



6TH WORLD WATER FORUM

SESSION

**“INPUT OF CENTRAL ASIA
TO THE WORLD WATER PROGRESS”**

CENTRAL ASIAN SPECIFIC PRIORITIES, TARGETS AND SOLUTIONS

This document provides a summary of the Central Asian sub-regional preparatory process and its main outcomes.

SUB-REGION CENTRAL ASIA includes Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. The sub-region is located in the semi-arid and arid area. The key transboundary issues include: land salinization, water logging and desertification, access to adequate drinking water supply and sanitation, heavy reliance on water for food, energy and environmental security.

PREPARATORY PROCESS

Sub-regional process for Central Asia was initiated by Interstate Commission for Water Coordination (ICWC) and Global Water Partnership Caucasus and Central Asia (GWP CACENA) in 2003. Later on, the process was supported by a consortium of donors under CASILM program, UN Economic Commission for Europe, and Network of Basin Organizations in the Eastern Europe, Caucasus and Central Asia, including 67 different water related institutions from the entire region.

Preparatory process for 6th World Water Forum started at the beginning of 2010, with the active participation and all-round support from Executive Committee of the International Fund for saving the Aral Sea. The three main activities of the preparatory process include:

(a) Awareness raising and dissemination of information about the Forum across Central Asia. All information about the 6th World Water Forum has been translated into Russian and broadly disseminated across Central Asia and other Russian-speaking regions. To this end, a special e-window has been created in CAWater-Info web-portal with information in Russian and English (www.cawater-info.net/6wwf/index_e.htm).

(b) Establishment of action plans and working groups for seven priority areas under Thematic Process.

(c) Sub-regional and national meetings and interactions to identify specific priorities, targets and solutions for Central Asia. Key meetings include: (i) regional symposium “Water in Central Asia”, in November 2010, with participation of 115 representatives from 15 countries and (ii) international conference “Cooperative Actions for Water Security” in Tashkent on 12 -14 May 2011, with participation of more than 400 participants.

Key Institutions and Stakeholders Involved

- Sub-regional coordination group: Victor Dukhovny, Scientific Information Center of Interstate Coordination Water Commission (SIC ICWC); Saghit Ibatullin, Executive Committee of the International Fund for saving the Aral Sea (EC IFAS); Vadim Sokolov (GWP CACENA);
- Interstate water and environmental organizations – IFAS and its organizations: EC IFAS, Interstate Coordination Water Commission (ICWC) and Interstate Commission of Sustainable Development (ICSD);
- National water authorities from five countries, with invitation water institutions from Afghanistan, Caucasus, Eastern Europe (Russia, Ukraine, Poland, Moldova, etc);
- Parliamentarians and national authorities, including Ministries of Foreign Affairs;
- International networks such as: INBO-EECCA, GWP CACENA, REC Central Asia and REC Caucasus, the Amudarya Basin Network, Network Water and Gender;

- Regional research centres: SIC ICWC, RHMC Central Asia, Center of Applied Geo-Studies; Centre of Space Studies; Regional UN Centre on Preventive Diplomacy
- International institutes: ICARDA, IWMI, IHE-UNESCO, IHP-HELP Centre for Water Law, Policy and Science at the University of Dundee;
- Academic and educational institutions related to water, land and environment;
- Representatives of end-users' institutions and NGOs: WUAs, associations of farmers and householders, etc.

SPECIFIC PRIORITIES FOR CENTRAL ASIA

Priority 1: Guaranteeing water for future generations

Priority 2: Risk management and water security

Priority 3: International cooperation in the field of transboundary watercourse management for the benefits of all countries of the region

Priority 4: Adoption of innovations in agrarian sector for achieving food security

Priority 5: Integrated water resources management – a tool for balancing multiple uses of water

Priority 6: Climate change and conserving environmental capacity

Priority 7: Sustainable water supply and sanitation

SOLUTIONS FROM CENTRAL ASIA

- Preparation of forecast of future situation in the Central Asian region. Contributor: SIC ICWC. Online: <http://www.solutionsforwater.org/solutions/preparation-of-forecast-of-future-situation-in-the-central-asian-region>
- Promotion of cooperation in transboundary water areas on the basis of observation of the international law principles and regional agreements. Contributor: EC IFAS. Online: <http://www.solutionsforwater.org/solutions/international-convention-and-regional-agreements-in-central-asia>
- Development of mechanisms for strengthening international cooperation on transboundary watercourse management in Central Asia. Contributor: EC IFAS. Online: <http://www.solutionsforwater.org/solutions/development-of-mechanisms-for-strengthening-international-cooperation-on-transboundary-watercourse-management-in-central-asia>
- System and mechanisms for interaction of different organizations focused on water productivity improvement. Contributor: Water Productivity Improvement at Plot Level Project. Online: <http://www.solutionsforwater.org/solutions/system-and-mechanisms-for-interaction-of-different-organizations-focused-on-water-productivity-improvement>
- Improvement of water and land productivity on the basis of developing and promoting efficient technologies, adopted for use and dissemination by means of interaction between different organizations of water and agricultural sectors. Contributor: SIC ICWC. Online: <http://www.solutionsforwater.org/solutions/improvement-of-water-and-land-productivity-on-the-basis-of-developing-and-promoting-efficient-technologies-adopted-for-use-and-dissemination-by-means-of-interaction-between-different-organizations-of>
- IWRM practice for sustainability in Central Asia. Contributor: SIC ICWC. Online: <http://www.solutionsforwater.org/solutions/iwrm-practice-for-sustainability-in-central-asia>

- Central Asia Regional Water Information Base (CAREWIB). Contributor: SIC ICWC. Online: <http://www.solutionsforwater.org/solutions/central-asia-regional-water-information-base-carewib>
- Increased capacity building in the field of water resources in Central Asia by Improvement of education process in IWRM. Contributor: Kazakh-German University. Online: <http://www.solutionsforwater.org/solutions/increased-capacity-building-in-the-field-of-water-resources-in-central-asia-by-improvement-of-education-process-in-iwrn>
- Natural method of the growth of water resources effective usage and ecological improvement. Contributor: Mamanov Abdurahim, researcher at Samarkand State University. Online: <http://www.solutionsforwater.org/solutions/natural-method-of-the-growth-of-water-resources-effective-usage-and-ecological-improvement>
- Pilot PES scheme in the Chon-Aksuu watershed, Kyrgyzstan. Contributor: Regional Environmental Centre for Central Asia. Online: <http://www.solutionsforwater.org/solutions/pilot-pes-scheme-in-the-chon-aksuu-watershed-kyrgyzstan>

SPECIFIC PRIORITIES, TARGETS AND SOLUTIONS FOR CENTRAL ASIA

PRIORITY 1: GUARANTEEING WATER FOR FUTURE GENERATIONS

RATIONAL: Despite the fact that existing water resources in Central Asia are sufficient to meet water demand in the near future, geopolitical, socio-economic, demographic, climatic and ecological considerations make it challenging to ensure water for future generations. Main threats to guaranteed access to water include:

- Institutional weakness of water resources management and lack of prospective planning;
- Lack of sound legal frameworks for water regulation at international and national levels;
- Irrational and ineffective surface and ground water use;
- Negative interference in water management from state authorities such as local governments, shirkats cooperatives, etc.;
- Commercialization of water and attitudes towards water.

Additionally, the impact of population growth, climate change, globalization and geopolitical factors complicate situation further.

TARGET 1.1.: Develop forecast for future water situation in the Central Asia for next 25 years and options for water guarantee as recommendations for decision-makers based on good practices at national and international levels.

SOLUTION 1.1.: Adopt basin and national “road-maps” for sustainable water development. Solution requires:

- development of prospective vision tools such as the Aral Sea basin model (ASBmm) and prospective planning with taking into consideration the interests of all water users;
- cooperation between national hydrometeorological services to enable reliable forecasts and early warning systems;
- transition to a sound system of long-term and seasonal water resources regulations to ensure sustainability and predictability of water management and mitigation of extreme water conditions; come to 20% decrease in the total and unit water use by 2030 through reduced organizational losses;
- widespread adoption of water conservation measures and improvement of water productivity, especially in irrigated agriculture; and
- development of mechanisms for adaptation to climatic and hydrological variations.

CONTACTS: Prof. Victor Dukhovny, Scientific Information Center of Interstate Commission for Water Coordination (SIC ICWC), B. 11, Karasu - 4, Tashkent, 700187, Republic of Uzbekistan, e-mail: dukh@icwc-aral.uz

PRIORITY 2: RISK MANAGEMENT AND WATER SECURITY

RATIONAL: Central Asian countries have an extensive network of water infrastructure, including large hydraulic structures on transboundary waters. While bringing multiple benefits in terms of seasonal and long-term flow regulation, large dams also bear a significant potential threat. In the case of natural events and anthropogenic accidents, disastrous effects may occur across the region. The natural ageing of dams in Central Asia, many of which were built 30 to 40 years ago, requires close supervision of their technical condition and the execution of proper repair and rehabilitation work. The high seismic activity of the region adds another layer of complication for dam operations and calls for extra-care in their construction.

Water security issues are linked to appropriate management of the risk related to climatic variations, natural and anthropogenic hazards. As research shows, current and future climate changes will be accompanied by an increase in inter-annual variability and lead to increased frequency and depth of hydrological drought in the region. Glaciers retreat will have a significant impact on changing the flow in the first half of the XXI century. In a changing climate, when the mudflow activity could increase tenfold, protection against mudslides, floods and landslides becomes of national and international importance.

TARGET 2.1.: Preparation of strategy and action plan to build institutional and legal frameworks on sustainability of large infrastructures in the region to ensure future water security.

TARGET 2.1.: Adaptation of water infrastructure in Central Asian states to address the risks of climate change, natural disasters and anthropogenic factors.

SOLUTION 2.1.:

- Jointly monitor and assess long-term safety of hydraulic structures, especially on transboundary watercourses, and create relevant public institutions to fulfill these functions;
- Build capacity of national and regional bodies to ensure safety of hydraulic structures and to control floods, mudslides and other emergencies;
- Draw up and sign regional (basin) agreements on safety of large structures.

SOLUTION 2.2.:

Solutions at the regional level:

- the most radical adaptation measures may include water transfer projects within the region and adjacent territories;
- priority should be given to activities related to water saving and environmental protection;
- it is necessary to create a simulation system for the detailed evaluation and management of water resources.

Solutions at the national level:

- introduction of water conservation technologies in agricultural production, industrial and domestic sectors;
- to compensate for the increase in the inter-annual variability of river flow and its intra-annual variations due to glaciers retreat, it is necessary to design and construct reservoirs on the rivers mainly for seasonal regulation and flood control, as well as flood prevention and water control structures.

CONTACTS: Mr. Kurbangeldy Ballyev, Representative of Turkmenistan in the Executive Committee of the IFAS, 050020, Almaty, Dostyk avenue, 280, Tel.:(fax) 7(727) 387-34-31/(33), e-mail: kballyev@mail.ru

PRIORITY 3: INTERNATIONAL COOPERATION IN THE FIELD OF TRANSBOUNDARY WATERCOURSES MANAGEMENT FOR THE BENEFITS OF ALL COUNTRIES OF THE REGION

RATIONAL: It has been twenty years since the international cooperation on transboundary rivers among the Central Asian countries started. The basis for the cooperation was laid down by the Ministries of Water Resources of the Central Asian Republics on 12 September 1991 when they signed a statement acknowledging the necessity of “solving the issue of joint use of the Aral Sea basin waters as an integral whole based on common for all the states principles of equality and fair management of water use with consideration of the interests of the nations residing in the region”. On this basis, “The Agreement on

Cooperation in the Area of Joint Management of the Use and Protection of Water Resources of Interstate Sources” was signed on 18 February 1992. This agreement created Interstate Coordination Water Commission (ICWC), which has played an important role in retaining previously used mechanisms of distribution of water resources of international watercourses.

On April 28, 2009, the Heads of the Central Asian states signed a Joint Statement, highlighting the important role of IFAS in coordinating of activities and addressing the fundamental issues of cooperation between the countries in Central Asia and the donor community, including international financial institutions. The Heads of the States also expressed in this Joint Statement their commitments to further improve the organizational structure and contractual and legal framework of IFAS in order to increase efficiency of its activities and achieve more active interaction with financial institutions and donors in implementation of the projects and programs related to solving the Aral Sea basin issues. In addition, the Heads of the States confirmed their commitments to the principles of the integrated water resources management (IWRM). The Heads of the State-Founders of IFAS also confirmed their interest in development of a mutually acceptable mechanism for the multi-purpose use of water resources and protection of the environment in Central Asia, with consideration of the interests of all the states in the region.

<p>TARGET 3.1.: Promotion of cooperation in transboundary water areas on the basis of observation of the international law principles and regional agreements.</p>	<p>SOLUTION 3.1.:</p> <ul style="list-style-type: none"> ➤ Readiness for assessment of possibilities for joining international water conventions and developing on their basis draft agreements on transboundary watercourses ➤ Initiation of the dialogue between the Central Asian states on development of mutually acceptable rules and regulations for water resources management on the basis of the principles of the international law and provisions of regional agreements.
<p>TARGET 3.2.: Development of mechanisms for strengthening cooperation in transboundary water flow management on the basis of international and legal instruments which takes into account the interests of all Central Asian states.</p>	<p>SOLUTION 3.2.:</p> <ul style="list-style-type: none"> ➤ Readiness for further improvement of organizational and contractual-legal framework of IFAS to enhance efficiency of its activities and achieve more active interaction with financial institutions and donors in implementation of the projects and programs related to solving the Aral Sea basin issues. ➤ Development of mutually acceptable mechanism for multipurpose use of water resources and environmental protection in Central Asian states which takes into account the interests of all states in the region. ➤ Creation of national informational systems and database which will become the basis for the regional system recognized by all states. ➤ Raise of public participation and awareness of water management issues ➤ Improvement of the water accounting system and introduction of SCADA system with its technical and metrological support ➤ Realization of the regional projects.

CONTACTS: Professor Saghit Ibatullin, Chairman of the Executive Committee of IFAS and Marat Narbaev, Representative of the Republic of Kazakhstan in EC IFAS. 050020, Almaty, Dostyk avenue, 280, Tel.:(fax) 7(727) 387-34-31/(33) e-mail: Saghit@inbox.ru; mail@ec-ifas.org

PRIORITY 4: ADOPTION OF INNOVATIONS IN AGRARIAN SECTOR IN ORDER TO ACHIEVE FOOD SECURITY

RATIONAL: Achieving food security is a priority issue for all CARs, given their landlocked location, low incomes in rural areas, and transition from planned to market economy. The natural and climatic conditions of the region favor agricultural development but key constraints to achieve food security include:

- limited areas under irrigation and land productivity;
- limited water availability, and inefficient water use;
- artificial water shortage and competition between hydropower (energy regimes) and irrigated agriculture.

Hence, to achieve food security the agrarian sectors of the CARs have to focus on innovation to improve land and water productivity.

TARGET 4.1: Increase water productivity by 50% and land productivity by 20% through the adoption of water saving technologies by 2025

SOLUTION 4.1.: Improve water and land productivity on the basis of developing and promoting efficient technologies through interaction between different organizations of water and agricultural sectors.

Mechanisms should include:

- engineering and technical solutions for developing water accounting system, planning and water allocation;
- organizational solutions to improve management system at WUA and farm levels;
- economic incentives for WUAs and farmers to improve water and land productivity linked with payments for water delivery;
- legal support to legitimize reforms and ensure compliance; and
- innovative partnerships at multiple levels and scales.

TARGET 4.2: Increase drainage water use by 5 km³ a year that would account for 30% drainage water reuse in irrigation

SOLUTION 4.2. Drainage water use for irrigated agriculture to improve ecological situation in river basins and increase water availability.

- Existing solution makes use of drainage water for crop irrigation on the basis of evaluating their actual amount and including them into water consumption plan within formation zone.
- Innovative solution requires a set of measures to address (a) drainage water use for irrigation, (b) reduction in return flow through application of water saving technologies for furrow irrigation; and (c) stop discharging fresh groundwater into drainage networks and make use of it in irrigation. Immediate actions in this respect include: 1) identification of areas of drainage water formation with various volumes and quality, with different dynamics in flow and quality over many years and yearly; 2) identification of conditions of formation and feeding drainage water; 3) zoning of various types of drainage water in accordance with conditions of formation, feeding, volumes and quality.

CONTACTS: Dr. Shukhrat Mukhamedjanov, Regional Leader of “Water Productivity Improvement at Plot Level” Project, SIC ICWC, Building 11, Karasu-4, Tashkent, 100187, Uzbekistan, Telephone/(fax) (998 71) 265-09-57, e-mail: shukhrat_m@icwc-aral.uz

PRIORITY 5: INTEGRATED WATER RESOURCES MANAGEMENT – A TOOL FOR BALANCING MULTIPLE USES OF WATER

RATIONAL: Putting IWRM principles into practice in the water sector of CARs started in the Soviet time with the development of schemes on integrated water resources use for each basin. Currently, CARs are also undertaking regional and national measures on the implementation of IWRM principles. The most significant step towards IWRM has been made under the regional project “IWRM-Fergana Valley” implemented by water authorities of Kyrgyzstan, Tajikistan, and Uzbekistan under overall co-ordination of the SIC ICWC and IWMI and financial support of the Swiss Development Cooperation (SDC). At national level, Kazakhstan developed National IWRM Plan and Programme on IWRM, which is currently at the stage of implementation in 8 basin authorities with wide stakeholder involvement. In Uzbekistan, IWRM process started from bottom-up – from end users level to higher levels of water management hierarchy: WUA – Irrigation System – Basin, with involvement of specific stakeholders at those levels. Kyrgyzstan and Tajikistan seems to use a combined bottom-up and top-down approaches to introduce IWRM principles. While there is a basic understanding on IWRM in the region, wide dissemination of approaches to put IWRM principles into practice is still needed.

TARGET 5.1.: Practical implementation of the IWRM principles at almost 50% of irrigated area in Central Asia up to 2015.

SOLUTION 5.1.: To facilitate actions for wider IWRM practical implementation in the region. Development of financial mechanisms for viability of IWRM and other tools. Solution requires, inter alia:

- National IWRM Plans (or IWRM Visions) development and their adoption by National Water Authorities in Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan – by the end 2012. Development of national plans for Syrdarya and Amudarya.
- Triggering National IWRM policy dialogues in all countries to promote wider public participation in water governance at multiple levels in 2012-2014. The main issues of policy dialogues are - how to ensure the legal arrangements for the Public Water Bodies involved, what financial mechanisms for their involvement are needed.
- Establishment of a network of training centers and coordinated capacity development process over the region within the Aral Sea Basin Program-3. This training network should provide training and wide popularization of IWRM principles and water users’ participation during 2012-2014.
- Creation of expert working groups for legal and financial justification of IWRM and its implementation, improving water charging mechanisms, legal and financial coordination of efficient water use aspects at multiple levels – during 2012-2014.
- Assistance to the national water authorities to attract funds for technical measures during 2012-2014, aiming at: introduction of water record keeping; contribution of hydro-meteorological services in IWRM; establishing the extension service for improving the water productivity; computerization of managing the water supply and irrigation systems; water-saving interventions, etc.

CONTACTS: Dr. Vadim Sokolov, GWP CACENA Regional Coordinator, Building 11, Karasu-4, Tashkent, 100187, Uzbekistan, e-mail: vadim@icwc-aral.uz

PRIORITY 6: CLIMATE CHANGE AND CONSERVING ENVIRONMENTAL CAPACITY

RATIONAL: The impact of climate change is apparent across Central Asia, posing risks to regional development, affecting water availability and use, agricultural activities, and population health among other things. As result of average annual temperature rise by less than 1°C over the past century, the glaciers of Central Asia have already shrunk on one third. Glacial retreat causes flood events in the short-term, and declines in long-term water availability, thus intensifying the aridity of the region. Growing risks of water shortage and intensification of droughts, floods and other extreme events make climate change and water issues are of particular importance for the CARs in their endeavors to ensure sustainable development. In this regards, it is necessary to identify climate-related threats for the region, individual countries and areas and elaborate ways for the adaptation to climate change.

TARGET 6.1.: Assessment of supposed change of water availability in principal water basins and preparation of action plans to ensure access to water under new conditions. Establishment of special teams in each country for preparation of a set of specific measures for adaptation to climate change.

SOLUTION 6.1.: A set of measures for adaptation to climate change and conservation of environmental capacity includes:

- Measures for development of hydrometeorological and climate monitoring;
- Measures to monitor the impact of climate change on frequency of extreme events;
- Measures to support sectors of economies, depending on water resources;
- Measures to mitigate climate change impact on water resources and economic sectors;
- Measures for improvement of aquatic ecosystems and environment conservation; and
- Measures to improve decision-making systems;
- Measures to raise awareness of the general public and decision-makers on adaptation to climate change and mitigation of its consequences.

It is necessary to improve understanding among wider circle of stakeholders and institutions on potential climate change impacts and a need for long-term planning. Programs to educate future generation to live under conditions of water scarcity are also required.

CONTACTS: Bakhtiyor Kadyrov, 1st Deputy Director General, Centre of Hydrometeorological Services under the Cabinet of Ministers of Uzbekistan (Uzhydromet), Building 72, Makhsumova street, Tashkent, 100052, Uzbekistan, tel. 233-83-72, e-mail: uzhymet@meteo.uz

PRIORITY 7: SUSTAINABLE WATER SUPPLY AND SANITATION

RATIONAL: All CARs have adopted the United Nations Millennium Declaration and trying their best to meet the Millennium Development Goals regarding access to safe drinking water and basic sanitation. However, none of the countries is able to assure that the targets will be met by 2015, due to exhaustion of WWS systems, inefficient water use, poor maintenance and operation works, lack of economic mechanisms and effective governance systems. Poor WSS services are result of considerable reduction in investments into the sector due to general economic recession, decline in earnings and budget deficits. Hence, to improve access to drinking water and basin sanitation, the CARs need substantial investments into the sector. Given that IWRM has been recognised as an effective tool to address water-related challenges, more persistent endeavors to integrate WSS into IWRM are required.

TARGET 7.1.: Identify the extent of progress towards achievement of the MDGs in water supply and sanitation (WSS) sector and to integrate WSS into IWRM system.

SOLUTION 7.1.:

- Establish an international advisory service on efficient water use for drinking and municipal needs.
- Undertake research projects and prepare monitoring and evaluation tools to (a) assess investment rates and growth of coverage with water pipelines of urban and rural population in all countries of Central Asia; (b) analyze ecological compatibility of on-going WSS projects and extension of the coverage with sewage treatment plants in the countries; (c) elaborate a map of groundwater sources in Central Asia with recommendation on their sustainable abstraction; (d) identify rates of daily water consumption per person for drinking and household needs, including estimation of different indicators that influence on quantity of water used in any specific site.
- Organize International Exhibition “Equipment and accessories for WSS” for countries of Central Asia and Europe to share experience and present best water supply projects.
- Set up measures to integrate WSS into IWRM system.

CONTACTS: Valery Syundyukov, Association of Water Supply and Wastewater Disposal Organisations “Kazakhstan Su Arhancy”, Building 103, Abaya Avenue, Astana, Kazakhstan, tel.: (7172) 37 67 54, e-mail: kazsu@astanainfo.kz