

## REPORT

on

### **final regional workshop within the joint project of UNESCO-IHE (Delft, Netherlands) and SIC ICWC of Central Asia “Capacity Building for Integrated Water Resources Planning and Management in Central Asia”**

**1. SIC ICWC of Central Asia together with UNESCO-IHE** (Institute for Water Education, UNESCO IHE, Delft, Netherlands) is finishing the project named “Capacity Building for Integrated Water Resources Planning and Management in Central Asia” (hereinafter referred to as the Project); implementation period - 2009-2012.

One of the project objectives is development of the training system in the water sector of the five Central Asian countries.

In 2010-2011, a series of regional workshops for the preparation of national trainers (training of trainers) was delivered with the assistance of key experts of the foreign project partner (Institute for Water Education) and by using the resources of SIC ICWC in four educational directions (Blocks):

- Block № 1. Integrated Water Resources Management (IWRM);
- Block № 2. Improvement of Irrigated Agriculture (IIA);
- Block № 3. International Water Law and Policy (IWLP);
- Block № 4. Regional Cooperation in Transboundary Rivers (RCTR).

Leaders of each Block (regional trainers), leading experts of SIC ICWC, have developed the curricula, training modules, and prepared a package of required training materials.

**2. The next stage** in Project activity, in part of training, included delivery of national workshops (trainings) in each of the five countries in the region:

- 1) Three workshops were held in Uzbekistan given the zonal specifics of the republic. The workshops were held in Tashkent city (12-14 September 2011), Samarkand (15-17 September 2011), and Fergana (19-21 September 2011). The topic of these workshops - «Organization of hydrometry, planning of water use, and improvement of WUA activities» - fitted the subjects of modules in the Block № 1 (IWRM) and Block № 2 (IIA). In total, 99 specialists from the water sector got training.
- 2) Two workshops were held in Kazakhstan (8-12 November 2011) – South Kazakhstan province (Shymkent, 8-10 November 2011) and Kyzylorda province (Kyzylorda, 11-12 November 2011). The themes of the national workshops covered all the above-mentioned 4 training Blocks (IWRM, IIA, IWLP, RCTR). 52 specialists have got training in these workshops.
- 3) In Kyrgyzstan, a workshop, where 29 specialists were trained, was held on 8-9 December 2011 (Bishkek city). One workshop was held in Ashgabat (Turkmenistan) on 26-31 January 2012 (12 specialists trained). In Tajikistan, one workshop was held in Khudjand (Sogd province) on 16-17 February 2012 and 20 specialists from the water sector got training. The themes of the workshops in Kazakhstan, Kyrgyzstan, Turkmenistan, and Tajikistan covered all 4 training Blocks (IWRM, IIA, IWLP, RCTR).

In total, 8 workshops were held and 212 specialists were trained in the five Central Asian countries.

National water agencies of CA countries<sup>1</sup> provided assistance and support in organization and holding of the workshops, national trainers trained during regional workshops were the direct organizers of these national workshops, while SIC ICWC gave instructional and consultation support and other kinds of assistance in these trainings.

**3. Final regional workshop** of the Project was held in Tashkent on 6-10 July 2012 (hotel "Golden Valley"). The participants included specialists from the water sector and higher-education teaching personnel in the region's countries, leading experts from the Institute for Water Education and SIC ICWC of Central Asia, a number of national and regional projects and other concerned parties. In total, about 50 experts took part in the workshop.

### **3.1. First day (6<sup>th</sup> of July)**

The workshop was opened by the Deputy Head of the Central Water Administration at the Uzbek Ministry of Agriculture and Water Resources Mr. Mamutov R.A. In his speech he addressed the main directions of water reform in the republic, the main achievements since independence, the role of international-legal framework of transboundary water management for strengthening of water cooperation in the region. He underlined an importance of water capacity building for implementation of national and regional water policies and a need for further development of vocational education system at national and regional levels.

The leader of the Project's Training Component Mr. Rysbekov Yu.Kh. presented general information on the Project (aims, objectives, budget, activities from the Work plan, progress, and main results). It was underlined that, in general, activities planned under the Training Component were completed in full and in due dates.

Dr. Krishna Prasad (IHE-UNESCO) also gave information on the Project. Besides, he presented activity of the International Institute for Water Education (Netherlands). In particular, it was noted that 97% of financing for the Institute came from the Government of the Netherlands, while 3% were covered from other sources.

The participants raised the questions regarding preparation of students for Master's and Doctor's degree and getting of two diplomas (in two countries), as well as about the cost of education in the Institute and its international relations. The questions were put by Dr. Stulina G. (SIC ICWC), Prof. Kipshakbaev N. (Kazakh branch of SIC ICWC), Dr. Drugalyova Ye. (Kyrgyz National Agrarian University), Dr. Turaeva S. (University of World Economy and Diplomacy, Uzbekistan), Prof. Salakhutdinov (Tashkent Irrigation and Land Reclamation Institute), Prof. Skripnikov N. (Tashkent State Law Institute) and others.

Then, heads of delegations and national trainers from the Central Asian (CA) countries reported on national workshops and trainings (NWT), with following discussion.

Thus, during the first day, reports on NWT held in Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan were delivered and discussed.

### **3.2. Second day (7<sup>th</sup> of July)**

The second day was started from presentation and discussion of the report on NWT held in Uzbekistan. Besides the discussion on NWT, the general discussion was organized on twinned Blocks in order to examine their synergies and relationships:

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<sup>1</sup> 1. Committee for Water Resources at the Ministry of Agriculture and Water Resources, Kazakhstan; 2. State Committee of the Kyrgyz Republic for Water Resources and Land Reclamation; 3. Ministry of Land Reclamation and Water Resources, Tajikistan; 4. Central Water Administration at the Ministry of Agriculture and Water Resources, Uzbekistan; 5. Ministry of Water Resources, Turkmenistan.

- Blocks № 1 ("IWRM") and № 2 ("IIA"),
- Blocks № 3 ("IWLP") and № 4 ("RCTR").

Questions raised for discussion, including by the higher-education teaching personnel on NWT are listed below.

The second day was finished with the presentation of Prof. Dukhovny V.A. B «Capacity building and human resources development for improvement of water management and use in Central Asia».

The presentation addressed the following issues:

- Main challenges (impact of climate change, demographic pressure, weakness of economic base, inefficient water management, etc.),
- Assessment of usable water resources in the region, water demand under various socio-economic scenarios,
- Food security, ways to achieve it, efforts made to implement IWRM (IWRM-Fergana project and others),
- Transboundary water cooperation in the Aral Sea basin (ASB),
- IWRM as a common goal to overcome water deficit in ASB,
- Capacity building as the basis for efficient water management, including development of information systems, analytical tools, etc.,
- Training sequence: from knowledge generation (research) to dissemination (training centers) and application in practice,
- Creation of a single information space for training through integration of information resources and guarantee of compatibility of information systems, by using up-to-date information technologies, while raising trust to and interest in joint actions and involving regional and other international organizations,
- Assessment of training needs (main directions, target groups),
- Improvement of training (interactive training, collaborative learning, wider involvement of women, etc.),
- Establishment of National Training Centers in each Central Asian state and of a single coordinating body - viable and financially sustainable Regional Training Center.

### **3.3. Third day (9<sup>th</sup> of July)**

The third day was started with presentation of Prof. Dukhovny. In his presentation he covered investments in water sector development and implementation of advanced irrigation methods on example of Qatar and other countries facing water shortage, general trends and role of education in improving water resources management. A particular interest among the participants was generated in such items as desalination of water, which is extracted during oil production, and the vision of Qatar for future water development - expansion of irrigated crop areas (mainly for wheat) under critical water shortage. The leader of the Training Component Mr. Rysbekov gave short summary about NWTs in CA countries. As was mentioned above, 8 NWTs were held in total, including 3 in Uzbekistan, 2 in Kazakhstan, and one training workshop per Kyrgyzstan, Turkmenistan, and Tajikistan.

Other quantitative data:

In total, 212 specialists were trained in 8 NWTs, of which:

- Uzbekistan – 99,
- Kazakhstan – 52,
- Kyrgyzstan – 29,
- Turkmenistan – 12,
- Tajikistan – 20.

31 specialists were chosen (recommended) as potential trainers, including:

- Uzbekistan – 9,
- Kazakhstan – 8,
- Kyrgyzstan – 6,
- Turkmenistan – 4,
- Tajikistan – 4.

34 specialists acted as moderators/lecturers at NWTs, of which:

- Uzbekistan – 9 (including 2 regional trainers (RT), 2 national trainers (NT), and 5 invited lecturers),
- Kazakhstan – (including 2 regional trainers (RT), 2 national trainers (NT), 5 invited lecturers),
- Kyrgyzstan – 6 (including 4 NTs, other lecturers – 2),
- Turkmenistan – 10 (including 2 NTs, other lecturers – 8),
- Tajikistan – 5 (including 3 NTs, other lecturers – 2).

A regional trainer, leader of the Block № 1 Mr. Mirzaev N.N. provided support in form of consultations during NWTs in Turkmenistan and Tajikistan. All NWTs used approaches, technique, and training materials developed and tested by SIC ICWC of Central Asia together with the Institute for Water Education (UNESCO- IHE, Netherlands).

After consideration of the NWT reports and brief summaries, the general discussion was organized on NWT in Central Asia in order to get evaluation of these training workshops (major problems, quality of teaching and training materials and other matters):

- National trainers,
- Regional trainers - leaders of the four training Blocks,
- Higher-education teaching personnel and invited lecturers - participants of the workshops and other concerned parties.

After the discussion, curricula and other training materials on four training Blocks were presented by Blocks' leaders (developers):

- Mirzaev N.N. – Block № 1 (IWRM),
- KHorst M.G. – Block № 2 (IIA)
- Rysbekov Yu.Kh. – Block № 3 (IWLP),
- Sorokin A.G. – Block № 4 (RCTR)

Under Block № 4, general presentation was made by Sorokin D.A. and by Beglov I.F. on “Modeling, information system and other decision-support tools”.

Discussion was initiated on presented curricula and other training materials for each training Block. Leaders of respective Blocks moderated this discussion. All “target groups” - workshop participants - took part in the discussions (NT, RT, projects’ representatives, foreign partner, higher-education teaching personnel, and other concerned parties).

The third day was finished with the presentation of Dr. O.Islamova “On main results of the RESP-II Project, first stage (2009-2012) and planned measures for the second stage (2012-2015)” with focus on training aspects of RESP-II (the project is implemented in 7 districts of 7 provinces in Uzbekistan – Yu.R.)

### **3.4. Fourth day (10<sup>th</sup> of July)**

The general discussion on the curricula of training Blocks in view of their improvement was continued. Representatives of CA countries spoke also on future development of the training system at national level, as well as representatives of higher education institutes shared their views on incorporation of the Blocks’ curricula into the system of national education.

The higher-education teaching personnel and other participants stressed a need for legal support of the training system.

In particular, Prof. V. Dukhovny (SIC ICWC), Prof. N.Kipshakbayev, Prof. A.Tleukulov, Dr. K.Ashiryayev (Kazakhstan), Dr. Ye.Drugalyova, Ye.Sakhvaeva (Kyrgyzstan), Prof. A.Salakhutdinov (Uzbekistan) and others took the floor.

The general discussion on NWT in CA countries was coordinated by Dr. Krishna Prasad (IHE-UNESCO) and the workshop’s moderator, as well as by Block leaders (regional trainers) on each of training Blocks.

Dr. M.Pinkhasov (SIC ICWC) and Dr. K.Prasad (IHE-UNESCO) made presentations on business planning of Training centers.

In addition, the participants were presented activities of SIC ICWC in part of support to training of local water specialists abroad through various international training programs, particularly:

- **In Germany:** training of water specialists from CA countries within the framework of such projects as LUCA, CLINCA, and CAWA (lecturer – Dr. Stulina G.V., SIC ICWC).

Note: 1) LUCA Project - Land Use, Ecosystem Services and Human Welfare in Central Asia (2009-2013), sponsor – Volkswagen-Foundation; 2) CAWA - Regional Scientific Network „Central Asian Water“ (2008-2011), sponsor – German Federal Foreign Office; 3) CLINCA Climate Change Network for Central Asia (2009-2014), sponsor – DAAD (German service for academic exchange).

- **In Israel** (presentation was made by Dr. O.Eshtchanov, SIC ICWC): training within development programs of MASHAV (Center for International Cooperation at Israeli MFA) and CINADCO (Center for International Agricultural Cooperation at the Israeli Ministry of Agriculture and Rural Development). In particular, since 2007 to 2012, 83 specialists from Central Asia (incl. Kazakhstan – 14, Kyrgyzstan – 16, Tajikistan – 15, Turkmenistan – 10, Uzbekistan – 28) got training in MASHAV-CINADCO.
- **In India** (presentation was made by Sh.Zaitov, SIC ICWC): in Indian Institute of Remote Sensing (IIRS) within the framework of international technical and economic cooperation (ITEC). In 2000-2012, 149 specialists from Central Asia (incl. Kazakhstan – 37, Kyrgyzstan – 44, Tajikistan – 16, Uzbekistan – 52) got training on this program (generally, in GIS technologies).

Regarding postgraduate studies in Germany and admission requirements (knowledge of languages, etc.) in a number of other countries (Dundee University in Scotland, Kazakh-German University), Prof. V. Dukhovny took the floor. Prof. N. Kipshakbaev (Kazakhstan), Dr. Ye. Drugalyova (Kyrgyzstan), Prof. A. Salakhutdinov, Dr. S. Turaeva (Uzbekistan) and others participated in the discussion.

The fourth day and the workshop as a whole were finished with presentation of the Capacity Building Strategy for Integrated Water Resources Management in Central Asian Countries for the mid-term (4-5 years), covering main positions of Training development strategy (TDS) in context of business planning and a plan of future actions (Rysbekov Yu. Kh.).

The participant approved the presented draft Strategy and prospective vision of professional development system in the CA water sector.

The draft Strategy includes such main positions as motivation, major aims, introduction and conclusion, the main part comprising four sections:

**I. PLANNING OF TRAINING DEVELOPMENT PERSPECTIVE**, with detailed description of activities (identification of target audience, training needs, etc.),

**II. MAIN STAGES, THEIR DURATION AND TENTATIVE COST OF PLANNED ACTIVITY** (divided by stage)

**III. GENERAL PHILOSOPHY, ULTIMATE GOAL AND PERSPECTIVE.**

**IV. MAIN ITEMS OF TC BUSINESS PLAN.**

(Note: draft TDS was submitted to SIC's leadership separately – Yu. R.)

**5. This section of the Report** responds to a number of questions that concern quality of prepared training materials on the mentioned training Blocks (IWRM, IIA, IWLP, RCTR), as well as issues of their incorporation into training and education process.

As was mentioned above, the first version of curricula and training modules was developed in 2010, further on they were improved based on evaluations given during regional workshops in 2010-2011 and comments and proposals from higher-education teaching personnel. Notably last comments and proposals on the final version of curricula were received from teaching staff of the Tashkent Institute of Irrigation and Land Reclamation - TIILR (Blocks "IWRM" and "IIA"), Kazakh-German University (Block "IWLP"), and others.

Besides, SIC ICWC of Central Asia disseminated training materials (TM) among the staff of national and regional projects (IWRM-FERGANA, WPI- PL, RESP-II, etc.) and leading experts of SIC ICWC in order to get "internal evaluation" of TM before their publication. Comments and proposals from reviewers were taken into consideration by Blocks' leaders.

TMs on all Blocks (in paper - brochures, and on CD) were disseminated among teaching personnel of the following higher-education institutes:

- Kazakh National Agrarian University (KAZNAU),
- Kazakh National Technical University (KAZNTU),
- Kyrgyz National Agrarian University (KYRNAU),
- Tajik Agrarian University, Sub-department of irrigation and drainage system operation,
- Polytechnic Institute of Technical University (Khujand, Tajikistan), Sub-department of agricultural technologies (by special delivery),
- Turkmen Agricultural University (SHU),

- Tashkent Irrigation and Land Reclamation Institute (TIIM), Sub-departments of Irrigation and drainage system operation and of Water resources management and environment,
- University of World Economy and Diplomacy – UMED (Tashkent), Sub-department of world economy and international economic relations,
- Tashkent State Law Institute (TGUI), Sub-department of environmental and agricultural law,
- Tashkent State Agrarian University, Agronomic Department, Sub-department of farming and land reclamation fundamentals (by special delivery).

TM on training Blocks were disseminated also among the staff of the International Water Management Institute (IWMI) and of such projects as RESP-II ("Rural Enterprises Support Project - Phase II"), WPI PL (Water Productivity Improvement at Plot Level), "FWRMP- II" (FERGANA Valley Water Resources Management Project), «IWRM-ZARAFSHAN», «IWRM-FERGANA», NGP "Durnukly Oshush" / «Sustainable development» (Turkmenistan) for educational purposes.

Teaching personnel of the Kazakh-German University, Euro-Asian Center for Food Security at the Moscow State University, coordinator for Central Asia of the UNDP Water Program and others who planned but could not attend the workshop also demonstrated their interest in getting the package of TM developed on Blocks.

Some issues raised by the participants regarding building of capacities of water management specialists, improvement of TM and their incorporation into educational process (and education system as a whole) are listed below:

- A need for more detailed coverage in TM of climate change and its impact on water resources (Prof. N.Skripnikov, TGUI, Uzbekistan),
- Issue of certificates upon graduation of courses and their recognition, integration of TM in accredited education institutions (Dr. S.Turaeva, UMED, Uzbekistan, Dr. Ye.Drugalyova, Kyrgyzstan, Prof. A.Salakhutdinov, TIIM, Uzbekistan, associate professor K.Ashiryayev, KAZNTU, Kazakhstan and others),
- Development of Training Strategy in each implemented project (G.Hudaibergenova, IWRM-ZERAFSHAN Project, Uzbekistan),
- Needed new ideology and general approaches to IIA in Central Asian countries, water pricing issues, etc. (Prof. N.Kipshakbaev, Kazakhstan, A.Kadyrbekov, Kyrgyzstan, D.Kholmatov, A.Sattorov, Tajikistan, N.Garaev, Turkmen SHU, M.Akmuradov, Turkmenistan), drainage issues should not be neglected (Dr. A.Abirov, TIIM, Uzbekistan),
- Differentiation of needs for knowledge among target groups and republican areas, establishment of Vocational Education Centers (N. Mamataliev, Kyrgyzstan),
- Development of a Module on implementation of international norms in national legislations (Ye.Sakhvayeva, Kyrgyzstan), training through the use of experience of joint river commissions (G.Satymkolova, Chu-Talas Commission, Kyrgyzstan), basin councils, and development of IWRM basin plans (O.Kystaubayev, Kazakhstan),
- Reasonable simplification of materials on Block "IWLP" depending on target audience (Ye. Sakhvaeva, Kyrgyzstan, S.Davlatov, Tajikistan),

- Importance of communication with other national and regional projects that include training component (O.Djumadurdiev, Turkmenistan),
- Effectiveness of training depends on teaching methods (Dr. Drugalyova, Kyrgyzstan, Prof. A.Salakhutdinov, Uzbekistan and others).

Presentations on incorporation of TM into the national education standards were made by Prof. A.Tleukulov (KAZNAU), associate professor K.Ashiryaev (KAZNTU), Dr. Ye. Drugalyova, Dr. B.Askaraliev (KYRNAU). Concrete proposals on introduction of TM on the training Blocks were given by Prof. A. Salakhutdinov (TIIM). In particular, he proposed to introduce TM on IWLP in education standards in TIIM for training of bachelors (course “Environmental and water law”) and masters (course “International relations”).

Given the very high level of preparedness for the workshop of representatives from all CA countries, the Kyrgyz delegation should be especially noted in this context. This delegation was fully represented, thus showing high-quality report and discussion on it. The Kyrgyz delegation was represented by trainers on all four Blocks that were trained during regional workshops and held national workshops and by 2 representatives from higher education institutions.

RYSBEKOV Yu.Kh.,

TC SIC ICWC Central Asia, 01.08. 2012