Interstate **C**ommission for **W**ater **C**oordination in Central Asia	**BULLETIN № 3 (65)**	October 2014

TABLE OF CONTENTS

DECREE OF THE PRESIDENT OF THE REPUBLIC OF KAZAKHSTAN No. 875 OF 6 AUGUST 2014 "ON REFORMATION OF THE PUBLIC ADMINISTRATION SYSTEM OF THE REPUBLIC OF KAZAKHSTAN"

(extract)

In accordance with sub-clause 3) of Article 44 of the Constitution of the Republic of Kazakhstan, with the view of modernizing and improving the efficiency of the public administration system, optimization of the state machinery, and formation of a compact Government of the Republic of Kazakhstan, I hereby resolve to:

1. Reorganize:

2) the Ministry of Agriculture of the Republic of Kazakhstan providing it with the functions and authority of the formulation and implementation of the national policy in the sphere of fishery development, water resources management, forests, wildlife transferred from the Ministry of Environment and Water Resources of the Republic of Kazakhstan to it;

2. Establish:

4) the Ministry of Energy of the Republic of Kazakhstan providing it with the following functions and authority transferred from the Ministry of Oil and Gas of the Republic of Kazakhstan to it:

formulation and implementation of the national policy in the sphere of electric power industry, nuclear power industry from the Ministry of Industry and New Technologies of the Republic of Kazakhstan;

formulation and implementation of the national policy in the sphere of protection, control, and supervision over rational use of natural resources, management of municipal solid waste, development of renewable energy sources, control of the national "green growth" development policy from the Ministry of Environment and Water Resources of the Republic of Kazakhstan;

3. Abolish:

The Ministry of Environment and Water Resources of the Republic of Kazakhstan;

4. Make:

1) the newly established and reorganized government bodies the legal successors of the rights and obligations of the government bodies abolished in compliance with the functions and authority transferred;

2) that the Prime Minister of the Republic of Kazakhstan shall have two deputies.

5. Government of the Republic of Kazakhstan shall provide:

1) re-arrangement of the staff size of the reorganized and newly established government bodies in coordination with the Executive Office of the President of the Republic of Kazakhstan;

2) integrated control of the associated activities of the reorganized and newly established government bodies;

3) continuous functioning of the system of central executive agencies during the implementation of the reform as provided for by this Decree;

4) before 1 January 2015, amendment of the relevant laws of the Republic of Kazakhstan for ensuring clear division of the scope of duties between the Government and ministries, ministries and local executive agencies, raising the non-reliance of ministers, and undertaking new measures to implement this Decree.

6. Amend the Decree of the President of the Republic of Kazakhstan No. 6 of 22 January 1999 “On the Framework of the Government of the Republic of Kazakhstan” as follows:

Clause 1 shall be amended to read as follows:

“1. Based on the recommendation of the Prime Minister of the Republic of Kazakhstan, the Framework of the Government of the Republic of Kazakhstan shall be fixed as follows:

Office of the Prime Minister;

Ministry of Internal Affairs;

Ministry of Foreign Affairs;

Ministry of Culture and Sport;

Ministry of National Economy;

Ministry of Defense;

Ministry of Investments and Development;

Ministry of Education and Science;

Ministry of Public Health and Social Development;

Ministry of Agriculture;

Ministry of Finance;

Ministry of Energy;

Ministry of Justice."

7. The Executive Office of the President shall be charged with supervising the execution of this Decree.

8. This Decree shall enter into force on the date on which it is signed.

Nazarbaev, N.

President of the Republic of Kazakhstan

VISIT OF THE DELEGATION OF THE BERLIN-BRANDENBURG ACADEMY OF SCIENCES AND HUMANITIES TO UZBEKISTAN

Before the visit of the delegation of the Berlin-Brandenburg Academy BRD (BBA), Joop de Schooter (UNESCO IHE) and Prof. V. A. Dukhovny (SIC ICWS), two authors of the book "Water in Central Asia: Past, Present, and Future", were invited to the Academy in summer 2013.There they made reports and gave information on conditions of water management and development in the region and IWRM implementation in the Fergana Valley.

Meanwhile, the members of the research group "Society-water-technology" presented Joop de Schooter and Prof. V. A. Dukhovny the key areas of BBA group activity.

During three years the Interdisciplinary Research Group "Society – Water – Technology (IAG GWT)" of the Berlin Brandenburg Academy of Sciences and Humanities focused on the following questions: "How water engineering projects (MWEPs) can serve as an instrument for sustainable management of water resources?", and "How large-scale water projects may shape on the development of society and natural resources?"

The research group proceeds from the following points:

- The questions imply considerable financial risk;
- The questions lead to significant changes in public life and environment;
- The extent of the questions importance goes beyond regional and state frontiers;

- Questions are complicated by large human and financial resources requirements;
- Questions are technically complicated due to expertise requirement;

Besides, large-scale water projects are characterized by irreversible effect, as initial (ecological, structural, social) conditions can be hardly returned. As a consequence, such projects restrict options in the future, limiting valuable resources and field of activity, as a result of its scale.

Considering that Uzbek specialists' views on large-scale water activities coincide with the working group's focus, the consent on prior research was given after the consultation with the Ministry of Foreign Affairs and the Ministry of Water Resources of the Republic. As envisioned by German scientists, research was to address the Fergana Valley, as one of the most socially stressed areas as its water development is constrained by water deficit; and familiarize with SIC ICWC work on strengthening of cooperation and water capacity in the Republic.

Before coming to Uzbekistan and visiting the Fergana valley, research group was studying the situation in the southern part of the Jordan River.

Members of this research group are already actively engaged in several programs of scientific cooperation with Uzbekistan, such as the "Water in Central Asia" (CAWa) Network, the Postgraduate program "Land use, Ecosystem Services and Human Welfare in Central Asia" (Luca) or the "Climate Network for Central Asia" (ClinCA).

The overarching aim of this research visit is to enhance cooperation between Uzbek and German research institutions in the field of resource efficiency and integrated water management and prepare a joint research program for future cooperation.

The visit of the delegation was financed by DAAD German program and intended:

- to enhance understanding of the specific research needs in the region;
- to improve access to information and data in order to prepare the research activities;
- to create possibilities for research and exchange for master and PhD candidates between Uzbekistan and Germany;
- to develop future German–Uzbek–Central Asian Research and Cooperation Activities.

The delegation arrived to Tashkent on May 4, 2014, comprising of the following members:

Prof. Dr. Hans-Georg Frede – Head of the delegation, Justus-Liebig University in Giessen; resource management, hydrology and irrigation techniques specialist,

cooperated with SIC ICWC on CAWA program since 2008;

Dr. Oliver Bens – soil scientist of GFZ German Research Centre for Geosciences in Potsdam;

Prof. Dr. Petra Dobner – political scientist, systems analyst of Martin-Luther-University in Halle-Wittenberg;

Prof. Dr. Bernd Hansjürgens - environmental and resource economist of Helmholtz Centre for Environmental Research – UFZ in Leipzig;

Prof. Dr. Hermann Kreutzmann – geographer in the field of development mechanisms of Free University of Berlin;

Prof. Dr. Axel Meyer – hydrobiologist of University of Constance;

Dr. Timothy Moss - water governance and IWRM specialist of Leibniz Institute for Regional Development and Structural Planning (IRS);

Christine Bismuth – agronomist of Berlin Brandenburg Academy of Sciences

Dr. Sebastian Hoechstetter – geoecologist of GFZ German Research Centre for Geosciences in Potsdam

After arrival to Tashkent at 2 p.m., participants of the group took the flight to Fergana at 10 a.m. After the rest in the “Asia” hotel, they visited the Central Control Station in the Fergana Valley. There Mr. F. Rasulov, Director of CDO, and V. A. Dukhovny made two introductory presentations: the first was on Water Management in the Fergana Valley, and the second one – on overall development and effectiveness of IWRM implementation in the Fergana Valley. The speakers were asked many questions concerning peculiarities of institutional and legal IWRM frameworks; economical prerequisites and interests of different actors in the rural sector; the role of governance in IWRM implementation and understanding of ecological aspects as well.

According to the agenda, during May 5-7 guests visited the following organizations:

- Southern Fergana Canal Administration, where they familiarized with the activity of the organization, water scheduling, distribution and measuring;
- WUA "Kadyrjon Azamjon" and WUA “Akbarbad”in the Kuva district of Fergana province, where the working arrangements and efficiency were discussed with water managers and mirabs. The Head of District administration participated in discussion in WUA "Tomgikkul" in Markhamat district of Andijon province;
- “Kahramon Sakhovati” farm in Kuva district and “Davlat Sakhovati” farm in Markhamat district, where the advanced technology of wheat and cotton production was presented, as well as the work of extension services for technology transfer to farmers;
- Khoshtepa district of Fergana province. They were demonstrated the joint long-term works of SIC ICWC and Giessen University, where graduate students of both countries deepened knowledge, made joint research in the field of land reclamation, drainage, crop water requirements and water conservation;

- The guests were specially impressed by demonstration of the SCADA system in the Syrdarya Basin installed by SIC ICWC and SIGMA Company (Kyrgyzstan) with the financial support of the Swiss Agency for Development and Cooperation (SDC). BWO “Syrdarya” successfully operates the SCADA for years.

On May 8, German scientists visited SIC ICWC and familiarized with the information system, prospective development modeling, GIS and RS applications for studying dynamics in landscape and basin from the viewpoint of the long-term transformation, including the changed area under forests. Particular attention was paid to development of the knowledge base and IWRM.

After lunch on May 8 and before noon on May 9, the final workshop was held, where participants exchanged opinions and made some conclusions.

Finally, in the context of discussion, participants agreed to think over the common research activity plan for creation of conditions for efficient development of the whole Fergana Valley, taking into account IWRM positive results and the identified faults, as well as deep socially-economical and political analyses. Meanwhile, it was proposed to request German donors to decide on participation of young local specialists, as master and PhD students.

WORKSHOP OF SIC ICWC AND BERLIN-BRANDENBURG ACADEMY OF SCIENCES AND HUMANITIES

On May 8-9, 2014, in the Training Center of SIC ICWC, with the support of the Berlin-Brunderburg Academy of Sciences and Humanities, the workshop, where representatives from the Berlin-Brundenburg Academy of Sciences and Humanities, German Research Centre for Geosciences (GFZ), Freie Universitat Berlin, Regional Environmental Centre for Central Asia (CAREC), Central-Asian Institute for Applied Geosciences (CAIAG), and SIC ICWC participated, was held приняли участие.

The workshop goal is to summarize the 4-day study trip in the Ferghana Valley, which preceded the workshop, share opinions regarding understanding the existing problems in the water sector in the Ferghana Valley for future cooperation.

Prof. Victor Dukhovny opened the workshop. He introduced the workshop participants the water situation in the Central Asia region and proposed ways to achieve social and economic stability in the Ferghana Valley:

- Stability of water delivery in annual and multiyear dimensions. Political will to mitigate commercial riparian interests;
- Growth and diversification of agrarian production and volume of processing – strengthening of "production chain" in the most efficient way;
- Specific attention to homestead and to development of small handmade production;
- Replace local governance pressure by the coordinating and supporting role in the rural sector.
- Access to loans and micro-credits.
- System of education, training oriented on the real needs and providing financial interests of employers.
- Financial benefit of each unit of the rural sector depending on its contribution to rayon development.

Christine Bismuth presented to the workshop participants the main tasks of Interdisciplinary Research Group (IRG) "Society-Water-Technologies". The

participants recognized about the history of the Berlin-Brundenburg Academy of Sciences and Humanities.

The following facts are evidence of necessity of applying an interdisciplinary approach:

- There are increasing pressures on the resource water and a globally rising conflict potential.
- Technical solutions alone have not yet resulted in the desired improvements (e.g. achievement of the water-related Millennium Development Goals).
- Successful implementation of IWRM schemes is also hard to achieve because of the volatile character of the IWRM definition.
- Major water engineering projects (MWEPs) in the past have determined our existing choices and created path dependencies.
- Facing future rising energy needs and agricultural production demands, large scale water projects have returned to the political agenda in many regions.

Bismuth focused on the following goals of the group:

- Evaluation of existing major water engineering projects (MWEPs) and their implications on the compartments society – water – technology
- Development of an interdisciplinary evaluation approach which covers social, ecological and techno-logical aspects
- Identification of research gaps
- Derivation of concrete options for action for politics, science and international donor organisations

The methodology is as follows:

- Case studies, which include Southern Jordan basin with a focus on Red Sea Dead Sea conveyance project and irrigation, and Fergana Valley with a focus on irrigation and dams;
- Development of a thesis catalogue with research questions concerning the issues society – water – technology
- Organisation of workshops
- Research visits
- Expert interviews

Dr. Hans-Georg Frede gave in brief details of the LUCA and CliNCA projects, including tasks and objectives as well as achievements. He also introduced to the

participants some data on the Ferghana Valley, in particular, land resources, irrigated lands distribution, water use by sectors, irrigation norms of main crops by hydromodule zons, furrow irrigation method, water management challenges in agriculture, and water quality parameters of Syrdarya River within the Ferghana Valley.

In general, three major interrelated water issues are found at the field level:

1. water availability and access to water
2. temporal waterlogging and
3. drainage discharge

In conclusion, Dr. Frede presented the following policy implications and further research needs:

- Improvement of water management at the WMO as well as WUA levels
- Redoubled efforts at mobilizing more data, better information and application of good scientific practices and expert knowledge
- Increasing public participation in water management
- Improvement of the water use efficiency at the field level applying various water saving techniques considering water productivity in terms of net profit/m^3
- Review of currently used hydromodule zoning (GMR)
- Wider use of simple mechanistic models integrating management of irrigation and drainage systems

Dr. Petra Dobner and Dr. Timothy Moss highlighted issues of integrative analytical frameworks in terms of social sciences. They expressed some considerations in this relation for the Ferghana Valley:

- Focus on Fergana as Large-Scale Water Project (LSWP): coping with long-established LSWP (cf. Red-Sea-Dead-Sea as new LSWP)
- LSWP as complex social-ecological, socio-technical, political-economic systems: focus on interdependencies of system components
- Coping with transformation: focus on dynamics of not one, but multiple and continuous transformations (e.g. of agriculture, of irrigation, of geo-political relations, of political economy and role of state, ...)
- Coping with path dependencies: physical/non-physical; visible/invisible; systemic (e.g. state-crop cotton production, irrigation network, hydrocracies, pricing structures for water, ...)

- Shaping transformations: points of entry, options and limitations, time scales (e.g. encouraging private/cooperative farming sector, capacity building of WUAs, drip irrigation techniques, water efficiency incentives for farmers, ...)
- Role of research: raising understanding of above processes, querying assumptions, uncovering inconsistencies, raising alternative options, mapping out potential futures, broadening perspectives, ...
- Value of multi-disciplinary perspectives: going beyond the technical to include economic, social, political, ecological dimensions and their interdependence.

Prof. Bernd Hansjurgens presented information on economics of water, water prices, etc., in particular:

- The "Economics of Water" gives decision support how to deal with scarce water resources and how to make "good" decisions
- Economics can demonstrate the full value of water. This includes a variety of value (not only direct values, but also indirect values and non-use values).
- Economics can provide important rules for defining cost of water resources and for distributing these costs among water users.

Bolot Moldobekov familiarized the audience with activities of the Central-Asian Institute for Applied Geosciences (CAIAG), which focuses mainly on the following research programs:

- Study of the Enylchek glacier for defining its balance, morphological, dynamic characteristics, as well as climatic and hydrological conditions
- Systematic study of water flows in southern Kyrgyzstan, taking into account climate change to assess the intensity of erosion processes and sediment transport in the basin of the Toktogul reservoir

The CAIAG implements such international projects – CAWa and GCO.

Dr. Iskandar Abdullaev presented to the participants the information about water resources management and environment in Central Asia. As the post-2015 agenda, Dr. Abdullaev underlined the importance of ensuring sustainability, meeting a basic level of environmental and social standards; ensuring equitable prosperity and sustainable growth, leaving assets behind for future generations by building social, economic and environmental capital

Dr. Galina Stulina presented to the participants the information regarding changes in landscape and soil of the Aral Sea and Priaralie, and main reasons of these changes.

In conclusion, the participants expressed a great interest to work in the region and gratitude to SIC ICWC for organizing the workshop.

SECOND CENTRAL ASIA CLIMATE KNOWLEDGE FORUM

The Second Central Asia Climate Knowledge Forum "Moving Towards Regional Climate Resilience" took place on May 12-15 in Almaty, Kazakhstan. The Forum aimed to promote knowledge sharing and dialogue on cooperative solutions for resilience to climate changes at national and regional levels. The first two days consisted of technical and scientific discussions around climate change, and the third day consisted of a high-level discussion on the potential Climate Resilience Program that proposed measures to increase climate resilience in Central Asia.

At the **introductory session**, welcome speeches were made by Dr. Laszlo Lovay, Director for Sustainable Development Department of the World Bank, and the representatives of Central Asian countries. A key report was delivered by Dr. Jurgen Kropp, Deputy Director of the Potsdam Institute for Climate Impact Research. He described the main temperature change trends in the world and in Central Asia, highlighted the glacier shrinkage problem and its impact on the water resources in the Central Asian region, and pointed to the escalation of the food security problem in the regional countries as a result of climate change. Among the possible solutions for climate change mitigation is, as the reporter noted, the necessity to develop a water collection mechanism and take measures to improve water and energy efficiency as well as to intensify the works related to international cooperation, modernization of infrastructure, and building of institutional capacities. The speaker indicated the following essential prerequisites for preventing uncontrollable situations and combating inevitable changes: learn to diagnose; carry out highly proficient research; find solutions at different levels; determine one's demands in the result of transdisciplinary activities; and intensify public diplomacy to involve all interested parties and policy makers.

At **the second session "Activity for the Development of Low-Carbon Climate-Resilient Economy"**, national initiatives were presented as well as the ways to mobilize "climatic" funds for stimulation of environmentally friendly and inclusive growth.

The representative of the United Nations Office for the Coordination of Humanitarian Affairs Mr. M. Koshoev delivered a report with data on emergency situations and natural disasters in Central Asia. He focused on the discrepancies in the data provided by international organizations and national agencies and the data given

by various countries, which took place because different methodologies, different criteria, classification, and threshold values for the assessment of emergency situations had been applied. That was the cause the preparation of systematically homogeneous data was difficult, and incompetent analysis of those might result in wrong conclusions. The speaker concluded that monitoring over risks by introducing direct changes by means of special devices and hazard warning are the principal or maybe even the only source of information for setting up the relationship between emergency situations and weather & climatic patterns as well as for assessing various risks.

Ms. Gulmira Sergazina, Director of the Climate Change Department at the Ministry of Environment and Water Resources of the Republic of Kazakhstan, gave an example of a progressive initiative on climate change, viz. the national greenhouse gas emission trading system in Kazakhstan.

Mr. Neeraj Prasad (World Bank) told about the climate change cost related problems and their solutions. He highlighted the importance of the involvement of business, improvement of efficiency, and more active use of the existing financing channels, among which the Green Climate Fund (GLF) was mentioned, mobilization of funds by governments, and the Warsaw International Mechanism for Loss and Damage.

At **the third session "Activities in the Field of Climate Change: International Experience and Cost of the Failure to Act"**, recent scientific breakthroughs were discussed as well as the regional and international experience in the integration of policies and programs for natural disaster reduction, adaptation to climatic changes, and mitigation of their consequences during planning and implementation of sustainable development ideas. The Asian Development Bank representative Mr. Akmal Siddiq spoke of the ADB's initiatives implemented in the field of climate change. He noted that ADB recognized its mission to assist countries as a strategic partner in the development of climatic financing mechanism along with the activization of private sector capital, creation and exchange of climatic knowledge, and strengthening of partnership. The representative of the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) Ms. Olga Pilifosova delivered a presentation on adaptation measures within UNFCCC. The representative of the Institute for Global Environment Strategies Mr. Kenta Usui highlighted the analytical tools for the identification of priority measures for climate-resilient communities.

The fourth session was devoted to the discussion of the case studies of the private sector involvement in the resilient climate development process. Mr. A.O. Orman presented impressive results obtained by the "Water Resources – Marketing" LLC which provides the population of the Shymkent city and a number of human settlements of the Sayram district of Kazakhstan of about one million people with domestic and drinking water and is engaged in wastewater disposal and treatment. He particularly noted that the company for 17 years of its operation managed to save 780.7 mln m3 of water and electric power to the amount of US $36.7M. The representative of the Kyrgyzstan Sustainable Energy Financing Facility (KYRSEFF) informed about the allocation of funds for improving energy efficiency in the housing

and industry sectors. Mr. Craig Davies (EBRD) delivered a presentation on the development of business models in the field of climate change to be used in the private sector.

At the fifth session, the representatives of the Central Asian civil society shared their practical experience in dealing with officials and community on the issues related to the adaptation to climate changes. Among the reporters were the representatives of the Youth Ecological Center of Tajikistan, Union for Saving the Aral Sea and Amudarya from Uzbekistan, Climatic Network of Kyrgyzstan, and Network of Non-Government Organizations of Kazakhstan "EcoForum".

At **the sixth session**, they discussed the challenges and opportunities of the reduction of the risks of natural disasters. A representative of the World Meteorological Organization spoke of the linkage between hydrometeorology, climatic changes, and natural disaster management. The representative of the International Center for Water Hazard and Risk Management (ICHARM) Mr. Yuichi Iwami elucidated the existing flood control approaches. Mr. T. Temiraliev told about the World Bank's participation in the projects for the reduction of natural disaster risks in Kyrgyzstan. Mr. Fikret Azili, Deputy Director of the Project Coordination Unit in Istanbul, shared his experience in the development of preparedness for climatic changes and inter-sectoral coordination of projects.

Two sessions headed **"“Cold” Data for “Hot” World"** addressed the issues of data collection, processing, and presentation, water resources, environmental, and agricultural planning, taking into consideration climate change aspects. The reporters from the World Bank spoke about the international experience in the development of upstream and downstream data system as the basis for integrated water and land resources management during planning, with account of climatic aspects, as well as visualization of these data. Also, an innovation approach to basin-wise evapotranspiration control by means of remote sensing in China (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences) was presented, the case study of developing cooperation in the adaptation to climate change in the transboundary basin Chu-Talas (Climate Change Center, Bishkek) was introduced, and the example of the use of landscape and ecosystem approaches for integrated forest and farm management aimed at creating "triple benefit" with account of climatic aspects was cited (World Bank and GIZ).

During the session, a special attention was paid to the climate impact on agriculture. In particular, they considered the issues related to the implementation of the adaptation strategy to ensure food security (World Bank), the results of simulation of climate change and adaptation impact on the security of farms' income in Central Asia (ICARDA), and the results of no-tillage in Kazakhstan (International Wheat and Maize Improvement Center) were presented.

On the third day of the Forum**, the general principles of the Regional Program of Measures to Improve the Resistance to Climate Change** were discussed; these were formulated based on the data provided by the technical working group and the outcomes of the sessions conducted on the Forum's eve. The priority

actions to be taken at the national level and actions for coordination at the regional level were voiced by the representatives of the countries. For example, the following sectors were identified as of top priority at the national level: agriculture and water industry, emergency sector in Kazakhstan; water resources, agriculture, forest, and biodiversity in Kyrgyzstan; energy sector, agriculture and water industry in Tajikistan; agriculture, water industry, public health, ecosystems, hazards and energy sector in Turkmenistan; and agriculture and water resources in Uzbekistan. All the participants highlighted the significance of the regional-level coordination and joint actions on the base of existing organizations and on-going programs, which was also confirmed in the reports by the representatives of donors.

REGIONAL CONFERENCE «PROSPECTS FOR WATER RESOURCES MANAGEMENT IN CENTRAL ASIA: FROM BASIN APPROACH TO REGIONAL COOPERATION»

The regional conference "Prospects for Water Resources Management in Central Asia: from Basin Approach to Regional Cooperation" was held in Almaty (Kazakhstan) on the 27-28th of May 2014. This event summarized the results of the two regional programs: the "Water Management and Basin Organizations in Central Asia" project funded by the European Union, and the Phase II of the "Transboundary Water Management in Central Asia" program supported by the German Federal Foreign office. The aim of the conference was to share experience and knowledge generated in the course of these programs and plan future lines for sustainable water resources management cooperation in Central Asia, especially as part of the expected Phase III (2015-2017) of the German FFO's program.

The Conference brought together at the high level water agencies from the Central Asian countries, regional organizations (EC IFAS, ICWC, CAREC), and international partners (GIZ, EU, UNECE, SDC, UN Center for Preventive Diplomacy and others). The direct executors of the programs at basin level were also invited to the Conference. SIC ICWC was represented by V.I. Sokolov, D.R. Ziganshina, A.G. Sorokin, G. Solodkiy, and Sh. Muminov.

The first day was dedicated to discussion on basin-wide planning in the Central Asian countries with the focus on the Aral-Syrdarya basin in Kazakhstan, Murgab River basin in Turkmenistan, Padshaota River basin in Uzbekistan, and Isfara River basin in Kyrgyzstan and Tajikistan. Establishment of basin councils and drafting of

basin plans were addressed in details.

The positive effects of the measures undertaken with the support of the German FFO and EU included:

- wider involvement of local experts for better ownership of introduced changes;
- coordination of various donors' activities at the level of basins, where major activities were focused, in order to avoid duplication and share responsibilities for final results;
- refusal from ready-to-implement solutions and search for tailored solutions for specific river basins by stakeholders themselves.

Representatives of the countries and regional organizations were able to share their ideas on future lines of cooperation that needed support from development partners. Particularly, the acting Chairman of EC IFAS Sh.R.Khamraev stressed a need to support activities of the executive bodies of IFAS, further develop human capacities and improve information support of decision making in the area of water management at national, basin, and regional levels, and continue working on safety of hydraulic structures. The Chaiman of the Kazakhstan's Committee for Water Resources I.A.Abishev designated the following priorities: establishment of the information system and water quality monitoring; forecasting of future development through modeling; further work on regional agreements; and, drafting of a long-term regional water and energy use concept. The Director of Water and Land Reclamation Department of the Kyrgyz Republic K.Tashtanaliev underlined a need for continuing work on transboundary river agreement between Kyrgyzstan and Tajikistan. The Deputy Minister of Tajikistan's Energy and Water Resources S.N.Rakhimov assigned the following priorities: capacity building of the regional institutes, including ICWC Secretariat; finalization of the transboundary river agreement between Kyrgyzstan and Tajikistan; implementation of national small hydropower projects and development of feasibility studies for medium and large hydropower; support of national water sector reforms, including capacity building of the newly established service for hydraulic structure safety; and, infrastructural investments. The Head of division at the Turkmenistan's Ministry for Water Resources G. Khanmedov listed among the priorities of future cooperation a need for a regional water quality monitoring project, enhancement of work on water-salt regime monitoring on the basis of European experience, application of modern hydrometry methods, and strengthening of cooperation on the basis of wider recognized international law principles.

The Deputy Director of SIC ICWC Central Asia V.I. Sokolov called upon donors to pay greater attention, alongside with national and bilateral interstate projects, to regional multilateral projects. The three documents - Implementation Plan on strengthening ICWC activities in key directions, the Concept for Developing an Information Network on Water and Related Issues in Central Asia, and the Strategy for Building Capacity on Integrated Water Resources Management in the Central Asian countries - adopted during the 63rd meeting of ICWC in April 2014 could serve as the

guidelines for such projects. He also stressed a need to promote work on monitoring in the Prearalie area by establishing there a Water User Association. An important direction is putting the knowledge transfer system for farmers that was developed jointly with SDC in the Fergana Valley right and its transformation into a wider extension service.

A separate session was dedicated to discussion of the results of CAWA Project intending to contribute to a sound scientific and a reliable regional data basis for the development of sustainable water management strategies in Central Asia. The speakers presented scientific work on the analysis of the past and future climate change and its impact on regional water resources (S.Vorogushyn, C.Conrad), socio-economic scenarios for the Fergana Valley (Sh.Muminov), scenarios of future land use and water requirements in the Fergana Valley (I.Dernedde), scenarios of water distribution in the Fergana Valley until 2050 (A.Sorokin), adaptation measures in water management in light of climate change in the Aral Sea basin (G.Solodkiy), methods of water and land monitoring (C.Conrad, F.Loe), monitoring of water resources in the flow formation zones (B.Moldobekov), daily water use planning (G.Solodkiy), and application of the "virtual" water concept in the water use assessments (I.Dernedde).

The Kazakh National Technical University named by K.I.Satpaev hosted on the 27th of May 2014 a research-to-practice conference "Topical Issues in Water Management and Conservation" dedicated to the 80th anniversary of the distinguished hydraulic engineer in Kazakhstan Mr. Nariman Kipshakbaev. V.I.Sokolov took floor at the conference on behalf of SIC ICWC.

Panel discussion during the conference

At the conference

ICWC members congratulate Prof. N.K. Kipshakbaev with the 80th jubilee

REGIONAL WORKSHOP "THE DEVELOPMENT OF CENTRAL ASIAN REGIONAL COOPERATION IN ENVIRONMENT AND WATER RESOURCES INFORMATION MANAGEMENT"

The workshop "The Development of Central Asian Regional Cooperation in Environment and Water Resources Information Management" was held in Almaty from 9 to 10 June 2014. It was attended by the experts from the ministries of environmental protection, agriculture and water resources, hydrometeorological services, Interstate Commission for Sustainable Development (ICSD), Scientific Information Center (SIC) of ICSD, Executive Committee of International Fund for Saving the Aral Sea (EC IFAS), Scientific Information Center of the Interstate Commission for Water Coordination in Central Asia (SIC ICWC), Basin Water Organization (BWO) "Syrdarya", Regional Center for Hydrology (RCH), Regional Environmental Center for Central Asia (CAREC), International Office for Water (IOWater), and a number of key donors.

The workshop was initiated by UNECE as one of the principal international organizations that promote international cooperation.

The conference was arranged in the form of six sessions as follows:

1. Strength and weakness of the nation- and region-wide management of information on environment, water resources, and hydrometeorology; opportunities for complementarity and synergy.

2. Information needs for environmental protection and sustainable development.

3. Information needs for integrated water resources management.

4. Determining the structure and scope of the common regional information space.

5. Fundamental principles, legal framework, and institutional structures for the modern regional information space.

6. Further steps to deal with the existing challenges.

Reliable, comprehensive, internally coordinated and understandable information is an important element of the efficient decision support system at the national and regional levels. Regular efforts to strengthen regional cooperation should include, as one of the initial steps, specific actions aimed at improving information management. In Central Asia, there is still a need for creating a properly working regional information platform on sustainable development, environmental protection, and water management.

Information on environment and water resources and hydrometeorological data often overlap and complement each other. Building up of decentralized yet single information space that covers all the above-mentioned fields would be not only an effective measure in terms of cost, but also considerably enhance the usefulness of the information space both for scientific purposes and decision support process.

Last year, SIC ICSD prepared an assessment report with recommendations for improving ICSD with the assistance of UNECE. Based on that report, a roadmap was developed which includes a series of specific steps and draft documents. The draft Roadmap was discussed at the ICSD meeting in Dushanbe on April 3, 2014. Both the assessment report and Roadmap highlighted the necessity of improving the management of environmental information at the regional level. Also, in Dushanbe ICSD decided to request UNECE for assistance in the organization of a workshop on working out methodological approaches and requirements for the development of common information space on environment and sustainable development in Central Asia.

It should be noted that ICWC has substantially been ahead of ICSD as it pertains to the development of information system, creation of a portal, which is currently regularly visited by more than 4,000 users, and development of the knowledge base on water resources, irrigated agriculture, and environment. Better understanding of the necessity of data exchange at the regional and cross-national levels, role and significance of information systems in water management, conservation, and development, where ICWC is ahead of ICSD, provides at the same

time the ground for joint actions. This was evident from the speeches made at the workshop. The "Concept for Developing Information Exchange and Relationship Mechanisms among its Participants in Central Asia" drafted by the EC IFAS Working Group with the involvement of experts from all Central Asian countries was refined by the group of ICWC's experts and approved at the 63rd ICWC meeting (April 2014, Tashkent). This facilitates further development of the information field in water, land, and natural resources with the participation of both ICSD and ICWC, as well as other organizations in the region. The basic provisions of the modified document named "Concept for Developing an Information Network on Water Issues in Central Asia" reflects the following points:

- Priority goals and tasks for implementation of the policy, agreed upon by the states, for developing information exchange on water issues in Central Asia.
- Principles and organizational framework of cooperation among the Central Asian states in the area of developing appropriate information services in the water sector.
- Mechanisms for implementation of measures and programs agreed upon by the states for improvement of information provision and development of interstate information exchange on water issues in Central Asia.

Among the basic principles of the formation of information network, the following were mentioned:

- use and development of existing information resources and infrastructure at the national and interstate levels
- completeness, official sources, relevance and reliability of information
- openness and accessibility of information, while observing national laws regulating access to legally protected secrets
- division of information and its users into categories in order to differentiate access rights
- provision of information security and protection of national interests in the area of water information and information system development for the water sector
- incremental formation and development of ICWC information network and its extension by involving other sectors.

Many speakers highlighted the significance of the CAWater-Info portal, the overall scope and information content of which exceeds by far other information sources functioning in the region. At the same time, a great number of the organizations working in the information field, e.g. Zoi, World Bank, IOWater, have created certain information products (soft goods) that needed to be included in the

common information field and the area of their application has to be expanded.

In their reports on the prospects for development of the information field, Prof. V.A. Dukhovny, Director of SIC ICWC, and Mr. I.F. Beglov, Manager of the CAWater-Info portal, noted that the use of existing soft goods and their improvement on joint basis would further contribute to the enhancement of transparency and accessibility of the basin water management system. Based on numerous regional normative legal documents, they have built a certain basis for data exchange between the parties of the information field which must be strengthened by signing a particular agreement on this issue. Unfortunately, the information system basis created with the assistance of the European Union and Swiss Agency for Development and Cooperation is supported only by Uzbekistan and to some extent by UNECE. Notwithstanding the ICWC's decisions and provisions, none of the ICWC members have concluded contracts for provision of information free of charge or for certain financial contribution to the development of the information system. There are also a few other obstacles to the development of the information system on a democratic basis. In particular, such an obstacle to information transparency and accessibility is the Agreement on Data Exchange between National Hydrometeorological Services and Prohibition on Sharing Information with a Third Party. At that, hydrometeorological services regard regional organizations as third parties, and both BWOs and SIC have to use the data given by these hydrometeorological services, which, in turn, were provided by national water organizations.

The following suggestions were voiced during exchange of opinions:

1. Create Coordination Council composed of the representatives of stakeholders, including EC IFAS, ICWC, ICSD, and UNECE for further development of the joint actions program aimed at building the common information field.

2. Recommend the issues related to water quality, provision of environmental services, land degradation and change of land-use pattern, preparation of basin data sheets as the basis for basin-wide plans of actions.

3. It is advisable to communicate, through EC IFAS, the roadmap prepared by ICSD to ICWC members and bodies, as well as the Information Field Concept agreed with ICWC to the ICSD members.

One can state that the workshop was another step towards the development of the regional information space.

CENTRAL ASIA SUB-REGIONAL PREPARATORY CONFERENCE TOWARDS THE 7TH WORLD WATER FORUM

On 8-9th July 2014, the Central Asia Sub-regional Preparatory Conference towards the 7th World Water Forum was held in Dushanbe, the capital of Tajikistan.

The Conference was organized by the Ministry of Energy and Water Resources of the Republic of Tajikistan, the Secretariat of ICWC, GWP CACENA and some international and regional organizations, under the preparatory process of the 7 WWF.

The Conference identified and discussed the main aspects of regional processes in the water sector and key issues to be presented for discussion at the Forum. The principal aim of the Conference is to formulate and coordinate the Sub-regional Agenda for the 7 WWF.

KEY CONFERENCE THEMES

Safe water enough for each person

With recognition of human rights to water resources and sanitation, in 2010 the United Nations stressed measures, which would make these rights to really work in the world, to judge by quality, quantity, accessibility and equity. Moreover, an efficient access to water means that a source is not safe for drinking.

Managing risk and uncertainty for resilience and disaster preparedness

Managing risk and uncertainty, at extreme changes of water resources and climate variability, is of importance to achieve a socio-economic growth and sustainable development. This theme also encompasses issues of restoration and development after different natural disasters, including anthropogenic disasters. The main focus will be made on informing population to respond in coordination to current natural water-related disasters.

SMART implementation of IWRM

Linking of different water uses between social and environmental requirements is a political and technical process. Various users often pretend to the same water use, but water is a place, which unites these requirements and could foster new productive political and technical dialogues in order to meet these requirements. When we consider multiple water uses, either for food production or energy, industry and environment, or for internal navigation and recreation, the approach of integrated management is required to balance supply and demand. But how is this balance being achieved in practice, meanwhile providing sustainable surface and underground sources of water? How can the lag be eliminated in its implementation?

Green growth, caring for water and industrial development

Water is an integral part of environmental and social sustainability, which maintains global economy and efforts to reduce the poverty scale. However, importance is very often not attached to sustainable and equitable water management, and its benefits are underestimated in decisions for economic development. A sustainable growth can be fostered by linking of economic, social and environmental aspects of water and strengthening them through new innovation technologies and infrastructure. Moreover, business, industry, authorities, NGOs, civil society and other – they all can become a part of the solution of problems related to shared waters, e.g. through uniting efforts to reduce water footprint in industry, therefore reducing costs and increasing efficiency. As different crops just have place, green economy will vary in developing and industrially developed countries. Green economy will be characterized with both new and old technologies and means.

Infrastructure for sustainable water management and water services

Recently, the main challenge of water resources management is to control lack of water, food and energy in the context of population growth. In order to adequately address objectives of water provision and sustainable development, it is required to find ways to reduce aging of facilities, increase as much as possible the efficiency of operation and management of the existing water supply facilities.

Co-operation to reduce conflicts and improve the management of transboundary waters

Water unites much stronger than disunites. A half of the global population lives in the transboundary river basins. Indeed, water is a potential catalyst of cooperation and peace, from local to international level. To create conditions for reliable and sustainable cooperation, it is required to use multiple means, which include new ways to achieve consensus, such as negotiations to be held with somebody's assistance, as well as mediation and multilateral processes with the involvement of stakeholders, legal tools and a platform at national and international levels, practice and organization of joint management, capacity building. Intergovernmental agreements at global level, such as the UN Convention on Watercourses and the UNECE Water Convention, could play an increasing role in promoting more efficient cooperation in the future water sector, given that they meet demands of local communities in development and contribute greatly to more equitable and sustainable results. Water is the area for track two diplomacy, since it plays an important role in arranging of dialogues between conflicting parties.

The conference's participants representing governments, international and regional organizations, various UN agencies, financial institutions, civil society and other stakeholders of the Central Asian sub-region, Caucasus and Mongolia, adopted the Resolution.

RESOLUTION
Of the participants of Central Asian Sub-regional Preparatory Conference for the 7th World Water Forum
8-9 July 2014, Dushanbe

The participants of the Central Asian sub-regional Preparatory Conference for the 7th World Water Forum, representing governments, international and regional organizations, various UN agencies, financial institutions, civil society and other stakeholders of the Central Asian sub-region, including the countries of Central Asia, Caucasus and Mongolia,

Considering the timely preparation of coordinated Central Asian sub-regional agenda for the 7th World Water Forum as well as making worthy contribution to this global event important and necessary;

Providing the presence of water, energy and other natural resources in the Central Asian sub-region in order to achieve sustainable development;

Noting the importance of achieving sustainable water management in the sub-region to address the socio-economic and environmental problems;

Stressing the importance of water cooperation, especially at the transboundary

level to address water issues, including the measures on adaption to new challenges;

Taking into account the need to take coordinated decisions on the priority themes of the 7th World Water Forum to promote and implement water issues in the sub-region,

discussed the following priority themes of the 7th World Water Forum in the context of existing and potential future water problems of the Central Asian sub-region:

- Enough safe water for all;
- Managing risk and uncertainty for resilience and disaster preparedness;
- SMART implementation of IWRM;
- Green growth, caring for water and industrial development;
- Infrastructure for sustainable water management and water services;
- Co-operation to reduce conflicts and improve the management of transboundary waters.

and noted the following:

- Not all of the population of the sub-region has access to safe water and necessary sanitation. Provision of safe water in sufficient quantity for all should be the priority in national development policies and programs;

- The existing problems in the Aral Sea Basin as well as new global and regional challenges require urgent interventions on adaptation measures in the sub-region countries to achieve resilience. Among these challenges, the most provocative and requiring adequate measures include climate change, resulting in an intense melting of glaciers and water loss; ecosystem degradation; and population growth, leading to increased water consumption.

- Integrated water resources management is important tool for linking various types of water use and solving many existing and emerging water issues. Sub-region countries are at the initial path to the transition to IWRM and make every effort for its success based on the successful experiences and best practices from other countries and river basins. Full transition to the IWRM requires adequate resources, including time, human, financial and technical.

- Water resources are a major component of the Green economy. Green development can be promoted by linking economic, social and environmental dimensions of water and enhancing them through new innovative technologies and infrastructure. Water resources can play a special role as a renewable energy source as well as for the socio-economic well-being. At the same time, economic growth and industrial development in the sub-region should be implemented in such a way as to avoid increasing stress on water resources.

- Improvement and modernization of water infrastructure in the sub-region, the

introduction of water and energy-saving technologies as well as the construction of new infrastructure are important tasks in order to achieve sustainable water management and provide adequate water services.

- Strengthening dialogue and mutual understanding and developing partnership and cooperation, especially at the transboundary level, play key role in solving many problems. It is necessary to develop specific and effective cooperation tools for effective transboundary water management.

The conference participants, in consideration of the premises, as well as other major points of the discussions in plenary and thematic sessions, address:

- The governments of the sub-region to make further efforts to improve the legal and institutional frameworks, involve and use modern technologies, increase funding and other appropriate tools and approaches as well as strengthen water cooperation to address the above issues and implement the proposed measures;

- The financial institutions, international organizations, donor countries and other development partners to provide sub-region countries the full support, including financial, technical and technological in order to achieve the main objectives of sustainable development, especially related to water resources;

- The private sector in the sub-region to contribute to solving water issues and implementation of "green" technologies through new investments, in particular through public-private partnerships;

- The civil society of the sub-region to participate actively in discussions of water issues and join forces with the government, private sector and international organizations to address them.

The conference participants also:

- Express their solidarity to the efforts of the international community to integrate water resources into the post-2015 development agenda, as a top priority as well as proper reflection of water in the Sustainable Development Goals.

- Call on all stakeholders to continue consultations in the framework of the preparatory process for the 7th World Water Forum and other international formats.

- Approach the Global Water Partnership of Central Asia and Caucasus (GWP CACENA), a sub-regional coordinator of the Central Asia sub-region, to prepare a draft of the consolidated vision of the sub-region on the priority themes of the 7th World Water Forum on the basis of conference discussions; and hold consultations with all stakeholders to prepare its final version with subsequent submission on the Forum in the form of a parallel event; as well as to assist stakeholders to be involved in the thematic and regional processes of the Forum.

Conference participants thank the Ministry of Energy and Water Resources of the Republic of Tajikistan, the Secretariat of ICWC, GWP CACENA and other

partners for the excellent organization of the conference and creating the favorable conditions for fruitful work as well as the hosts for their warm hospitality.

Accepted
9 July 2014
Dushanbe, Tajikistan

WORKSHOP "COUNTING OUR GAINS" UNDER THE UNECE WATER CONVENTION

For sharing experiences on identification, assessment and communication of benefits of transboundary water cooperation, the workshop "Counting our gains" under the UNECE Water Convention was held on May 22-23, 2014. The workshop was focused on presentation and analysis of specific thematic researches of the transboundary water cooperation, in particular which benefits have been identified, how they have been assessed and communicated in order to influence the existing political processes. The workshop discussed the draft Methodological Guidance on the policy in the sphere of identification, assessment and communication of benefits of transboundary water cooperation. The work on the Guidance started in 2013. The Methodological Guidance was designed to facilitate governments and other stakeholders in the transboundary water cooperation through review of all potential benefits, which can be derived, an initial analysis of assessments of specific benefits, as well as through recommendations on how the benefit assessment could be integrated in the policy making.

The workshop discussed how and to what extent the benefit assessment can contribute to extended transboundary water cooperation, therefore facilitating its gradual coming to higher levels. Developers of the draft Methodological Guidance proposed the following classification of potential benefits:

Type I - Economic benefits within the transboundary basin;

Type II - Economic benefits beyond the transboundary basin;

Type III - Social benefits within and beyond the transboundary basin;

Type IV - Environmental benefits within and beyond the transboundary basin, such as environmental improvement in general, and ecological services in particular;

Type V - Geopolitical benefits.

These benefits are considered as outcome benefits, e.g., as an economic growth, but not as process benefit, e.g., openness and transparency. All these benefits were

discussed by speakers during the panel discussions and in small groups. The main provisions suggested by the participants included:

- problems in assessment of social and environmental benefits, which are difficult to express in economic terms;
- a focus not only on benefits but losses as well (damage, adverse impact), joint consideration of benefits and costs/risks;
- a role of public;
- scientific data are useless for politicians and public;
- small assessments at project level to regional assessments;
- a need for an open and transparent assessment process at all levels;
- an ideal option is to make assessment within a basin, but if it is difficult, to start assessment at sub-basin level;
- identify the existing mechanisms: agreements, negotiations, institutions, projects;
- involvement of international expertise;
- a regular assessment and re-assessment;
- platforms for involvement of stakeholders at all levels;
- absence of a single universal approach to making assessment;
- considering a political situation, existing controversies and absence of trust between participants;
- the importance of a political will to make assessments, as well as the importance of making assessments to strengthen a political will;
- and “strong” tools;
- the focus on long-term assessments;
- the insufficiently developed methodology for assessment of social and geopolitical benefits.

The issue of how to inform decision-makers and other target groups on benefits of the transboundary water cooperation was discussed. All efforts to assess benefits of the transboundary water cooperation could be in vain, if assessment results were not concentrated on the support of a political process, associated cooperation. In particular, the experience in networking in the International Commission for the Protection of the Danube River (ICPDR) was presented. The speaker noted that in the ICPDR Secretariat, one officer is responsible for networking and transferring of information, but there is a special group on these issues, which comprises national experts. Such a work format enables national experts to be involved in both the process of document development, and their implementation. ICPDR has special days of the Danube for children and youth, and issues the Danube Watch journal for decision-makers.

THE 12th INTERNATIONAL DRAINAGE WORKSHOP

The 12th International Drainage Workshop organized by the International Commission on Irrigation and Drainage was hosted by the Russian Committee on Irrigation and Drainage together with the Ministry of Agriculture of the Russian Federation on 23-26 June 2014 in the Pushkino town, suburb of Saint Petersburg.

The workshop was attended by more than 100 experts from 23 countries, who introduced their works, problems, and achievements. The workshop was welcomed by Mr. P.V. Semenov, Deputy Minister of Agriculture of the Russian Federation, and Mr. Gao Zhanyi, ICID President.

The workshop was dedicated to a series of specific issues, in particular: meeting of the European Working Subgroup for Drainage of Wetlands; meeting of the ICID European Regional Working Group; roundtable on the issues of reclamation of the North-Western district. Its work was broken down into the five following sections:

1. New equipment and state-of-the-art technology of drainage construction on wetlands;
2. Reclaimed land use efficiency and socioeconomic aspects of the use of arid lands;
3. Drainage structures and calculation methods;
4. Integrated approach to resolve drainage control and environmental conservation;
5. Use of drained lands for economic purposes.

The reports by the Academicians of the Russian Academy of sciences Prof. N.N. Dubinka and Mr. N.G. Kovalev, as well as by the Chairman of the Russia Union of Water and Land Reclamation Professionals Mr. N.A. Sukhoy threw light on the quite difficult situation with drainage and land reclamation in Russia. More than 3.5 mln ha of the reclaimed lands in Russia are not used. Despite the Land Fertility Improvement Program is the most effective and in the previous year covered 3.5 mln ha of lands, the level of the use of irrigated and drained land in Russia remains much lower as compared to that in the early 1990s. Vast areas of the reclaimed lands changed for the worse because of insufficient maintenance of drainage systems after the 1990s. At present, the Government adopted the program for reclamation of lands in poor condition by improving its drainage conditions and soil fertility with the view of addressing the tasks set by the Russian Federation Food Security Doctrine. Dramatic lack of operation equipment for execution of repair and maintenance works was reported. According to the All-Russian Research Institute for Irrigation and Agricultural Water Supply Systems “Raduga”, water availability comes only to 50%. The latest renewal of land reclamation machinery fleet was in 2003. The situation with the pumping stations provided for the implementation of the Federal Target Program

for Reclamation of Agricultural Lands for the Period 2014-2020 is even worse.

ICID President Mr. Gao Zhani delivered interesting report demonstrating the role of irrigation and drainage in the world in the resolution of food problems and, at the same time, described existing negative challenges occurring in the land reclamation practices.

Representatives of Turkey and Iran delivered reports on the irrigation and drainage condition in their countries, which are considerably impressive especially in terms of the scale of the establishment of irrigation associations. The major part of the works related to everyday operation and maintenance of irrigation and drainage system facilities is carried out by irrigation associations and cooperatives.

Reporters from France spoke on the challenges that arose recently in the drainage management system in their country in connection with the issue of a new law in the European Union and appropriate law of France in January 2012. Many specialized firms reluctantly make for additional development of drainage. Collective efforts through water users' associations facilitate establishing a dialogue between farmers and water organizations.

Prof. D.V. Kozlov described the big problem related to the outlooks of the human resource development in the field of land reclamation in Russia. He demonstrated the directions for science development and approaches to the problems of implementation of advanced technologies in farming.

Interesting works were presented by the Agrophysical Institute together with the Telecommunications Institute of Saint Petersburg aiming at the improving water-balance stations which we formerly widely used to assess water requirements, as well as the agricultural land monitoring system and the system of subsurface drainage system monitoring by using unmanned flying vehicles (drones). Despite promising outlook of this method, the work associated with it is quite limited because of its high cost. The workshop participants were shown the unique complex of facilities by means of which one can control and prevent possible floods at the mouth of the Neva River. Considering the long length of the storm fetch in the Gulf of Finland and deep depth down to the lip of the facility, 16 m, the main facility, which almost completely closes the upstream part of the Neva river mouth, is made from two pivot-bearing metal composite structures weighing about 5 ton each. This facility is rather unique and in terms of parameters it vastly superior to similar facilities that close the upstream part of the Maas river mouth in the Netherlands.

The participants had an opportunity to get familiar with the work of the leading land-reclamation enterprise, "Prinevenskiy" Closed Joint-Stock Company which with 2000 ha of irrigated lands is the major supplier of meat, milk, grain, and vegetables for Saint Petersburg. The company has a large set of land reclamation equipment that was demonstrated to the workshop participants. This allows ensuring proper condition of reclaimed lands.

The reports by Messrs. Sh.Kh. Yakubov and P.D. Umarov introduced the Central Asian experience.

On 25 June, the keynote statements were made, the workshop closing ceremony took place and the Declaration was adopted.

It should be noted as a whole that the theoretical and practical experience of drainage work in the world is considerably behind the current land reclamation problems and, moreover, the rate of progress, amount of financing, and number of specialists involved remains short of the scope of such work carried out in the 1970s and 1980s.

The representative of the Iran National Committee on Irrigation and Drainage (NCID) invited those present to the next, 13th Drainage Workshop to be held in March 2017 in the Akhvaz city, center of the Khuzestan province of Iran. In his statement, the Iran NCID representative reported on the construction of new drainage system in Iran and use of drainage on an area of more than 240 ths ha, as well as on the sightseeing places in the Khuzestan province.

DECLARATION OF THE 12th INTERNATIONAL DRAINAGE WORKSHOP

23-26 June 2014, St. Petersburg, Russia

The 12th International Drainage Workshop on "Drainage on Waterlogged Agricultural Areas" brought together participants from 23 countries: Bangladesh, Great Britain, Hungary, Germany, Egypt, India, Indonesia, Iran, Ireland, Kazakhstan, China, Republic of Korea, Latvia, Norway, Pakistan, The Russian Federation, Turkey, Uzbekistan, Finland, France, Sri Lanka, Estonia, South Africa.

The background of the sustainable development comprises both the elimination of poverty and rational utilization of natural resources as the basis of the future social-economic development of the society. Agriculture must provide conditions for food security. At the same time climate variability characterized with extreme weather conditions causing natural disasters such as flooding and waterlogging of the framing lands, extreme droughts has taken a toll on human lives, food shortages and production instability which are the most serious challenge facing the world. Irrigation and drainage play the key role in preventing the negative effects of the climate variability and change as well as stabilizing agricultural production.

Drainage application in the agriculture provides sustainable crops productivity and forms one component of the integrated approach on water and land management. Drainage issues are important not only for the humid regions but also for the irrigated

lands which occupy up to 110 million hectares in the arid regions of the world. Drainage is equally necessary in the rain fed areas both in humid and arid zones. Appropriate drainage promotes diversification and intensification of production, cultivation of high-yielding and valuable crops as well as efficient application of high technologies in agriculture. In addition, it presents the possibility of increasing the occupational level and new production capacities.

Drainage of saline and waterlogged soils promotes rehabilitation of land, increase in potential for soil productivity and crop productivity, resulting in increase of farmers' income and thus imparts social and economic significances to drainage. One of the main environmental significance of drainage is its positive influence on health of people, crops and farm animals. At the same time it is necessary to understand potential deleterious environmental effects of the excessive draining: surface and ground water pollution with drained water.

Need for transition from the technical solution to the issues of the sustainable development ensuring efficient water resources management thereby providing worldwide food safety has been emphasized at various ICID fora. Management rules and decisions must be focused not only on production but also on natural resources conservation which can provide sustainable development and land usage.

As a result of presentations and discussions at the 12th IDW participants reached at the following consensus approaches to meet the strategic objectives of "Drainage on Waterlogged Agricultural Areas".

1. There is an obvious relationship between investments in reclamation of land and poverty reduction, including ensuring food safety. In many countries such as the Russian Federation, China, Turkey, India, Indonesia, South Africa and many others, drainage is provided extensively, accompanied with measures for rational use of water and land. Potential benefit of the above mentioned measures is proven to be high but the political will is required to apply these measures worldwide.

2. Irrigation and drainage, facing many challenges, provide the basis for the global food security. Modernization and upgrading measures to improve operation of drainage are being implemented throughout the world at different speed and in different scale. A great deal has been achieved by force of innovation and technological advance. However, not only innovation techniques but also traditional technologies need to be provided to the farmers through the Advisory Service.

3. Social and economic significance of drainage in the waterlogged agricultural lands lies in improvement in working conditions in the reclaimed lands, increased employment in the rural areas, attraction of the expert labor to the farms and infrastructure improvement. Therefore, drainage must be planned and implemented on the basis of an integrated approach incorporating the innovative techniques of crops growing; cultivation of high yield crops, varieties and hybrids; application of calculated rates of fertilizers; and integrated plant protection system.

4. Financial support from government as well as private investors is required to provide not only for technological interventions such as construction and remodeling of drainage systems but also for soil fertility improvement; financial management;

developing public awareness of the local farmers and agricultural producers; and drainage systems maintenance.

5. Experience of the many advanced nations shows that high productive and energy-intensive equipment machinery can provide qualitative construction and operational works. Therefore, it is advisable to organize special-purpose interregional (international) firms to fulfill works within the drainage systems according to the orders of the farmers.

6. In order to meet the requirements of emergency situation due to extreme weather risk analysis is required for the better management of the irrigation and drainage systems. In order to mitigate risks to farmers' income, adaptation to climate variability and change should be carried out on the basis of the developed hydrometeorology forecasts and techniques related to water, nutrition and air regimes in the reclaimed lands.

7. In order to impart training in new principles of management and transfer of knowledge and techniques, it is advisable to organize international training courses for the specialists from the developing countries and countries with economies in transition to study and exchange experiences of the developed countries in the field of agriculture management practice in the reclaimed areas.

THE 22nd CONGRESS AND 65th MEETING OF INTERNATIONAL EXECUTIVE COMMITTEE OF THE INTERNATIONAL COMMISSION ON IRRIGATION AND DRAINAGE

Gwangju, **Republic of Korea, September 13-20, 2014**

The 22nd ICID Congress, where more than 1,700 delegates from 61 countries participated, was opened with a remarkable performance and greetings - video message from Ms. Park, the President of South Korea, the Mayor of Gwangju, and Mr. Lee Sang-Mu, the President of Korea Rural Community Corporation (KRC) and the Chairman of the National Committee on Irrigation and Drainage.

The President of ICID, Dr. Gao Zhanyi made a great speech. He noted the significance of holding this Congress in Korea, which is fairly reputed to be a leader in innovative process of the world's irrigation. Korea has made a significant progress in rural area, which effectively combines agro-industrial system fitted into natural landscape. For the last 5 years, the Green Development encouraged the symbiosis of

human activity and the natural processes. Particular attention is paid to application of SCADA system and "Smart Water Management", which ensures thorough monitoring of water allocation and water demands, as well as climate change.

The President Gao noted achievements of ICID for the past 3 years: organization of the First World Irrigation Forum; a newly established prize for outstanding contributions to the field of irrigation and drainage; significant practical improvement of information network and ICID headquarters in Delhi that allowed to extending the usage of ICID database. A number of African countries joined the ICID network due to a pressing need for development of irrigation in order to solve problems of droughts and survival in general. A campaign for inventory on World Heritage Irrigation Structures started.

Deputy Minister of China Mr. Lee Guoying while greeting the participants of the Congress, noted the significance of ICID activity in the popularization of best practices and knowledge, and principles of efficient management of irrigation resources as well. China liberally shares its achievements. 62 millions hectares of irrigated land are essential in food security of the country. In 2013 China organized a workshop on the sharing of best practices for 20 young specialists from developing countries (10 people represented Central Asia). Now China begins the second stage of water sector and irrigation improvement in order to increase the potential of water use without changes in water diversions.

The Ceremony "Uniting Rivers Waters" of eight rivers in the World such as Amazon, Colorado, Rhine, Nile, Euphrates, Ganges, Yellow River and Youngsan River, was symbolic of united world water problems and cooperation needed for the

successful development of efficient water management.

After the gala opening ceremony of the Congress, an exhibition was launched. There were exhibits presenting Korean irrigation industry, mainly related to automation and IT.

September 15 was marked by a ministerial level meeting chaired by Mr. Lee Sang-Mu, the President of Korea Rural Community Corporation (KRC). Ministers of such countries as Thailand, Mongolia, Uganda, and Uzbekistan were invited to the meeting, devoted to the importance of irrigation in problem solutions in the countries and particularly in rural areas. Mr. Sang-Mu said that Korean agricultural development is based on private and public partnership; repeated technology renovation towards bio clean farming; development of fishery using the irrigation structures, while focusing on maintenance of canals and other structures. Using Holland experience they reclaimed the delta Sostanghel from the sea. The comprehensive agricultural development follows the so-called Saemaul, a new rural movement, which combines the development of bio-industry. This movement implies the integration of rural development, changes in mentality and “top-down” and “bottom-up” approaches.

Mr. Shavkat Khamraev, Deputy Minister of Agriculture and Water Resources of the Republic of Uzbekistan, mentioned that Uzbekistan, while reforming its agrarian production, replaced the state and collective farms with leasing farms, which are the biggest in the Central Asia (40-150 hectares for seed and cotton, 5-25 hectares for fruit, vegetables and vineyards). Diversification of crop patterns has led to reduction of cotton field areas, from 2 to 1.25 million hectares. Restructuring of agriculture is correspondingly accompanied by changes in water sector’s structure through hydrographization: establishment of basin authorities and more than 1,000 WUAs. Improvement of the water sector and land reclamation with decrease of water diversion volume from 65 to 51 km3 ensured food security for all food items, except

for meat and vegetables.

After the discussion, the President Mu concluded the meeting having formulated the following needs:

- Comprehensive infrastructure development, including irrigation;
- Sustainable institutional framework, based on partnership of private, public companies and water users, with guaranteed mutual benefits.
- Qualified leaders, looking to the future and understanding the significance of environmental changes.
- Stability in relationship and flexibility to changing conditions. Livelihoods in rural area

The main topics covered at the Congress were: topic 58 “How Irrigation and Drainage play an important role in Climate Change Adaptation?”; and, topic 59 “How do Irrigation and Drainage interventions secure food production and livelihood for rural community?”

As far, as it is known, climate change increases the stress in complex and interrelated agricultural development. Irrigation allows reduction of negative impact and subsequent hazards as well, e.g. mitigated floods and droughts. The adaptation strategy is impossible without irrigation and drainage. A negative impact of climate change on harvest becomes more frequent than positive influence of the temperature rise. The problem becomes more complicated in less developed regions with water

stress, where the gist of the problem is not made clear and the extent of extreme changes is significantly higher. Nevertheless, irrigation and drainage allows setting countermeasures, based on the past and current conditions and the methodological innovations and modern technology. The global food security is actually guaranteed only by irrigation effects. Moreover, irrigation is the basis of livelihoods in rural area being one of the main elements of economical activity. It is irrigation and drainage that contribute to security of livelihood and protection of rural population from poverty and migration to megalopolises. The essential elements of rural development are the combined use of clean and return waters in irrigation systems for farms and the nature. It is significant to consider the role of rural community in water governance and hydrostructure operation. The main ways to enhance irrigation efficiency are automation and water rotation; water scheduling; accurate measurements of water delivery and use. Modernization of irrigation and drainage facilities is the essential part of water conservation, and water and land productivity improvement. Adoption of new technologies along with implementation of Integrated Water Resources Management (IWRM) can contribute to these goals. 290 reports and posters from 37 countries were presented on these two topics.

During the final session of the Congress on September 16, Dr. Khamraev made a speech about the progress in Uzbekistan in irrigation. He emphasized: “Under existing conditions of water shortage, Uzbekistan is still a leader in the adoption of innovative technologies and constant rationalization of water use in irrigated land. The Republic was the first to develop and implement IWRM on example of the Fergana valley that allowed using all new methods of water management to improve institutional structure and infrastructure. As a result, we managed to save 200 million m3 of water per year on more than 130 thousand hectares. As a follow-up, Uzbekistan implements IWRM in 7 provinces within almost 0.5 million hectares of irrigated area. IWRM implementation is accompanied with development and application of automated control systems; water accounting along the main canals and the Syrdarya River; development of agricultural extension services, which fits very well the current network of Water consumer associations (the number exceeds 1,000)

Improvement of irrigated agriculture runs simultaneously with restructuring of agricultural enterprises, widespread introduction of market farming methods, and improvement of the whole agricultural infrastructure, including irrigated agriculture. Therefore, the Republic pays much attention to diversification of agricultural production. Instead of moisture-loving crops, such as rice, cotton and alfalfa, production of less water consuming crops – grain, melons, fruits, vineyards and others - was increased. In comparison with the end of the 80s, when 50% of the total 4 million hectares of irrigated land were under cotton (2 million hectares), today this area is reduced almost twice, exceeding slightly 1 million 250 thousand hectares (30%).”

The participants of the Congress had an opportunity to examine some water infrastructure in the Gwangju province: both large hydraulic structures, and the SCADA and "Smart Water Management" systems. The irrigation district Dondzhan operates 23.1 thousand hectares of irrigated land, of which 18.5 thousand hectares are

under rice. Besides, the system supplies water to 2 cities, 22 big villages and 162 rural settlements. The district staff makes 54 people at office and 42 field operators. Besides, during vegetation 42 people are employed. Thus, all system is served by 138 people or 6 people per 1,000 hectares. The system has 172 facilities, including 21 reservoirs with the total volume 279 million m3, 86 pumping stations with discharge of 55.5 m3/s, 16 drainage facilities with the total discharge of 154 m3/s. The system has 1,757 km of irrigation canals modernized on 53% and duel-purpose canals modernized on 13%. Automatic facilities were set up on 22 structures, including 4 pumping stations, 2 control centers and 16 dams. During the period from 2003 to 2006, 3.6 million USD were spent for the installation of central control system; 45 level sensors, mainly ultrasonic ones; and 18 power supply control stations. Measurements and information transmission are carried out with the telecontrol system. For the last 2 years, in addition to this system, 2.6 million USD were spent for the installation of Smart Water Management system, which aims for daily water control depending on weather conditions. It is based on mobile communication and constant analysis of water situation. This project includes more installations, particularly, 138 level sensors and 19 weather stations with automatic information transmission to control station, where the information on situation first is processed, then transmitted to irrigation operator through mobile communication every 10 minutes. It allows an efficient change of operating mode of all structures, depending on weather changes and hydrological parameters. The density of observation points (almost 10 sensors per 1,000 hectares) attracts particular attention.

V.A. Dukhovny, Director of SIC ICWC participated in the meeting of the Strategic Committee of ICID and the International Executive Committee (IEC) of ICID.

The Strategic Committee discussed the current membership and stated a certain rise of number of active ICID Member States– to 56 – and 40 associated ones, which had a debt on their due fees. It declared reactivation of the National Committees of Madagascar and Tajikistan, and admittance of a new member of the National Committee of Burkina Faso. The committee recommended to all NCIDs to update the status for wider involvement of members into the ICID work, and mobilization of investment to extend activity in each country. As bright examples were presented activity of NCIDs of Korea, Canada and Iran, the first of which got the "Best Performing National Committee" Award. The Strategic Committee approved the structure of the Strategy Theme “Knowledge”, which demonstrated an increase in volume of literature, articles which are available in ICID library now. The committee also submitted the Provision on "World Heritage Irrigation Structures" for approval and appealed to the National Committees to start submitting the list of structures with the service life of more than 100 years, in the single established format.

The IEC made a decision to create a special commission under the chairmanship of the Honorable President Chandra Madramootoo for various awards awarded by ICID, including the Water saving Award and the World Irrigation and Drainage Prize.

Three Vice-presidents of ICID finished the term of office, therefore the

competition on their replacement was announced. Five candidates were presented, and the new ones – Dr. Mohamed Wahba (Egypt), Mr. Bong Hoon Lee (Korea) and Dr.Ding Kunlun(China) - were elected.

Elections of the new President of ICID were held as well. The representative of Iran, Mr. Saeed Nairizi, became the 23rd president of ICID, having received the majority of votes.

Prof. V.A. Dukhovny headed the meeting of the Working group on irrigation and drainage in the states under socio-economic transformation. Representatives of Russia, Ukraine, Uzbekistan, Kazakhstan, Tajikistan, Iran, Nigeria, Korea and Japan participated in the meeting. The representative of SIC ICWC Dr. Shuhrat Mukhamedzhanov made a report on "Role and experience of daily irrigation planning water saving". Representatives of the EECCA countries presented the reports on the condition of irrigation and drainage in their countries, and the pressing development problems.

Prof. V.A. Dukhovny summarized common problems which were supported by all participants of the working group:

- agriculture restructuring in the countries under socio-economic transformation has not been completed, consequently the organizational structure and principles of water governance undergo changes, except for Uzbekistan, Tajikistan and Turkmenistan. It seems that there is lack of attention to the issues related to improvement of irrigation, therefore a considerable shrinkage of irrigated area is observed: more than twice in Ukraine, by 2 million hectares in Russia, and by 900 thousand hectares in Kazakhstan;

- the lower level of the water hierarchy is extremely troubled – the former on-farm network of collective and state farms is concentrated mainly in Water Users Associations now. They suffer from poor financial state, personnel deficiency and almost total absence of investments;
- soil salinization;
- "raw" economic mechanism of relationships, particularly between water users and energy and water management organizations;

The representative of Nigeria spoke at the meeting of the Working group, having emphasized the significance of exchange of views with the EECCA countries, as most of recommendations from the developed countries do not take into consideration local peculiarities of the former weak countries.

POLICY STAKEHOLDERS CONFERENCE ON "EU-CENTRAL ASIA STI COOPERATION IN ADDRESSING CLIMATE CHANGE"

The Policy Stakeholders Conference (PSC) on "EU-Central Asia STI Cooperation in addressing Climate Change" was held in Bishkek on 23-24 September 2014. The aim of the conference was to increase synergies among the stakeholders and the related actions as well as to shape future cooperative initiatives addressing Climate Change.

The Conference was organized under the STI (Science, Technology, and Innovation) International Cooperation Network for Central Asian Countries Project. The project partners are research and consulting companies from 15 countries of the world – Poland, Greece, Kazakhstan, Germany, Uzbekistan, Kyrgyzstan, Austria, Turkey, Tajikistan, the Czech Republic, Turkmenistan, Estonia, Portugal, Hungary, etc.

The first day was hosted in Zhokorgu Kengesh (Parliament) of the Kyrgyz Republic (KR). Welcome speeches were delivered by the Vice-Speaker of the Parliament of the Kyrgyz Republic, Deputy Head of the Office of the President of the Kyrgyz Republic, and the Attaché Project Manager from the Delegation of the European Union to the Kyrgyz Republic. The Deputy Head of the Office of the President of the Kyrgyz Republic, in particular, emphasized the importance of regional

synergy and the necessity of a common coordinated policy on climate change in Central Asia. George Bonas, Scientific Coordinator of IncoNet CA, Managing Director of CeRISS, indicated the aims and objectives of the meeting. Talant Uzakbaev, Deputy and Member of the Committee on water resources, ecology and regional development of the Parliament of the KR highlighted climate change challenges in Kyrgyzstan in the context of global environmental problems. The speaker called for shifting to practical actions from assessments and reports.

The first session was devoted to international and national policies, initiatives and programmes on climate change. During the first part of the session, representatives of international financial institutions and partners on development delivered their projects and programmes on climate changes. Jennifer Sehring told about the OSCE's approach and activities on change and security. Angela Armstrong delivered the main concept of the World Bank Climate Adaptation and Mitigation Program for Central Asia (CAMP4CA), the key goal of which is building of regional resilience. Larisa Manastrili told about action of the European Bank for Reconstruction and Development Climate Change in the Kyrgyz Republic and Central Asia. In particular, she stressed the experience of the project on indirect financing of power supply organizations and the private sector through opening of a credit line in local financial institutions (Kyrgyz Sustainable Energy Financing Facility (KyrSEFF)).

Umberto Del Panta highlighted the contribution of the European Investment Bank in CA to climate change projects. The speaker emphasized problems in implementation of projects, since there is while no clear understanding of which projects are related to climate change. The EIB started its activities in CA recently, but several projects are already being implemented in Kazakhstan (Sberbank, KDB and Kazagro were accommodated with loans to support small and medium business), Kyrgyzstan (partner projects with other financial institutions on water and waste management, on value-added chain in agriculture), Tajikistan (increasing in energy efficiency of Barki Tojik). The speaker mentioned that recently the EIB Board of Directors has made a decision to allocate 70 mln euros to Kyrgyzstan and 70 mln euros to Tajikistan to implement CASA-1000 project.

Rie Hiraoka delivered an overview of ADB's climate change initiatives in Central and West Asia. They are: Enabling Climate Change Interventions in Central and West Asia (CICWA) Initiative (RETA 7274), Economics of Climate Change in Central and West Asia (RETA 8119), Water and Adaptation Interventions in Central and West Asia (RETA 7532), Building Capacity for Climate Resilience (TA 8090), Building Climate Resilience in the Pyanj River Basin (Grant 0532).

The second part of the session presented national strategies on climate change in the Central Asian countries. Reports were delivered by Sabir Atadhzanov, Director, State Agency on Environment Protection and Forestry under the Government, Kyrgyzstan, Mels Yeleusizov, President of Green Party "Tabigat" (Nature), Kazakhstan), Homidjon Rasulov, Director of the State Organization for Hydrometeorology of the Republic of Tajikistan, Dovlet Jumakuliev, Scientific Consulting Center "Altyn Umyt", Turkmenistan), Zafar Gafurov on behalf of R.S. Mukhamedov, Institute of Bioorganic Chemistry, Academy of Sciences, Uzbekistan).

The second session was devoted to examples of successful projects and researches on climate change in Central Asia. Zafar Gafurov (IWMI) demonstrated opportunities of using remote sensing data for evapotranspiration. M. Ilolov (Director of the Center for Innovative Development of Science and new Technologies, Academy of Sciences, Tajikistan) told about possibilities of climate models and the importance of taking into account space weather and cosmic rays. Nicole Wegner presented some outcomes of the GIZ project Ecosystem-based Adaptation in Tajikistan. D. Ziganshina (SIC ICWC in Central Asia) told about projects implemented in Central Asia under ICWC, to improve water resources management and increase water use efficiency. She stressed the necessity of countries' joint actions on control of climate change effects through developing programmes on water saving, more accurate forecasts, ensuring water regulation in long-term regime, maintaining wetlands, etc.

Ana Drapa told about the contribution of the European Water Initiative to a sustainable water management in Central Asia. Inom Normatov (Institute of Water Problems, Hydropower and Ecology of the Academy of Sciences, Tajikistan) presented some ideas on risk management and adaptation of agricultural sector and hydroenergetics in conditions of climate changes. Tamara Tuzova (Institute of Water Problems and Hydropower of the National Academy of Sciences of the Kyrgyz Republic) highlighted the possibilities of uranium-isotopic techniques to clarify the water resources of trans-boundary river basins on examples of the Chu-North Tien Shan and the Kyzyl-Suu - Pamir-Alai. S. Vignudelli told about the experience of ALTICORE and CASPINFO projects in establishment of managing and exploiting data sets in the Caspian Sea region. To establish a single information platform uniting data of national information systems, international metadata standards were used and partners from science and industry sectors, and managers involved. After the project termination, the problem of ensuring its sustainability appeared, such as searching for funds to support the regional network. Address to oil companies for assistance was not successful.

Alicja Kacprzak (FAO) told about the joint FAO and UNECE project on sustainable forest management for greener economies and mitigation of climate change in Central Asia and the Caucasus. Nailya Mustaeva presented the CAREC's experience to support low-carbon development (NAMA) in Central Asia. Askar Kutanov shared achievements of the Central Asian Research Network (CAREN) project. Victoriya Akopova (Expert from the Arhus Centre of Turkmenistan) told about projects on adaptation to climate change in Turkmenistan.

The final session presented some initiatives on the Inconet CA implementation, including possibilities of grant receiving to prepare project proposals on UN "Horizon-2020" Programme.

Editorial Office:
Karasu-4, B-11, Tashkent,
100187, Republic of Uzbekistan,
SIC ICWC

E-mail: info@icwc-aral.uz

Our website:
sic.icwc-aral.uz