

**Training on Integrated Water Resources Management for academic staff of the Universities of  
Kazakhstan  
within the Joint EU/UNDP/UNECE project “Supporting Kazakhstan’s Transition to a Green  
Economy Model”**

*Narrative report prepared by the German-Kazakh University*

## **1. BACKGROUND AND CONTEXT**

Integrated Water Resources Management (IWRM) concept is a relatively new concept to the academic sphere of Kazakhstan. Although many disciplines taught at the universities of Kazakhstan touch upon IWRM, there is a lack of clear understanding of the concept and all of its aspects. Therefore more support to the universities is needed for them to be able to educate professionals with both technical knowledge and interdisciplinary management skills.

These assumptions are confirmed by the UNESCO Report on Status of Water Education (2011), which states that in Kazakhstan, among other countries of Central Asia, most programs dedicated to water do not include such important courses as international and water management economics, among others. What are also missing are the programs on legal and policy aspects, as well as newest technical developments in various aspects of water management.

It has been therefore decided to offer capacity building opportunities to the academic staff of the leading universities of Kazakhstan that offer education in water management in the political and technical aspects of IWRM.

## **2. OBJECTIVES AND TASKS**

The training was dedicated to capacity building of the academic staff of the Kazakhstani universities that have curricula in various aspects of water resources management.

The training aimed at extending the training of the academic staff that is already employed as academic staff at the leading universities of Kazakhstan that offer education in water-related fields, and equip them with a high-quality teaching material to support transfer of knowledge and information further to their colleagues and eventually to the students.

## **3. ACTIVITIES and RESULTS**

The project consisted of the two main activities: (1) development of the training manuals: one for the training on the political aspects, and one for the training on technological aspects. The second activity was the (2) training.

Activity 1. Development of the training manuals:

The manuals were developed from May to August 2016. The following experts were identified and hired for development of the manuals:

<b>Thematic module</b>	<b>International experts</b>	<b>National experts</b>
Political aspects of IWRM	Dr. Lutz Mez, Free University of Berlin, Germany	Saghit Ibatullin, National Expert on water policy

Technological aspects of IWRM	Dr. Henry Wyes, International Chief Technical Expert, "Supporting Kazakhstan's transition to a Green Economy model" project	Valeriy Torubara, "Kazakhstan Su Arnasy" Association Murat Bekniyazov, "Kazgiprovodkhoz" Institute
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It has initially been planned to employ two experts for development of the manual: one international expert and one national expert. However, it has been agreed among experts on the technical aspects that it would be more beneficial for the purposes of the project to cover a bigger number of topics by increasing the number of national experts.

All of the contributions have been submitted by the experts in due time. The parts of the international experts were submitted in English and were translated into Russian and proof-read. The contributions of the national experts were submitted in Russian and were proof-read. Both of the manuals include pictures that were adapted for printing.

Each of the two manuals was printed in 50 copies (for the participants, experts and for guests of the opening ceremony). The copies were labeled as 'draft' and it was specifically mentioned they are not designated for sharing and use until they are finalized. The participants were encouraged to leave their comments in the manuals directly. These manuals have been later collected; the comments will be analyzed and included into the final version of the manuals.

## **Activity 2: Organization of training of trainers on Integrated Water Resources Management**

Due to logistical and organizational reasons, the training dates have been moved to August 15-19 (training 1) and August 22-26 (training 2). Each module lasted for 5 days and was held in Russian and English with simultaneous interpretation.

The following experts were employed as lecturers during the training:

<b>Thematic module</b>	<b>International experts</b>	<b>National experts</b>
Political aspects of IWRM	Dr. Lutz Mez, Free University of Berlin, Germany	Saghit Ibatullin, National Expert on water policy Igor Petrakov, independent expert
Technological aspects of IWRM	Dr. Henry Wyes, International Chief Technical Expert, "Supporting Kazakhstan's transition to a Green Economy model" project	Valeriy Torubara, "Kazakhstan Su Arnasy" Association Murat Bekniyazov, "Kazgiprovodkhoz" Institute

An independent expert Igor Petrakov has joined Saghit Ibatullin in the module on the political aspects of IWRM. This has been proposed by Mr. Ibatullin himself as he suggested it would allow for a better coverage of the questions of national policy on IWRM in Kazakhstan.

With regards to the participants, two representatives of the following universities have been invited to participate in the training.

1. Kazakh National Agrarian University, Almaty
2. Al-Farabi Kazakh National University, Almaty
3. K.Satpayev Kazakh National Technical University , Almaty
4. Korkyt Ata Kyzylorda State University, Kyzylorda
5. Dosmuhamedov Atyrau State University , Atyrau
6. M.K.Dulati Taraz State University , Taraz
7. D.Serikbaev East Kazakhstan State Technical University, Ust-Kamenogorsk
8. L.N. Gumilyov Eurasian National University, Astana
9. Nazarbayev University, Astana
10. M.Auezov South Kazakhstan State University, Shymkent

All of the universities outside of Almaty (numbers 4 – 10) and the K.Satpayev Kazakh National Technical Research University have sent 2 representatives to the training. Other universities in Almaty that have been invited have not sent their representatives. This has been explained by their busy schedule.

A representative of the NARKHOZ University (the former T. Ruskylov Economic University, Almaty) has contacted the GKU and asked for a permission to participate at the training. This one representative was invited to join the training as there were no sufficient costs associated with their participation and the number of participants was lower than planned.

A total of 17 participants took part in the training of the planned 20.

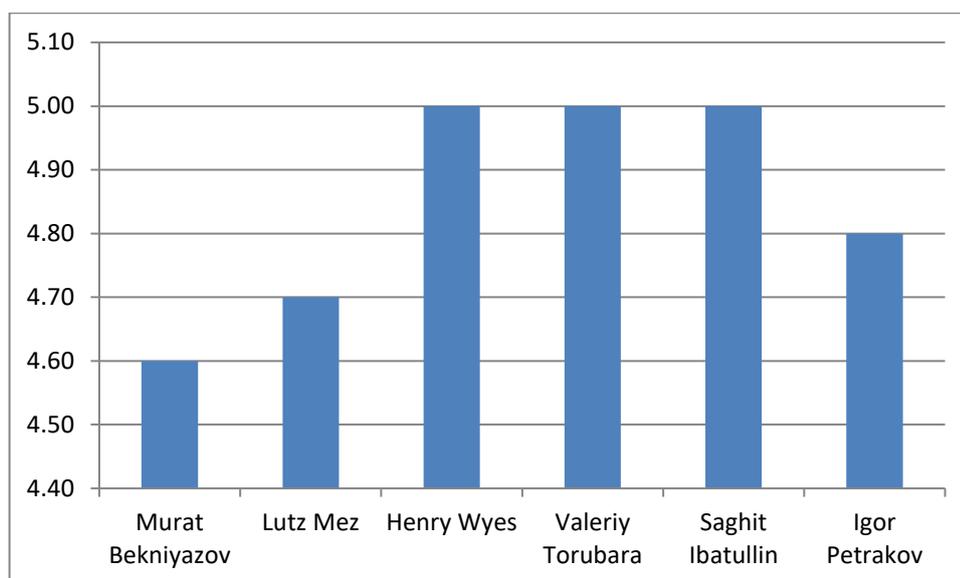
#### **4. FEEDBACK FROM THE PARTICIPANTS**

The participants were asked to fill in questionnaires after each module where they had to express their opinion on the following components of the training:

1. Personal evaluation (level of knowledge and awareness on the certain aspect of IWRM before the training)
2. Organization of the training and external conditions
3. Training course
4. Each of the lecturers
5. Training manual

The participants were also asked to leave written comments on the training and the manual.

All in all the grades were high, from 4,2 to 5,0 (the highest grade). The participants have graded the lecturers based on their preparedness to the class, knowledge on the subject, manner of speech, ability to stimulate the discussion, readiness to answer the questions and quality of the answers. The average grade (on the scale from 1 to 5) of each of the lecturers is presented in the graph below:



The participants gave a high grade to the organization of the training (accommodation, training venue and equipment, interpretation, logistical support etc.), the average grade is 4,89. Regarding the manuals, they have given the average of 4,6 for the political aspects, and 4,7 for the technological aspects. The participants have given the following comments on the training:

1. The parts dedicated to the international aspects of both technological and political manuals were slightly more difficult to understand.
2. The content of the manuals is in line with the training content.
3. The manual on the technological aspects is well illustrated.

## 5. LESSONS LEARNT

**Despite receiving generally positive responses from the participants and the trainers, there are still certain aspects of the project that could be improved, for example:**

**1. Duration of the training:** instead of five full days (4 lecture units per day, 1 unit = 1,5 hrs) it is possible to shorten it up to four days with 4 lecture units per day. This has been suggested by the experts who state that the structure of the manual allows for an intensive independent and group-work and requires less time dedicated to lectures.

**2. Group work:** this has not been part of the programme initially, however, the participants were asked to jointly look for information and present cases to their colleagues. This exercise was graded positively by the participants and it is possible to include more of such exercises into the future modules.

**3. Practical exercises:** several participants have asked to include practical exercises and excursions into the programme to make the lectures more understandable. This refers to the module on the technological aspects of IWRM and should be taken in consideration when planning the next training on technological aspects.

**4. Division of hours between the lecturers:** despite the suggestions of the lecturers to spread the classes of each expert throughout the week. This has caused the need for additional interpretation hours. However, based on the programme of the training developed eventually by the lecturers themselves, it may be concluded that the international aspects are still presented before the national aspects. Therefore it may still be more cost-effective to present the international aspects within the first 2 days (in English, with interpretation), and national aspects within the second 2 days. This may not be so relevant for the module on the

technological aspects, as it is rather complicated to delineate between the national and international aspects here, but it is true for the legal, political, and economic aspects of IWRM.

**5. It is possible to invite a bigger number of participants:** after the training we were contacted by a representative of the Kostanay State University that has requested a permission for participation in the training next year. It is expected that the Kostanay university sends 2 representatives from the Ecology faculty to the training in 2017. This has also been the case with the NARKHOZ University that was not initially on the list of participants. It has also been proved that the facilities of the GKU are suitable to host a bigger number of participants without decreasing the effectiveness of the training for each participant.

**6. A more intensive editing effort is needed for the training manuals:** the participants have commented that the parts of the training manuals dedicated to the international aspects were more complicated to read. This may be caused by the fact that the original language was English. The parts were proof-read, however, it proves that a more intensive editing should take place to make the manuals more suitable for the participants.

## **6. CONCLUSIONS and the way forward**

Based on the experience of this pilot project it can be concluded that the time period that was allocated for the development of the training manuals, preparation and conduction of the training is sufficient.

The training has been rated positively by the trainers and the participants and the participants have all expressed their willingness to join the next training in January 2017. Preliminarily and after consultation with the participants the training has been planned for 9-18 January 2017. Each module will last for 4 days instead of 5 days based on the experience of the pilot training. These dates are subject to changes.

Annexes

Annex 1. Programme of the Training

Annex 2. List of Participants of the Training

**Annex 1.**  
**Training on Integrated Water Resources Management for academic staff of the Universities of Kazakhstan**  
**within the Joint EU/UNDP/UNECE project “Supporting Kazakhstan’s Transition to a Green Economy Model”**  
**Opening ceremony**  
August 15, 10:00  
German-Kazakh University, Almaty, Pushkin 111, 3<sup>rd</sup> floor, room 27

9:30 – 10:00	<i>Registration, welcome coffee</i>
10:00 – 10:25	<b>Opening words</b> Dr. Markus Kaiser, President, German-Kazakh University
10:25 – 10:45	<u>Introduction of the Joint EU/UNDP/UNECE project “Supporting Kazakhstan’s Transition to a Green Economy Model”</u> Batyr Hajiyev, Economic Affairs Officer, Deputy Head ESCAP/UNECE Office, United Nations Economic Commission for Europe
10:45-11:00	<u>Introduction of the Training on Integrated Water Resources Management for academic staff of the Universities of Kazakhstan</u> Dr. Barbara Janusz-Pawletta, Coordinator, MA IWRM at the German-Kazakh University
11:00 – 11:20	<u>Introduction of the participants and discussion of the need for an interdisciplinary approach to education in the water sector</u> Moderation: Dr. Barbara Janusz-Pawletta, Coordinator, MA IWRM at the German-Kazakh University
11:20 – 11:40	<i>Coffee-break</i>

**Module 1. Political aspects of Integrated Water Resources Management**  
**August 15-19, 2016**

**Experts**

- Dr. Lutz Mez, Free University of Berlin
- Prof. Saghit Ibatullin, National Expert on Water Policy
- Igor Petrakov, Independent Expert

**Tentative programme**

<b>Monday, August 15</b>	
11:40-12:00	<u>Introduction of the module content and teaching mode by the experts</u>
12:00-13:30	<u>Introduction to Integrated water resources management (IWRM)</u> Dr. Lutz Mez, Free University of Berlin
13:30-14:30	<i>Lunch</i>
14:30-16:00	<u>The current state of water resources in Kazakhstan</u> Prof. Saghit Ibatullin, National Expert on water policy
16:00-16:15	<i>Coffee-break</i>
16:15 – 17:55	<u>Overview of political instruments, IWRM Instruments</u> Dr. Lutz Mez, Free University of Berlin
18:00	<i>Dinner, “Vino da Puri” Restaurant</i>

<b>Tuesday, August 16</b>	
9:30 – 11:00	<u>Political documents on IWRM in Kazakhstan</u> Prof. Saghit Ibatullin, National Expert on water policy Igor Petrakov, Independent Expert
11:00-11:25	Coffee-Break
11:25 – 12:50	<u>Political strategies on IWRM in Kazakhstan</u> Prof. Saghit Ibatullin, National Expert on water policy Igor Petrakov, Independent Expert
12:50- 14:00	Lunch
14:00 – 15:30	<u>Stakeholder involvement</u> Dr. Lutz Mez, Free University of Berlin
15:30-15:50	Coffee-break
15:50 – 17:20	<u>Transboundary water resources of Central Asia</u> Dr. Lutz Mez, Free University of Berlin
<b>Wednesday, 17 August</b>	
9:30 – 11:00	<u>Transboundary water cooperation</u> Dr. Lutz Mez, Free University of Berlin
11:00 – 11:20	Coffee-break
11:20 – 12:50	<u>Transboundary water cooperation, the current challenges in water resources management in Central Asia</u> Prof. Saghit Ibatullin, National Expert on water policy
12:50 – 14:00	Lunch
14:00 –15:30	<u>Political aspects of water management in the Aral Sea basin</u> Prof. Saghit Ibatullin, National Expert on water policy
15:30 – 15:50	Coffee-break
15:50 – 17:20	<u>Legal instruments of water cooperation in Central Asia</u> Prof. Saghit Ibatullin, National Expert on water policy
<b>Thursday, 18 August</b>	
9:30 – 11:00	<u>Multidirectional interests of Central Asian countries in water resources management</u> Prof. Saghit Ibatullin, National Expert on water policy
11:00-11:20	Coffee-break
11:20 – 12:50	<u>Strategies of water management in the Aral Sea basin</u> Prof. Saghit Ibatullin, National Expert on water policy
12:50– 14:00	Lunch
14:00 – 15:30	<u>Nile Basin, Lower Mekong Basin, Danube &amp; Rhine</u> Dr. Lutz Mez, Free University of Berlin
15:30 – 15:50	Coffee-break

15:50 – 17:20	<u>State of the water resources in the Ili and Ertis basins</u> Prof. Saghit Ibatullin, National Expert on water policy
<b>Friday, 19 August</b>	
9:30 – 11:00	<u>Climate change and water resources</u> Dr. Lutz Mez, Free University of Berlin
11:00–11:20	<i>Coffee-break</i>
11:20–12:50	<u>Political instruments for water cooperation of Kazakhstan with China and Russia</u> Prof. Saghit Ibatullin, National Expert on water policy
12:50– 14:00	<i>Lunch</i>
14:00–15:30	<u>Prof. Saghit Ibatullin, Wrap-up seminar</u>
15:30 – 15:50	<i>Coffee-break</i>
15:50-17:20	<u>Dr. Lutz Mez, Wrap-up seminar</u>

**Module 2. Technological aspects of Integrated Water Resources Management  
August 22-16, 2016**

**Experts**

- Prof. Dr. Heinrich Wyes, Chief Technical Expert, Joint EU/UNDP/UNECE project “Supporting Kazakhstan’s Transition to a Green Economy Model”
- Valeriy Torubara, “Kazakhstan Su Arnasy” Association
- Murat Bekniyazov, “Kazgiprovodkhoz”

<b>Monday, August 22</b>	
9:30 – 11:00	<u>Welcome words and introduction of the experts;</u> Murat Bekniyazov, lecture
11:00-11:20	<i>Coffee-break</i>
11:20-12:50	Murat Bekniyazov, lecture
12:50-14:00	<i>Lunch</i>
14:00-15:30	Murat Bekniyazov, lecture
15:30-15:45	<i>Coffee-break</i>
15:45-17:15	Murat Bekniyazov, seminar
<b>Tuesday, August 23</b>	
9:30 – 11:00	Murat Bekniyazov, lecture
11:00-11:20	<i>Coffee-break</i>
11:20-12:50	Murat Bekniyazov, seminar
12:50-14:00	<i>Lunch</i>
14:00-15:30	Heinrich Wyes, lecture

15:30-15:45	<i>Coffee-break</i>
15:45-17:15	Valeriy Torubara, lecture
<b>Wednesday, August 24</b>	
9:30 – 11:00	Heinrich Wyes, lecture
15:30-15:45	<i>Coffee-break</i>
11:20-12:50	Heinrich Wyes, seminar
12:50-14:00	<i>Lunch</i>
14:00-15:30	Valeriy Torubara, lecture
15:30-15:45	<i>Coffee-break</i>
15:45-17:15	Valeriy Torubara, seminar
<b>Thursday, August 25</b>	
9:30 – 11:00	Heinrich Wyes, lecture
15:30-15:45	<i>Coffee-break</i>
11:20-12:50	Heinrich Wyes, seminar
12:50-14:00	<i>Lunch</i>
14:00-15:30	Valeriy Torubara, lecture
15:30-15:45	<i>Coffee-break</i>
15:45-17:15	Valeriy Torubara, seminar
<b>Friday, August 26</b>	
9:30 – 11:00	Heinrich Wyes, lecture
15:30-15:45	<i>Coffee-break</i>
11:20-12:50	Heinrich Wyes, seminar
12:50-14:00	<i>Lunch</i>
14:00-15:30	Valeriy Torubara, lecture
15:30-15:45	<i>Coffee-break</i>
15:45-17:15	Valeriy Torubara, seminar
17:30	Farewell dinner

## Annex 2.

**List of Participants**

**Training on Integrated Water Resources Management for academic staff of the Universities of Kazakhstan within the Joint EU/UNDP/UNECE project "Supporting Kazakhstan's Transition to a Green Economy Model"**

<b>№</b>	<b>Participant</b>	<b>Position</b>	<b>Contact</b>
<b>M.Auezov South Kazakhstan State University, Shymkent</b>			
1	Ms. Farida Aubakirova	Ph.D., Associate Professor, "Water resources, land use and agricultural machinery" Chair	87477775568; 87004674568; Faraub1011@mail.ru
2	Ms. Moldir Oralsynkyzy	Lecturer. M.Sc	molyy_aa@mail.ru
<b>D.Serikbaev East Kazakhstan State Technical University, Ust-Kamenogorsk</b>			
3	Ms. Valentina Kolpakova	Dr., Associate Professor of the Supreme Attestation Committee, Head, "Water and forest resources" Chair	87773906201 8(7232)540596
4	Ms. Roza Nurekenova	Associate Professor, following areas of expertise: water management, ecological water management, restoration of rivers and reservoirs, hydraulic structures, flow regulation, integrated water resources management	
<b>Nazarbayev University, Astana</b>			
5	Ms. Nazym Tulegenova	Junior Lecturer	nazim_91_89@mail.ru
6	Ms. Aigerim Mussina	Junior Lecturer	aigerim.mussayeva131@gmail.com
<b>N. Gumilyov Eurasian National University, Astana</b>			
7	Mr. Serik Akhmetov	Assistant Professor, Geography and Hydrology Chair	87055171634 Serik.akhmetov@mail.ru
8	Mr. Anuar Alkeev	Senior Professor, International relations Chair	87711014356 Alkeev.anuar@mail.ru
<b>Dosmuhamedov Atyrau State University, Atyrau</b>			
9	Ms. Gulzhamal Tulemisova	Ph.D., Associate Professor, Chemistry and Ecology Chair	
10	Ms. Aiman Musaeva	Ph.D, Associate Professor, Natural Sciences Chair	aiman_mussayeva@mail.ru
<b>M.K.Dulati Taraz State University, Taraz</b>			
11	Mr. Khambar Tursunbaev	Senior Professor, "Irrigation and Agriculture" Chair, expertise in hydromelioration; irrigation and drainage	khambar2016yandex@mail.ru 87071593915

		irrigation, special types of reclamation	
12	Ms. Gulnaz Kozhamkulova	M.Sc., senior lecturer, "Water resources" Chair, expertise: Water resources and water use, State Water Cadastre	Gulnaz_kozhamkulova@mail.ru 87770858060
<b>Korkyt Ata Kyzylorda State University, Kyzylorda</b>			
13	Mr. Abdizhappar Sagayev	Lecturer	
14	Ms. Galiya Shonbayeba	Lecturer	galyia_k@list.ru
<b>Kazakh National Research technical University after K.I.Satpayev</b>			
15	Mr. Bostandyk Khalhabay	PhD, Lecturer	8 702 786 5627, duman_abaiuly@mail.ru
16	Mr. Duman Abayuli	Lecturer	8 778 220 2496, k.bostandik@mail.ru
<b>Narkhoz University , Almaty</b>			
17	Ms. Tursungul Gumarova	Lecturer	gtursyngul@mail.ru