

BARAK ELDE

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Special issue

CHU-TALAS WATER COMMISSION –

EXAMPLE OF COOPERATION
OF THE REPUBLIC OF KAZAKHSTAN
AND THE KYRGYZ REPUBLIC:
CURRENT ACTIVITIES,
TASKS FOR THE FUTURE

STRATEGIC ACTION PROGRAM –

IMPROVEMENT OF STABILITY
OF SOCIO-ECONOMIC
CONDITIONS AND ECOSYSTEMS
OF THE CHU AND TALAS RIVER BASINS

«ENABLING TRANSBOUNDARY
COOPERATION AND INTEGRATED
WATER RESOURCES MANAGEMENT
IN THE CHU AND TALAS
RIVER BASINS»

LYUDMILA NYSHANBAEVA:

COLLECTIVE USE OF WATER
RESOURCES IN TRANSBOUNDARY
BASINS OBLIGES TO SEEK THE WAYS
OF COOPERATION

TDA:

FIRST STEP TOWARDS
SOLVING ISSUES IN
WATER RESOURCES
MANAGEMENT OF THE CHU
AND TALAS RIVER BASINS

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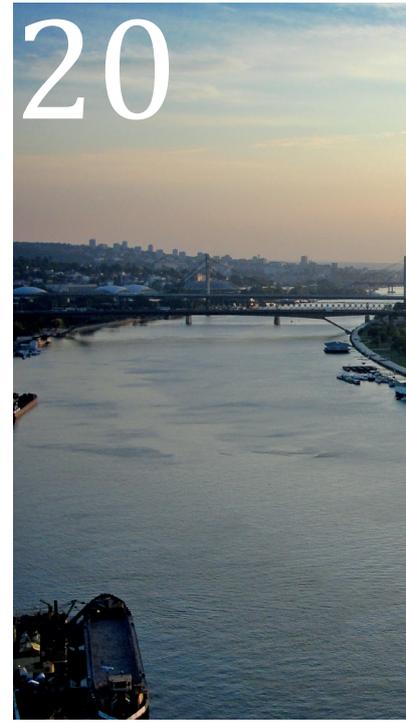
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«ENABLING TRANSBOUNDARY COOPERATION AND INTEGRATED WATER RESOURCES MANAGEMENT IN THE CHU AND TALAS RIVER BASINS»

The “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins” Project had been implemented by UNDP and UNECE over a period from June 2015 to September 2018, with GEF grant financing.

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TOTAL ALLOCATED BUDGET: \$ 7,239 МЛН.

PROJECT GOAL:

PROMOTION OF INTEGRATED WATER RESOURCES MANAGEMENT IN CHU AND TALAS TRANSBOUNDARY RIVER BASINS, INCLUDING CAPACITY BUILDING OF THE WATER COMMISSION OF THE REPUBLIC OF KAZAKHSTAN AND THE KYRGYZ REPUBLIC.

IMPLEMENTING AGENCY:
UNDP KYRGYZSTAN.

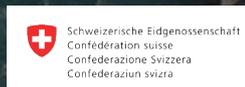
IMPLEMENTING PARTNERS:
UNDP KAZAKHSTAN, UNDP ISTANBUL REGIONAL HUB, UNECE.

PARTNERS:
ORGANIZATIONS WORKING ON ENVIRONMENTAL AND WATER ISSUES IN THE KYRGYZ REPUBLIC AND THE REPUBLIC OF KAZAKHSTAN, CHU-TALAS WATER COMMISSION (CTWC).

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\$ 1,000,000;



SDC
\$ 2,200,000;



UNECE
\$ 440,000;

IN-KIND CONTRIBUTION:



GOVERNMENT OF KAZAKHSTAN
\$ 750,000;



GOVERNMENT OF KYRGYZSTAN
\$ 1,170,000;



GOVERNMENT OF FINLAND
\$ 1,313,970;



UNDP
\$300,000.



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Danara Alimbaeva, Kazhydromet:

“Thanks to the project, the countries have a clear vision, goals and objectives to respond to the threats posed by increasing water consumption to meet growing social, industrial and agricultural needs, exacerbated by climate variability and changes.”

The project responds to the threats posed by increased pollution and water consumption to meet growing social, industrial and agricultural needs that is exacerbated by climate change. In recent years, pressure increases on limited water resources and aquatic ecosystems that raises the risks of conflicts between Kazakhstan and Kyrgyzstan in the distribution of water resources. This project strengthens coordination and enhances the role of transboundary institutions in ensuring the balanced use of water resources, improving the quality of water and conserving aquatic ecosystems through capacity building in monitoring and technologies, and contributing to the joint management of the water resources of the Chu and Talas river basins.

The UNDP-UNECE-GEF Project consists of three components:

1. Transboundary Diagnostic Analysis (TDA), including an analysis of climate change scenarios for the adaptive integrated management of the shared water resources of Chu-Talas.
2. Improving the basis for enhanced and improved bilateral water cooperation - development of the Strategic Action Program.
3. Increasing the capacity for monitoring of water resources in Chu and Talas river basins. Through the development of the Transboundary Diagnostic Analysis (TDA), the project

contributes to the solution of regional problems affecting the management of water resources and ecosystems.

The joint monitoring programs in the transboundary location, as well as a quarterly sampling for the analysis of water quality at agreed points throughout the basin have been carried out within the frames of this component.

The following has been achieved as a result of TDA development:

- Consensus of countries on the main transboundary issues of the basin following the scientific findings;
- Better understanding of the transboundary consequences of



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the joint nature of the basins' water resources;

- Raising awareness of the effects of extreme weather conditions;
- Capacity building of local stakeholders ready to minimize negative impacts on the economic sectors, as well as on the environment of the basin under consideration.

The developed Transboundary Diagnostic Analysis served as the basis for the development of the Strategic Action Program (SAP) for the subject basins. This component includes the achievement of four results:

- The process of preparation and agreement of priority activities for systematic cooperation in the integrated management of the Chu and Talas river basins;
- Strengthening the cooperation mechanism for the implementation of bilateral relations or further improvement of the joint management of the Chu and Talas river basins;
- Measures on involvement of stakeholders in the decision-making process;
- Experience and conclusions disseminated at the global and regional levels.

The component "Capacity-building in Monitoring Water Resources of the Chu and Talas River Basin" includes the achievement of three results:

- Improvement of the basis for a dialogue on the management of transboundary waters based on better understanding of the quantity and quality of water resources and their variability in the basins of two rivers;
- Capacity-building of the countries to improve coordinated monitoring;
- Consensus between the two countries on joint monitoring.



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TDA: FIRST STEP TOWARDS SOLVING ISSUES IN WATER RESOURCES MANAGEMENT OF THE CHU AND TALAS RIVER BASINS

The Transboundary Diagnostic Analysis (TDA) has been developed within the frames of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins” to address regional water resources and ecosystem management issues.

The document provides a general description of the natural, socio-economic features of the Chu and Talas river basins, describes the institutional framework for water resources management in the Republic of Kazakhstan and the Kyrgyz Republic, and suggests scenarios of the future and scenarios of recommended development. The TDA process includes a review and prioritization of major transboundary issues, as well as recommendations for improving water resources management. The document is intended to serve as a basis for evaluation based on future progress.

Transboundary Diagnostic Analysis (TDA) is the first component of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management

in the Chu and Talas River Basins.” A special training was conducted prior to the development of a document for experts from Kazakhstan and Kyrgyzstan, and an experienced international consultant, one of the developers of the GEF methodology for developing the TDA, was involved in training of local experts and advising on the development of the TDA. In addition to the experts involved in the development of the TDA, specialists from the relevant ministries and agencies of both countries took part.

Transboundary Diagnostic Analysis was developed according to the GEF methodology, which implies a phased approach:

- Identification and description of the main transboundary issues;
- Analysis of available data on iden-

- tified transboundary issues;
- Analysis of the causes of transboundary issues and their impacts, including socio-economic and environmental impacts;
- Identification of the main points of application for solving transboundary issues;
- Analysis of trends influencing on the main transboundary issues in the future;
- Conclusions and recommendations for reflection in the SAP.

The experts of the two countries have concluded that the main transboundary issues of the Chu and Talas river basins are: Ayazbek Kydyrgychiev, State Agency on Environmental Protection and Forestry under the Government of the KR:

Water deficiency for irrigation, quality

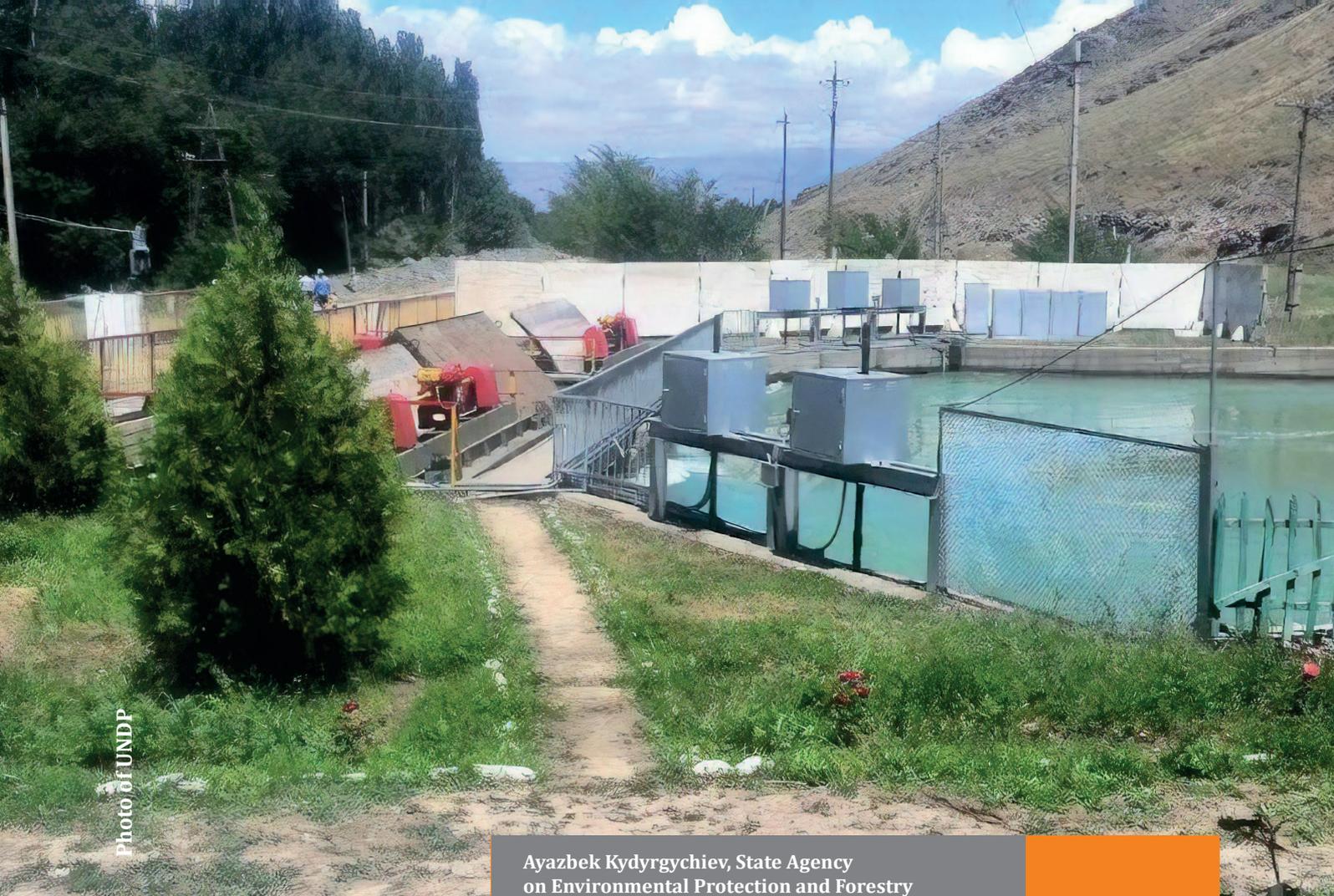


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Ayazbek Kydyrgychiev, State Agency on Environmental Protection and Forestry under the Government of the KR:

“In the context of climate change, the rational use of the water resources of the Chu-Talas river basin is one of the main tasks of the transboundary countries. The project covers all areas: ecology, water resources, economy, agriculture and population of the basins of these rivers. Successful implementation of the project will allow our countries both to improve the ecological state of the river basin, and will give an impetus to the economic growth of the population’s well-being in this region.”

of surface waters, and the impact of these two factors on ecosystem degradation. All these problems can be significantly worsened due to the climate change in the next 15–20 years. “In the context of climate change, the rational use of the water resources of the Chu-Talas river basin is one of the main tasks of the transboundary countries. The project covers all areas: ecology, water resources, economy, agriculture and population of the basins of these rivers. Successful implementation of the project will allow our countries both to improve the ecological state of the river basin, and will give an impetus to the economic growth of the population’s well-being in this region. “

The Chu and Talas rivers are the main sources of water in Chui and Talas oblasts of the Kyrgyz Republic and Zhambyl oblast of the Republic of Kazakhstan. Therefore, the problem of water deficiency may lead to a shortage of irrigation water, a decrease in yields, a reduction in the incomes of the population engaged in crop and livestock farming, a reduc-

tion in fishing, deterioration in the reclamation state of irrigated lands, and the absence of environmental flows, which, as a result, can lead to the disappearance of riparian woodlands in the lower reaches of the river basins and deepen the processes of desertification.

Deterioration of water quality in the Chu and Talas river basins is becoming an increasingly important problem for the Kyrgyz Republic and the Republic of Kazakhstan due to economic development, population growth, which require increasing consumption of water. The main causes of water pollution in the Chu and Talas river basins are discharges of untreated or poorly treated municipal sewage. The quality of water resources in the Chu River basin at transboundary

sites is lower than that in the Talas basin due to the higher population density and more intensive development of industrial and agricultural production in the middle reaches of the Chu River.

At the same time, the lower reaches of the Talas River experience the same pollution problem from discharges of industrial enterprises and untreated municipal wastewater of the city of Taraz.

It is noted that one of the reasons for degradation of the ecosystems of the Chu and Talas river basins because of economic activities is the lack of knowledge and information, among both decision-makers and primary users of natural resources.

The rational use of natural resources

requires knowledge of the inter-relation of surface and underground waters, distribution and impact of negative human actions from the upper reaches of the rivers to the lower reaches of the basin; on soil and water saving technologies of crop cultivation; on the best world practices aimed at conservation of water resources; on global climate change and measures to adapt to changed conditions; on the conservation of ecosystems, the impact of the state of water resources on the ecosystem and the interrelationship between ecosystem changes and the rational use of natural resources on the socio-economic situation; on the obligations of transboundary countries on joint management of surface water sources.

The experts identified direct, underlying and root causes of water quantity and quality issues, ecosystem degradation. To solve them, the following recommendations have been elaborated:

1. To develop and adopt the Interstate Strategic Action Program (SAP), taking into account the main causes and consequences of reducing river flow, deteriorating surface water quality, degradation of ecosystems, and gaps in the management of water resources and on the basis of a set of measures to provide a "reserve" for adaptation to climate change in the next 20-25 years identified in the TDA.
2. To increase the efficiency of the supply and final use of water resources. To provide rehabilitation of irrigation systems, implement projects on pilot canals to reduce water losses during filing. To provide opportunities for further automation of water accounting systems, including their implementation in pilot water user associations using advanced irrigation methods, including drip irrigation, sprinkling and cultivation of drought-tolerant and water-productive agriculture on lands suspended to them. To improve the regulation of the use of surface waters, introduce a pilot system for water use (licensing for the implementation of special water use) on a pilot basis.
3. Improvement of the water resources monitoring program. To improve

existing national programs for monitoring the quantity and quality of surface and ground waters in the Chu and Talas river basins for timely response and taking measures to address main transboundary issues. To develop, agree and adopt an agreed joint program for surface water monitoring, including geographic coverage, timing and measurable parameters in accordance with international law. It is necessary to restore full observations of the hydrometeorological situation and the hydrological regime of the main rivers, other indicators (water quality, emissions and discharges) and ensure the exchange of data for both basins. In order to reduce the negative impact of reduced flow and deterioration of water quality, it is necessary to determine the exact location and impact of each source of pollution entering the river basin, as well as areas where pollution from non-point sources has been increased using mathematical modeling, GIS technologies and hot spot maps.

4. Reduction of the level of water pollution. Measures to improve water quality and reduce water pollution are the rapid modernization, upgrading or restoration of the technological chain of wastewater treatment and increasing the capacities of treatment facilities in the cities of Tokmok, Bishkek and Kara-Balta in the basin of the Chu River, the Talas River, the construction of treatment plants in the city of Taraz, and the rehabilitation of Biylikol Lake in the Zhambyl region. It is necessary to create an infrastructure for housing and communal services, which provides for anhydrous sanitation, appropriate water diversion, in particular, local soil treatment facilities in rural areas, especially where there is a near occurrence of groundwater. To this end, as a first step, comprehensive pilot projects on creation of a water disposal infrastructure using anhydrous technology in sanitation should be prepared and implemented.
5. Reduction of the burden on ecosystems. To develop plans for integrated management of upper reaches of the river basins with a focus on uniform pasture load, their rotation and restoration, livestock management practices in winter, and, where possible,

transition to the cultivation of fruit trees and bushes on slopes, which increase the moisture-saving properties of the slopes. To organize demonstration afforestation of the slopes in the upper reaches of the Chu and Talas rivers. To switch to the effective irrigation methods for sown areas. To reduce the burden on medium-flow ecosystems, an urgent assessment of the condition of treatment plants in large settlements (Bishkek, Tokmok, Taraz), and to develop measures to reduce polluted discharges. To prepare and implement plans for irrigation and reclamation measures to restore saline and wetlands. To implement a series of pilot projects to reduce water losses from the end user to the takeoff spot in the main river and create opportunities for providing environmental flows for lower reaches of rivers, promoting closed production cycles in terms of water use. To rehabilitate lowland river ecosystems, to carry out a comprehensive assessment of the state of ecosystems of the lower reaches of the Chu and Talas rivers. To restore hydrometeorological observations and periodic assessment of the state of the environment in the lower reaches of both rivers. To assess the rehabilitation possibilities of the ecosystem of Biylikol Lake. To assess the conditions and opportunities for establishing SPNRs in the lower reaches of the Chu River.

6. Separately, an analysis of the climate changes that affect the water resources of the Chu and Talas River basins currently, and may exacerbate problems with their quantity and quality, and degradation of ecosystems in the future has been carried out. Climate Change Models for the period of 2050-2070 in the least favorable scenarios show that the runoff in the Chu River basin can be reduced to 25%, and in the Talas River basin up to 40%. Adoption of measures to adapt to the effects of climate change is one of the key recommendations of the TDA. A special thematic annex to the TDA on the impact of climate change is the contribution of the UNECE project experts "Increasing the Resilience to Climate Change and Adaptation Opportunities in the Transboundary Basin of the Chu and Talas Rivers", financed by the Government of Finland.

STRATEGIC ACTION PROGRAM –

IMPROVEMENT OF STABILITY OF SOCIO-ECONOMIC CONDITIONS AND ECOSYSTEMS OF THE CHU AND TALAS RIVER BASINS

The results of work on the TDA formed the basis for the development of the Strategic Action Program (SAP), which is the second component of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins”.

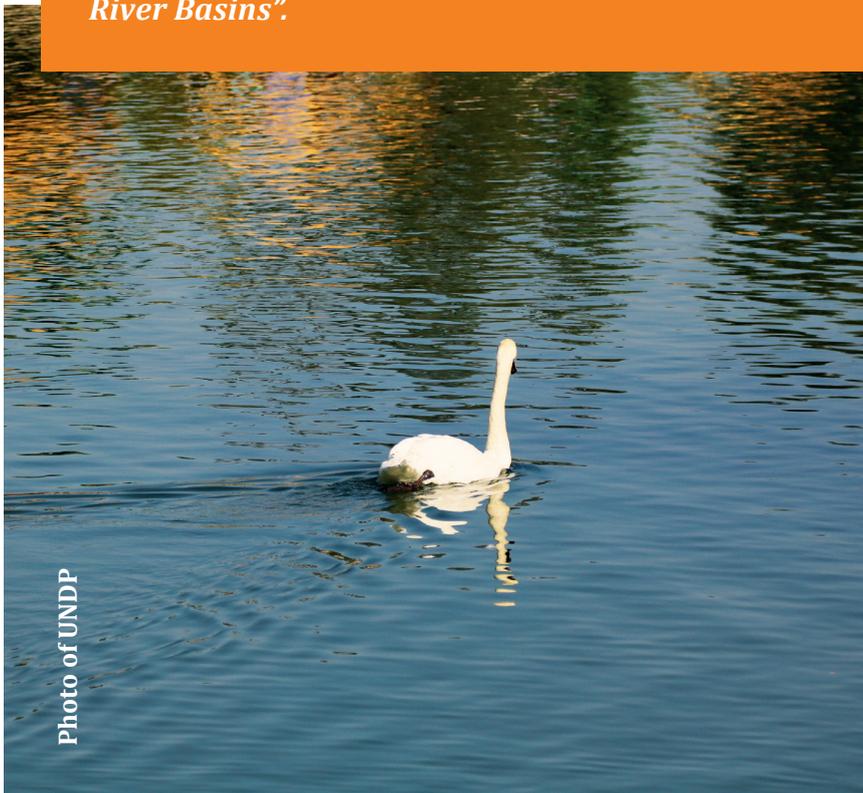


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SAP was developed with the participation of a group of experts from the concerned ministries and agencies of the Kyrgyz Republic and the Republic of Kazakhstan. More than 50 experts from two countries and representatives of international organizations took part in the development.

The countries adopted the long-term vision of the Chu and Talas River basins - 2040:

Effective transboundary cooperation, conservation and sustainable use of water, land and other natural resources, as well as measures on the adaptation to climate change ensure the protection of public health and safety, economic well-being and

ecosystem stability of the Chu and Talas river basins.

A long-term vision is a political goal that should be achieved within 20 years and serves to inspire the population living in the Chu and Talas River basins and decision-makers.

Six long-term goals for achieving the Vision are also identified, along with a number of short, medium and long-term objectives to achieve these goals.

- Goal 1: Quantity of water.**
- Goal 2: Quality of water.**
- Goal 3: Ecosystem conservation.**
- Goal 4: Climate change.**
- Goal 5: Collaboration.**
- Goal 6: Monitoring.**

Short-term (1-5 years since the approval of SAP), medium-term (6-10 years since the approval of SAP) and long-term (10-20 years since the approval of SAP) tasks were defined to achieve the goals.

To ensure the first goal, the objective is to increase the share of irrigated land using water saving technologies (sprinkling, drip irrigation,



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subsurface, fine, etc.) by 5% by 2030 (short and medium term) and by 10% by 2040 of total irrigated lands. To achieve this goal, such measures as the improvement of the regulatory and legal framework for stimulating the use of water saving technologies in agriculture, introduction of a mechanism for subsidizing water-saving technologies, the training of farmers in the methods and technologies of using water-saving technologies in agriculture, the development and implementation of pilot projects for the creation of original irrigation schemes, the organization of the facilities for production and processing of drip irrigation systems, sprinklers, development of forest plantations along irrigation canals and the delineation of irrigated massifs, and increase in the water use factor by increasing yields, using high-yielding varieties, applying agrotechnical methods of growing and introducing less moisture-intensive crops have been defined.

Modernization of water distribution and water infrastructure systems by reconstructing hydraulic structures and improving water availability, reducing siltation of existing water distribution facilities and

“The tasks and measures proposed in the SAP create additional conditions for their integration into national, sectoral, regional strategies and development programs in both countries. In the SAP, attention for the next decade is focused on promoting the strengthening of institutions involved in the implementation of integrated water resources management in the basins of the Chu and Talas transboundary rivers.”

automating water distribution and accounting for irrigation systems takes an aim as a long-term task on its achievement.

Similar goals and measures for their achievement are also prescribed for other purposes:

for improving water quality, conserving ecosystems, reducing the risk of negative impacts of climate change, increasing the capacity for transboundary cooperation and providing integrated monitoring of the quantity and quality of surface waters, hydrometeorological indicators, the distribution of water resources between the states, the condition of ecosystems.

It should be noted that the SAP, taking into account its medium- and long-term nature, also takes into account the impact of climate change on water resources and is oriented towards the implementation of appropriate adaptation measures for the SAP objectives on quantity, quality and monitoring of water resources,

ecosystem conservation. Measures to adapt to climate change in the SAP were developed with the support of the UNECE Project “Enhancing Resilience to Climate Change and Adaptation Opportunities in the Transboundary Basin of the Chu and Talas Rivers” financed by the Government of Finland.

The SAP is an agreed policy document, the approval of which should be carried out at the highest level. The SAP sets clearly prioritized actions (for example, political, legal, institutional reforms or investments) to address priority transboundary issues. A clear baseline is the key element of the SAP, which makes it possible to distinguish between the actions with purely national advantages and actions that address transboundary issues with worldwide advantages. Another key element is the creation of institutional mechanisms at the regional and national levels for the implementation of SAP procedures, as well as the monitoring and evaluation of procedures for

assessing the effectiveness of the results of the process.

After the Program is approved at the intergovernmental level, a number of transboundary and national first-stage projects will be developed and proposed for implementation, for which it is necessary to provide funding from the donor community and co-financing of the governments of two countries.

It is worth noting that the Global Environment Fund (GEF) can allocate from USD 5 to 10 mln. for

the next 5 years for the GEF project on the SAP implementation from the special funds on the priority direction "International Waters".

The Swiss Agency for Cooperation and Development (SDC) is interested in SAP on the priority direction "Monitoring of Water Resources" to enhance cooperation and increase the capacity of transboundary water resources monitoring, which cost for the first stage of SAP implementation is estimated at USD 7-8 mln. The Government of Finland also remains

interested to the possibilities of supporting the countries of the Chu and Talas River basins in the issues of capacity building of the water resources management in the period of 2020-2025.

Integration of numerous donor efforts within the frames of a single SAP can significantly improve the efficiency of such investments regardless of whether they occur at a transboundary, national or even local levels.

LYUDMILA NYSHANBAEVA:

COLLECTIVE USE OF WATER RESOURCES IN TRANSBOUNDARY BASINS OBLIGES TO SEEK THE WAYS OF COOPERATION

THE GROUP OF EXPERTS WORKED ON THE IMPLEMENTATION OF A COMPONENT "CAPACITY-BUILDING OF WATER RESOURCES MONITORING IN THE CHU AND TALAS RIVER BASINS" WITHIN THE FRAMES OF THE UNDP-UNECE-GEF PROJECT "ENABLING TRANSBOUNDARY COOPERATION AND INTEGRATED WATER RESOURCES MANAGEMENT IN THE CHU AND TALAS RIVER BASINS".

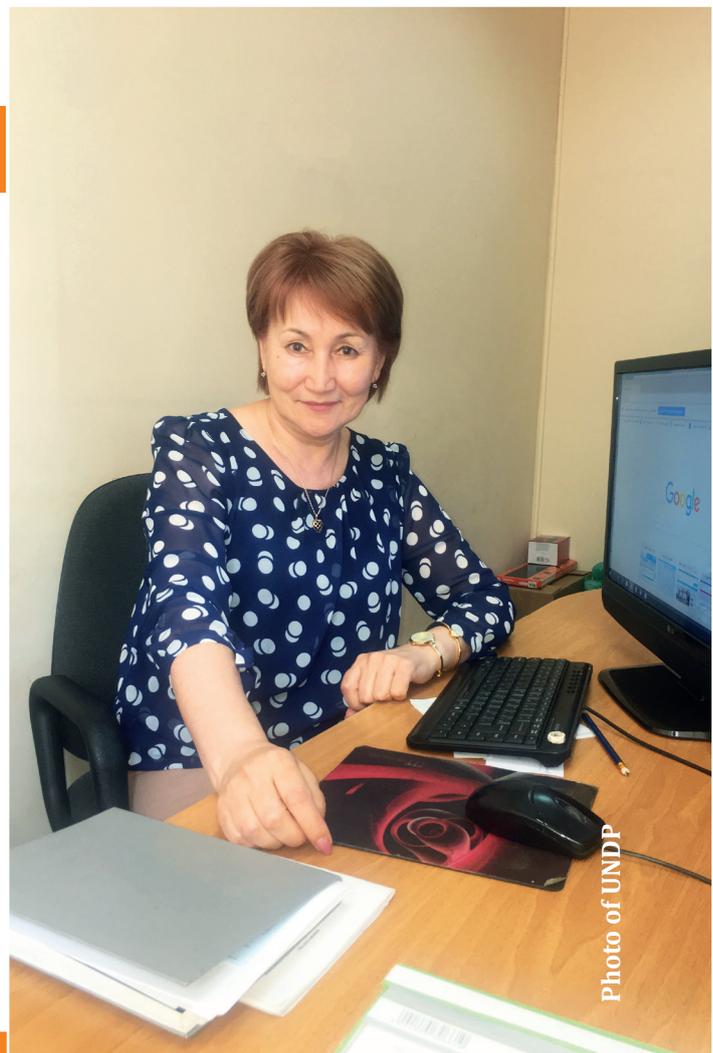


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Head of the Department for Monitoring of Environmental Pollution of the Agency for Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic (Kyrgyzhydromet) Lyudmila Nyshanbaeva told how the work was organized and what results were achieved.

Please tell us, what does capacity building of the monitoring mean in this case? What activities were carried out as part of the implementation of the component?

It should be noted that the joint observations of monitoring of the quality of surface waters in the Chu and Talas river basins, as well as the exchange of information between the Kyrgyz Republic and the Republic of Kazakhstan have been almost finished by the beginning of the UNDP-UNECE-GEF project. I cannot say for sure, but in my opinion, one of the reasons was the difference in technologies and procedures for monitoring the quality of surface water. The lack of a document recognized by two countries and containing the Regulation on transboundary monitoring and information exchange was an obstacle to the overall interpretation of the monitoring data obtained. The countries apply different approaches to monitoring; countries have different monitoring capacities, including the number of observations, of indicators, as well as the different opportunities for access and the use of new technologies.

The result of component 3 is a sustainable understanding of the need for a dialogue on water resources quality in the basin context, as well as preparation of recommendations on the harmonization of monitoring systems, and the development of a draft protocol for monitoring of surface waters in the Chu and Talas river basins.

A special training program was developed for specialists from the beneficiary countries within the framework of component 3. The specialists were involved from the International Commission on the Sava River, the Regional Environmental Center for Eastern Europe to conduct trainings. The list of training topics is very extensive. The participants of the trainings got

acquainted with the experience of developing a transboundary river basin management plan; with the practice of planning transboundary management; experience in managing return waters; with the history of the Sava River Basin Framework Agreement and were engaged in developing scenarios for application of the experience of the Sava Commission in the Chu-Talas basin in practice, in group works.

You said that two countries apply different approaches to monitoring. What are the differences?

Implementation of the component began with the review and analysis of the existing monitoring system in the Chu-Talas basin. An expert assessment of the regulatory framework for monitoring of water resources, existing programs, main problems and the need to improve the surface water quality monitoring system was made.

The next step was to study the applied classification of surface water quality in two countries, including the water quality standards used, that is, application of maximum allowable concentrations (MAC) and the

maximum permissible harmful impacts on pollutants (MPHI).

At this stage, significant differences have been revealed. For example, the Republic of Kazakhstan started reforming the system of standards for surface water quality. The reevaluation of the regulatory framework in the direction of development of the principles of integrated water management has begun in the country. As a result, the mechanism "Ecological Regulation of Water Use", including the elements of ecosystem monitoring, reporting, planning, stakeholder interaction. At this stage of transition to the ecosystem monitoring model, the Republic of Kazakhstan included biological, hydromorphological, bacteriological, hydrochemical and hydrological indicators.

The system of quality standards contains five groups of limiting indicators defining five classes of special-purpose designation (or classes of water use).

A system for regulating the quality of surface waters of the Soviet period is maintained in the Kyrgyz Republic, that is, the system includes two main elements: environmental quality standards - the maximum allowable



concentrations of pollutants and discharge standards is the mass of substances in the waste water, the maximum allowable to the discharge in this water body site.

The next important point was sampling in the Chu and Talas river basins, laboratory tests, study the sources and the nature of the pollution. Drainage effluent of agriculture (return waters), their description and research were selected as a separate direction.

In total, three trips for water sampling in the river basins were planned during the period of implementing component 3 of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins” in the beneficiary countries. 117 water samples were taken, 3,357 laboratory tests were performed on 31 indicators in the Kyrgyz part of the Chu and Talas river basins.

At the same time, an inventory of the laboratory base, methods of

researches, monitoring procedures and programs was carried out in parallel. An expert assessment of the possibilities of harmonizing the requirements for laboratory equipment in two countries and conducting work on the same list of pollutants was carried out; the possible ways of harmonization of practices, methods, norms and requirements for water quality monitoring have been developed.

The average long-term river runoff in the Chu and Talas basins depends mainly on climatic factors - precipitation and evaporation, and the quality of river water is associated with normal weathering of the rocks and runoff in the catchment area as a whole. Therefore, the work on the analysis and assessment of the hydrometeorological situation in the basin for a period of 1990-2016 was carried out within the framework of the component. The conclusions indicate the need for an integrated approach to water resources management agreed upon by all stakeholders, and capacity building for the hydrometeorological

and hydrochemical observations and revision of the regime of water consumption are recommended, which is very important in the context of climate change.

Who worked on the implementation of this component, which specialists were involved and how long the work was going?

State bodies in the field of environmental protection - the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic, in the field of drinking water quality - Department for Disease Prevention and the State Sanitary and Epidemiological Supervision of the Ministry of Health of the Kyrgyz Republic, in the field of water resources - the Department of Water Industry and Reclamation at the Ministry of Agriculture and Food Industry and the Agency for Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic to implement the component. The work was carried out over a period from November 2016 to June 2018.

We would like to express our gratitude to the Finnish Environment Institute (FIO) for the regular support of activities within this component. The FIO involved an experienced international expert who shared a rich and valuable experience in establishing cooperation on water quality monitoring in many transboundary river basins around the world. The FIO also assisted in the coordinated sampling of water with the subsequent carrying out of inter-laboratory comparative tests.

In your opinion, how successful was the implementation of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River basins?” What are its benefits for Kyrgyzstan in particular and for the region as a whole?



Collective use of water resources in transboundary basins obliges to seek ways of cooperation and overcome obstacles in this way. In my opinion, the UNDP-UNECE-GEF Project fully supported this process, supported a cooperation platform such as the Chu-Talas Water Commission, which is currently involved both in the process of the distribution of water between the countries and maintenance of water management facilities, and other issues related to river basin management, planning and transboundary management, adaptation of water resources to climate change and the quality of surface waters.

An in-depth analysis of the situation, an assessment of the capacity of countries to monitor surface water quality, and recommendations for further expansion of cooperation to develop water monitoring systems in the Chu and Talas river basins have been developed.

At this stage, a kind of “roadmap” has been developed that defines step-by-step scenarios for the development of the coordinated monitoring of the Chu and Talas river basin, indicating sampling points on the territory of each side, an agreed list of monitoring indicators, a list of laboratory equipment and techniques, used by the parties involved in coordinated monitoring.

The sampling schedule is to be approved and the procedure for the exchange of information is to be agreed.

As a result of the work on the UNDP-UNECE-GEF Project, several lessons have been learned: The first lesson is the understanding that a long-term and sustainable solution can be found to strengthen mutually beneficial transboundary cooperation through integrated water resources management mechanisms.

The second lesson is development of a step-by-step approach and a gradual transition from the solution of small tasks to the expansion of water sampling points, regular exchanges of information and joint assessments.

The third lesson is that the Working Group on the Environment of the CTWC is able to resolve disputes and disagreements in an expeditious manner, involving members of the group and experts in the field of water quality monitoring.

The fourth lesson - the countries can find mutually acceptable solutions for coordinated monitoring with the prospect of further expansion despite differences in methodology, laboratory capacity.



CHU-TALAS WATER COMMISSION –

EXAMPLE OF COOPERATION
OF THE REPUBLIC OF
KAZAKHSTAN AND THE KYRGYZ
REPUBLIC: CURRENT ACTIVITIES,
TASKS FOR THE FUTURE

Sustainable coordination structure, including Chu-Talas Water Commission (CTWC, Commission) its permanent secretariat and expert working group was established in July 2006 by joint efforts of two main water departments of Kazakhstan and Kyrgyzstan thanks to technical support of international organizations and financial institutions.

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THE COMMISSION WAS ESTABLISHED FOR REALIZATION OF THE AGREEMENT BETWEEN THE GOVERNMENT OF KAZAKHSTAN AND THE GOVERNMENT OF THE KYRGYZ REPUBLIC ON THE USE OF INTERSTATE WATER FACILITIES ON THE CHU AND TALAS RIVERS,” SIGNED ON JANUARY 21, 2000.

CTWC is a platform for decision-making. The meetings are held in the territories of the Kyrgyz Republic and the Republic of Kazakhstan twice a year on a rotating basis. Twenty-three meetings of the Commission, two international conferences dedicated to the 10th and the 15th anniversary of signing the Agreement dated 2000 and more than 30 meetings of the joint Secretariat were held between 2006 and 2016.

Today, the role of the Commission is no longer limited only by agreeing on the conditions for allocation of water resources or by planning equity financing for the participation of countries in the maintenance of interstate facilities. The activities of the Commission are also aimed at ensuring transparency of the water policy of both sides, exchange of relevant information, prevention and the operative settlement of problematic situations, which are unavoidable for a region with

such complex natural and climatic conditions.

The way of establishing the Commission was not easy, but to date, CTWC is a reliable platform for bilateral cooperation in solving water and hydro-economic issues in the basins in the Chu and Talas rivers. The life necessitates expanding the scope of the Commission’s activities. Joining to the International Network of Basin Organizations, introduction of the principles of integrated water resources management (IWRM) within the basin at the interstate level – the tasks that the Commission has outlined in its development.

The seven working groups of expert and analytical support have been established within the Secretariat to prepare the materials and recommendations necessary for the activities of the joint Commission. They include the most experienced specialists in the fields of water use, construction, operation of water bodies and



Bakyt Makhmutov, SDC:

“The Swiss government considers the experience of creating the Commission of the Republic of Kazakhstan and the Kyrgyz Republic on the use of interstate water facilities on the Chu and Talas rivers as one of the best practices in the region in water resources management issues. In this context, the Government of Switzerland supported the strengthening of the water accounting system in these transboundary basins. This project complements the projects financed by Switzerland by developing strategic frameworks of cooperation between two countries as the Strategic Action Plan in these transboundary basins.”

hydraulic structures, information exchange and software, legal and legislative branches, ecology and environmental protection, scientists, journalists from the Republic of Kazakhstan and the Kyrgyz Republic.

The information management systems and software complexes, using mathematical, information models and methods, interstate data exchange systems that increase awareness of the parties, transparency and predictability of decisions have been developed and are being introduced into the process of managing the Chu and Talas rivers since 2008.

Development, improvement and implementation of a software package designed to plan the distribution and accounting of water resources in the Chu and

Talas river basins, which has been significantly improved within the framework of the Asian Development Bank projects are among the achievements in this area. This program complex was adopted as a basis for interstate water apportioning between Kyrgyzstan and Kazakhstan. Since 2005, the water organizations of Kyrgyzstan and Kazakhstan have been using the developed software packages to calculate various variants of water apportioning schedules. The introduction of automated systems makes it possible to use the data obtained for the operation of the software package, which ensures efficiency, transparency and reliability of water resources management in the river basins.

Unique, large and complex

engineering structures are a part of interstate water management facilities of the basin.

These are dams, reservoirs, main canals, head intake facilities. Harmonization of their operating modes, as well as fair share participation in their technical maintenance is the subject of bilateral interstate cooperation. In this regard, restoration of their technical condition to the normative level and provision of effective safe operation are among the priority hydro-economic tasks for both states. Annually, these facilities are inspected, the repair and restoration works are performed, and the Acts of forthcoming works are drawn up by the jointly created commission as a part of experts of water management departments of the Republic of Kazakhstan and the Kyrgyz Republic. The costs of operation and maintenance of these facilities are covered by financing from state budgets. Calculation of costs for the maintenance of facilities is made annually and approved at the meetings of CTWC.

Since 2015, the Commission has been taking active participation in the implementation of UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas river basins.” The working groups

on environmental protection, and also on adaptation to climate change and long-term programs of actions at the Secretariat of the Commission that work on a permanent basis were created with the support of the UNDP-UNECE-GEF Project.

The Commission holds International conferences, where the achievements in implementation of the Agreement between Kazakhstan and Kyrgyzstan, and importance of cooperation in the distribution of water resources in the Chu and

Talas river basins for sustainable development, strengthening of trust and security in the region of Central Asia are recognized.

The Commission is also active in international cooperation. Thus, a study tour of the members of the Chu-Talas Water Commission took place to study the long and positive experience of the Commission and the Mekong River Secretariat in the countries of Thailand and Laos in April 2011, with the support of the Asian Development Bank. With the support of the UNDP-UNECE-GEF Project, the members of the Commission visited the Republic of Croatia to study the experience of the International Sava River Commission in May 2016. A rafting tour was organized for the members of the Commission. Most of the Kyrgyzstanis and Kazakhstanis, who grew up in the mountains and steppes, first discovered this amazing water sport and during the International Conference conducted a rafting tour along the Chu River on the occasion of the 10th anniversary of the establishment of the Commission.

The CTWC informs about its activities, as well as about reports at conferences and seminars through the media in local newspapers and magazines. The official website contains information on the Commission, the main legal documents, minutes of the Commission meetings and other materials. The address of the CTWC website: www.chui.at.kg.

In connection with the 10th anniversary of signing the Agreement between the Government of the Republic of Kazakhstan and the Government of the Kyrgyz Republic on the use of interstate water facilities on the Chu and Talas rivers and for promoting ideas for the development of transboundary cooperation, the commemorative postage stamp and badge were issued.



Photo of UNDP



Photo of UNDP



The UN General Assembly promotes creation of an enabling environment for development of new ideas and the search for the most effective ways to achieve internationally agreed goals in the field of water resources. The specialists of the bilateral Secretariat of CTWC together with specialists from all over the world

participate in workshops held at the UN Headquarters in Geneva, which purpose is to contribute to water and climate issues, to identify, collect and analyze best practices on adaptation to climate change in the transboundary basins.

SAVA COMMISSION SHARES THE EXPERIENCE TO INCREASE CAPACITY OF THE CHU-TALAS WATER COMMISSION



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Photo of UNDP



Photo of UNDP

A study tour was organized in Croatia for the Chu-Talas Water Commission (CTWC) within the frames of the UNDP-UNECE-GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Chu and Talas River Basins”.

In May this year, a delegation from Kyrgyzstan visited Croatia, where it thoroughly acquainted itself with the activities of the International Sava River Basin Commission (ISRBC). The Sava River is one of the largest transboundary rivers; its length is 990 km. The river passes through the territory of all six countries of the former Yugoslavia. The key goal of the ISRBC is the establishment of transboundary water cooperation for the sustainable development of the region.



Photo of UNDP

Colleagues from Croatia told the representatives of CTWC about all aspects of their work: establishment of an international navigation regime, sustainable management of water resources and emergencies, cooperation with international organizations, exchange of information within the basin, reasonable and equitable use of water resources. The delegation was provided with the detailed information on the development of integrated plans for the basin, negotiation, protocols between the countries in the framework of ISRBC, the Sava River Agreement, and the ISRBC Regulation.

During the visit, CTWC members also met with the representatives of the Croatian Ministry of Agriculture, research and professional organizations, NGOs, the Chamber of Commerce, the Regional Center for the Protection of the Environment, the Hydromet of Croatia and other organizations participating in the ISRBC.

Based on the results of all meetings, the parties discussed the possibilities for cooperation between the CTWC and ICBCS and developed a draft Memorandum of Cooperation. Later the experts of the International Sava River Basin Commission arrived in Bishkek and conducted a series of training sessions “Sharing the Experience and Best Practices of the Sava River Basin For Enhancing the Capacity of the CTWC and Key Partners” on various topics:

1. An example of cooperation on water quality in the Sava river basin - the possibility of joint or coordinated monitoring of water quality in the Chu and Talas river basins.
2. Raising awareness of climate change and information exchange in the Chu and Talas River basins.
3. Raising awareness of the impact of climate change on the use of water resources in the Chu and Talas river basins.



Indira Akbozova, Head of the Kazakh part of the CTWC Secretariat:

“Undoubtedly, the project created favorable prerequisites for cooperation between hydromets, environmental ministries and departments of our countries in addressing issues of water quality, preservation of the environment that will positively impact the performance of CTWC. The project benefits implementation of the International Conventions on Climate Change, Biodiversity, and Desertification. It is necessary to promote work on access to information (the Aarhus Convention)”.

4. Internet resources for the exchange of data and information on the Hydrometeorological (HMS) and Geographic Information Systems (GIS) examples of the Sava Commission.

5. Development and implementation of a transboundary basin management plan.

7. The history, practice and application of the Sava River Basin Framework Agreement and the Protocols thereto- opportunities and options for CTWC.

Within the framework of trainings, group works was conducted, where the information was analyzed and the scenarios for applying the experience of the Sava Commission in the Chu-Talas basin were discussed.

WATER OF STUMBLING

MAIN PROBLEMS OF CLIMATE CHANGE AND DEGLACIATION

TALAS RIVER

TOTAL AREA OF CATCHMENT AREA – 38,400
THE AREA OF GLACIERS DECREASED BY 29%

CHU RIVER

TOTAL AREA OF CATCHMENT AREA – 52,700
THE AREA OF GLACIERS DECREASED BY 37%



OVER A PERIOD
1991-2010 ГГ.

THERE WAS OBSERVED MORE SHARP
RISE IN TEMPERATURE
BY 0,50 C/10 YEARS



IRRATIONAL USE OF WATER RESOURCES



OF CATCHMENT AREA IS SPENT BY AGRO-INDUSTRY



WATER LOSSES DURING TRANSPORTATION COMPRISE 40% IN KYRGYZSTAN AND KAZAKHSTAN

POPULATION GROWTH AND POLLUTION

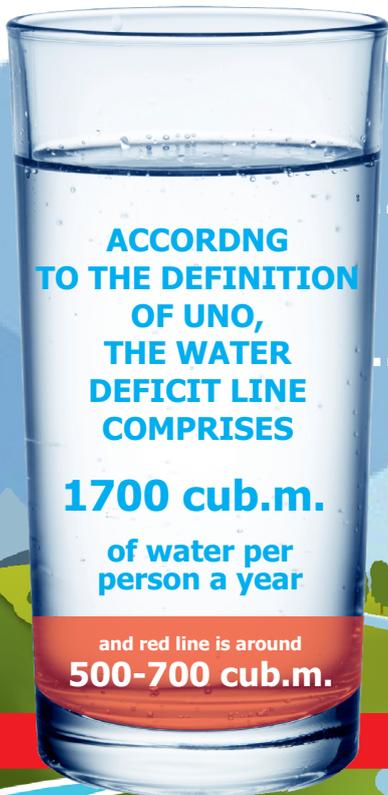


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People in Kazakhstan and Kyrgyzstan use water from Chu and Talas Rivers

AND THIS FIGURE GROWS FROM YEAR TO YEAR.

WATER CONSUMPTION IN OUR COUNTRIES:



КЫРГЫЗСКАЯ РЕСПУБЛИКА

1,717 M³
PER PERSON A YEAR

REPUBLIC OF KAZAKHSTAN

1,436 M³
PER PERSON A YEAR

MAIN POLLUTANTS OF WATER SOURCES ARE THE PRODUCTS OF HUMAN ACTIVITY - BIOGENIC SUBSTANCES, SALT IONS, METALS, OIL PRODUCTS.

The level of pollution is characterized as "moderately-polluted" and relate to III class of quality.

WHAT IS THIS GOING TO LEAD TO?



Desertification



Disappearance of plants and animals



Epidemics of acute infectious and parasitic diseases



Pollution of soil and water resources



Lack of pure drinking water



Conflicts

dirty

5
class

polluted

4
class

moderately-polluted

3
class

pure

2
class

Very pure

1
class

**Arman and Asel are neighbors.
Every day they fetch water
from the river and
sometimes help each other.**



-You did not bring the water home, half the way I was carrying. It doesn't work like that

- I was carrying water yesterday, now it's your turn

- Why it doesn't cut it? Let's count then, who will lose, will carry it.

And every time they argue whose turn to carry a bucket.

-It's not a cricket! You cheated!

- It's not so, I played by the rules. You just do not want to carry it.

And this time the children quarreled and did not decide who would carry the water.

Arman and Asel stood for a long time, being angry with each other. And the time was passing by.

- I am tired of standing here, my mother will start looking for us soon. Can we carry the bucket to-gether? And none of us will be hurt.

- Yes, and it will be easier for us to carry it together! And we will bring a full bucket of water.

- Exactly! When we bring it separately, we always have half of the water splashed.

The children made peace and were happy that they found a solution.



Friendship is the key to prosperity.

