"	May	SIC ICWC
2.3.	SIC ICWC's Abstracts Review No. 28	May	SIC ICWC
2.3.	ICWC Bulletin No. 48, May 2008	May	SIC ICWC
2.3.	Intergovernmental agreements on transboundary waters concluded by Eastern Europe, Caucasus and Central Asia (EECCA) states (SIC ICWC's Legal Collection, vol. 19)	June	SIC ICWC
2.1.	Model water law of CIS member-states (Publication of CAREWIB project, vol. 10)	June	CAREWIB project
4.2.	5th World Water Forum Political Process (published in Russian by SIC ICWC for World Water Council)	June	SIC ICWC
4.2.	5th World Water Forum: Second Announcement (published in Russian by SIC ICWC for World Water Council)	June	SIC ICWC
2.3.	Newsletters «CAWater-Info News» (in Russian and in English including Mailing List)	January-June	CAREWIB project
2.3.	Press releases of ICWC (in Russian and in English, Mailing List)		SIC ICWC
2.3.	Newsletters of The Network GWANET (in Russian and in English, Mailing List)		SIC ICWC
2.3.	Bulletins of INBO (in Russian, Mailing List)		CAREWIB

Activity	Name	Date	Publisher
			project
4.2.	Second announcement on the 5 <sup>th</sup> World Water Forum (by request of the World Water Council)	July	SIC ICWC
2.1.	"New in Water Management", No. 6	July	project CAREWIB
2.1.	Problems of Aral Sea and Priaralie (collection of scientific papers of SIC ICWC)	August	SIC ICWC
2.1.	Integrated Water Resources Management: from theory to practice. Central Asia Case Study.	August	project «IWRM- Fergana»
2.1.	"New in Water Management", No. 7	August	project CAREWIB
4.2.	Bulletin of INBO, No. 16, December 2007 — January 2008	September	SIC ICWC
2.1.	Searching economic ways to solve interstate transboundary conflicts.	September	SIC ICWC
2.1.	Water resources of Afghanistan	October	project CAREWIB
2.1.	Towards 5 <sup>th</sup> World Water Forum: reports of Central Asian countries	November	project CAREWIB
2.1.	SIC ICWC's Information Collection "Water Management in Central Asia" Азии»	December	SIC ICWC
2.1.	Increasing the WUAs financial stability through using the internal reserves.	December	project «IWRM- Fergana»
2.1.	SIC ICWC's Abstracts Review No. 29	December	SIC ICWC
2.1.	Bulletin of ICWC, No. 50, November 2008	December	SIC ICWC
2.1.	"New in Water Management", No. 8	December	project CAREWIB
2.1.	Regional Model for Integrated Water Resources Management in Twinbasins "RIVERTWIN"	December	SIC ICWC
2.1.	The national information systems development strategies of countries in the Aral Sea Basin.	December	project CAREWIB

## Annex 6. List of the CAWater-Info portal links

URL	Website/webpage
<a href="http://www.yale.edu/emcwa/Amu-Darya/amudarya_watershed2.htm">www.yale.edu/emcwa/Amu-Darya/amudarya_watershed2.htm</a>	EMCWA/Amu-Darya
<a href="http://waterwiki.net/index.php/CAREWIB">waterwiki.net/index.php/CAREWIB</a>	CAREWIB - WaterWiki
<a href="http://www.brookings.edu/opinions/2008/0812_central_asia_linn.aspx">www.brookings.edu/opinions/2008/0812_central_asia_linn.aspx</a>	The Compound Water-Energy-Food Crisis Risks in Central Asia - Brookings Institution
<a href="http://www.carec.kz/english/index.html">www.carec.kz/english/index.html</a>	CAREC
<a href="http://www.ecolex.org/ecolex/ledge/view/RecordDetails.jses-sionid=4072F98904507CEE706650C46A617508?id=LEX-FAOC081586&amp;index=documents">www.ecolex.org/ecolex/ledge/view/RecordDetails.jses-sionid=4072F98904507CEE706650C46A617508?id=LEX-FAOC081586&amp;index=documents</a>	FAO EcoLex: Legislation
<a href="http://www.apwf-knowledgehubs.net/h9_iwrm_in_central_asia.php">www.apwf-knowledgehubs.net/h9_iwrm_in_central_asia.php</a>	APWF-Knowledge Hubs
<a href="http://enrin.grida.no">http://enrin.grida.no</a>	GRID-Arendal: Central & Eastern Europe, Caucasus, and Central Asia Environmental Information Programme
<a href="http://www.swisscoop.kg/index.php?navID=22498">www.swisscoop.kg/index.php?navID=22498</a>	SDC IN CENTRAL ASIA - Water Information Base
<a href="http://www.unece.org/env/water/links/link.htm">www.unece.org/env/water/links/link.htm</a>	United Nations Economic Commission for Europe Official Web Site
<a href="http://www.nyulawglobal.org/globalex/Turkmenistan1.htm">www.nyulawglobal.org/globalex/Turkmenistan1.htm</a>	GlobaLex - UPDATE: A Research Guide to the Turkmenistan Legal System
<a href="http://www.gateway.uz/index.php?subtopic=0&amp;lng=1&amp;topic=4">www.gateway.uz/index.php?subtopic=0&amp;lng=1&amp;topic=4</a>	Uzbekistan Development Gateway
<a href="http://www.envsec.org/pub/ENVSEC%202004%20Progress%20report.doc">www.envsec.org/pub/ENVSEC%202004%20Progress%20report.doc</a>	ENVSEC
<a href="http://www.untj.org/?c=7&amp;id=155">www.untj.org/?c=7&amp;id=155</a>	UN Tajikistan Information Platform
<a href="http://iea.uoregon.edu/page.php?query=one_indicator">http://iea.uoregon.edu/page.php?query=one_indicator</a>	International Environmental Agreements (IEA) Database Project
<a href="http://old.cagateway.org/index.php?lng=1&amp;topic=6&amp;subtopic=22">http://old.cagateway.org/index.php?lng=1&amp;topic=6&amp;subtopic=22</a>	CA Gateway
<a href="http://www.aralsjon.nu/en/links.html">www.aralsjon.nu/en/links.html</a>	Swedish Aral Sea Society
<a href="http://www.uzngo.info/">www.uzngo.info/</a>	Civil Society in Uzbekistan
<a href="http://ecologysite.net/">ecologysite.net/</a>	Catalogue of sites on ecology
<a href="http://www.g-o.de/dossier-detail-333-3.html">www.g-o.de/dossier-detail-333-3.html</a>	scinexx   Zum Weiterlesen: Links und Literatur
<a href="http://www.caresd.net/water/">www.caresd.net/water/</a>	The integrated water resources management - basis for prevention of conflicts in the region: e-Forum
<a href="http://worldenergy.ru/doc_33.html">http://worldenergy.ru/doc_33.html</a>	Journal "World Energy"
<a href="http://www.waterinfo.ru/links.php">www.waterinfo.ru/links.php</a>	FSUE Centre of the Russian register of hydraulic engineering structures and of the state water cadastre
<a href="http://www.talaschu.org/links.php">www.talaschu.org/links.php</a>	Commission of the Republics of Kazakhstan and Kyrgyzstan on use of water management structures of interstate usage on the Chu and Talas rivers
<a href="http://www.evrazes.com/ru/main/linklistpage/1/">www.evrazes.com/ru/main/linklistpage/1/</a>	EurAsES: links
<a href="http://www.gwpcacena.net/en/links.htm">www.gwpcacena.net/en/links.htm</a>	GWP CACENA
<a href="http://www.aboutus.org/CaWater-Info.net">www.aboutus.org/CaWater-Info.net</a>	CaWater-Info.net - AboutUs Wiki Page
<a href="http://imt.udman.ru/ep/index.php?page=links">http://imt.udman.ru/ep/index.php?page=links</a>	Students' Ecoportal
<a href="http://www.camp.tj/Links.html">www.camp.tj/Links.html</a>	CAMP Kuhiston
<a href="http://www.analitika.org">www.analitika.org</a>	Analitika.org
<a href="http://www.acck.narod.ru/law_rus.html">www.acck.narod.ru/law_rus.html</a>	Association of the Crisis Centres of Kyrgyzstan
<a href="http://www.neww.org/en/news/news/1,4315,1.html">www.neww.org/en/news/news/1,4315,1.html</a>	News - UNDP Courses on Gender in Uzbekistan

<b>URL</b>	<b>Website/webpage</b>
www.unescap.org/oes/SPECA/about/documents/English/ESCAP_activities_SPECA.pdf	ESCAP Activities in the SPECA Region
www.iwmi.cgiar.org/Publications/IWMI_Research_Reports/PDF/pub105/RR105.pdf	IWMI Publications
www.gender-az.org/index.shtml?id_doc=5837	Azerbaijan Gender Information Center



## Annex 7. Statistics on the portal visits

### General statistics on the CAWater-Info domain visits in 2008

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2008	10216	13386	35019	137796	1.80 GB
Feb 2008	9843	13100	33345	133530	1.88 GB
Mar 2008	10482	13535	36655	142272	2.36 GB
Apr 2008	11850	15982	47650	161779	2.41 GB
May 2008	11097	15017	51277	166517	2.89 GB
Jun 2008	10349	13902	45629	149512	2.46 GB
Jul 2008	8119	11545	49622	155356	2.64 GB
Aug 2008	6894	10722	42281	134645	2.00 GB
Sep 2008	9953	14805	54944	186948	2.33 GB
Oct 2008	13988	19582	62996	228252	2.80 GB
Nov 2008	15488	21645	81814	260925	3.93 GB
Dec 2008	16921	24173	84213	274236	3.67 GB
<b>Total</b>	<b>135200</b>	<b>187394</b>	<b>625445</b>	<b>2131768</b>	<b>31.18 GB</b>

### General statistics on the ICWC-Aral domain visits in 2008

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2008	2000	2517	6167	31171	218.08 MB
Feb 2008	2085	2485	5676	30866	209.27 MB
Mar 2008	2203	2719	6460	35561	276.03 MB
Apr 2008	2371	2982	6171	34707	258.32 MB
May 2008	2495	3168	6503	36316	291.41 MB
Jun 2008	2423	3010	6572	32090	242.34 MB
Jul 2008	2044	2885	9660	35363	267.91 MB
Aug 2008	1669	2334	6013	28095	220.87 MB
Sep 2008	2346	3217	6570	36675	260.46 MB
Oct 2008	2886	3841	8033	45391	302.38 MB
Nov 2008	3345	4592	8337	51812	330.64 MB
Dec 2008	3172	4560	10824	46565	454.53 MB
<b>Total</b>	<b>29039</b>	<b>38310</b>	<b>86986</b>	<b>444612</b>	<b>3.25 GB</b>