

GOVERNMENT OF KAZAKHSTAN

*COMMITTEE FOR WATER RESOURCES
OF THE MINISTRY OF NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION*

***IDENTIFICATION OF PRIORITY ISSUES
IN SEVEN MAJOR RIVER BASINS
IN KAZAKHSTAN***

*PROBLEM IDENTIFICATION AND PRIORITISATION
WORKSHOP IN KARAGANDA
FOR THE NURA-SARYSU RIVER BASIN*

WORKSHOP PROTOCOL

6 August 2002

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1 INTRODUCTION

1.1 BACKGROUND

The subject workshop is part of the project: Priority Issues in 7 Major River Basins in Kazakhstan. The funding of this project is provided by the Austrian Government through the World Bank upon request of the Government of Kazakhstan. This project is the first step in the preparation of the Water Resources Development Plan for Kazakhstan. The project is prepared by a team consisting of Kazakh and international experts of Posch & Partners, Austria.

In a first step, individual experts prepared background papers for each river basin outlining the characteristics of the river basin and the major problems. In the following step - which represents a first consultation round – the river basin experts presented the essence of these reports in Problem Identification and Prioritisation Workshops. Such workshops were held at the river basin level, giving all stakeholders and interested parties the chance to present their views and to complement the findings. This report summarises the main findings of the workshop in Karaganda covering the Nura-Sarysu river basin.

1.2 WORKSHOP ORGANISATION

The one-day workshop was organised by the project team with the assistance and in close cooperation with the Nura-Sarysu River basin authority. It took place in Karaganda at the Friendship House “Dostyk” on August 6, 2002. The workshop was chaired by the Kazakh Project Coordinator, Mr. Nariman Kipshakbaev, and co-chaired by the Austrian consultant Wilfried Pistecky. The World Bank was represented by Mr. Roman Solodchenko, Country Program Manager, and Mr. Evgeny Tyrtshny, Operations Officer.

In a first session, the river basin expert Mr. Vadim Alexandrov presented the main findings of his report. Then discussion sessions followed, focusing on the following:

- Discussion of the report with emphasis on water resources, existing infrastructure, water demand and major polluters
- Major problems and possible solutions
- Priority ranking criteria and priority ranking of problems

1.3 PARTICIPANTS

In total 39 people participated at the workshop, representing 24 organisations. A complete list of participants is attached in Annex A.

2 PRIORITY ISSUES IN THE RIVER BASIN

After intensive discussions it was agreed that the priority problems are as shown below. Each problem was assigned to one of three priority levels. The following criteria were agreed and applied for the ranking of the problems:

- Adverse effect on environment
- Reliable water supply of sufficient quantity
- Quality Water Supply, meeting standards
- Affected population
 - health
 - discomfort
 - economic disadvantage
- Economic productivity (added value)
- Cost of alternatives (opportunity cost)
- Realisation time needed

2.1 PROBLEMS OF FIRST PRIORITY

1. Water resources management at the Nura and Sarysu rivers

The existing water management scheme of the Nura-Sarysu river basin has to be improved. The participants made a proposal: (i) to develop a scheme for complex use and protection of water resources of the Nura-Sarysu river basin; (ii) to define water protection zones from the river source to the mouth; (iii) to estimate the parameters for the water balance of the Nura river; (iv) to determine the area of liman irrigation within the river basin.

2. Water resources pollution control

The existing monitoring and control program for the quality of surface waters and groundwater is rather poor. Generally neither the emissions from waste water outlets nor the immissions within the water course of the rivers are monitored at the time being. One of the first steps for the improvement of this situation is the definition of emission limits for outlets of waste water treatment plants. Such emission limits would focus on relevant parameters that are related to the chemical and biological properties (parameters) of the waste water that enters the treatment plants. In addition, the monitoring of the river water quality should be conducted to gain an overview of the immission situation. The participants made a proposal to conduct a complex study of all surface and ground water pollution sources. It is also necessary to: (i) make inventory of pollution sources; (ii) intensify the water quality monitoring activities by permanent laboratory control and equipping of these labs; (iii) to supply the laboratory of the town of Karaganda with improved equipment; (iv) to attract NGOs to join in water quality monitoring activities; (v) to create independent state control for the management of the laboratory data; (vi) to establish emission standards for waste water outlets in relation to the polluting parameters of the type of the waste water.

3. Urban water supply

Due to deterioration of the water distribution network and lack of funds for rehabilitation works considerable water leakages within the water supply systems of

all the towns and industrial sites of the basin can be observed. The World Bank is financing the "Water supply and sanitation of North-East Kazakhstan" project, which is being implemented in the region. The objective of the project is the rehabilitation of the water supply and sewerage systems of the towns of Karaganda, Temirtau and Kokshetau. The participants made a proposal to consider ground water as an alternative water supply source for the towns of Karaganda and Temirtau as well as for industrial sites, presently being supplied with water from the Irtysh-Karaganda canal. For this purpose it is necessary to conduct the assessment of groundwater resources, especially for industrial use.

4. Nura mercury pollution clean up project

The participants brought up the mercury pollution of the Nura river as an important problem. The Committee for Water Resources is preparing a project on Nura mercury pollution clean up to be financed by the World Bank. It was emphasized that issues of rehabilitation of Yntumak reservoir, preservation of Kurgalzhy nature reserve and rehabilitation of Nura-Ishim canal should be considered within the frame of the mentioned project. The participants also raised a discussion on the increase of mercury pollution at the terrace of the Nura river. It is necessary to conduct investigation and analysis of this phenomenon.

5. Rural water supply

Providing drinking water of appropriate quality to the remote rural settlements is one of the major problems in the Nura-Sarysu river basin. The technical condition of the existing group water pipelines is very poor which leads to a high degree of leakages and water losses. 95% of the existing water supply structures in rural areas are destroyed. At the same time the prime cost of water is rather high ($1 \text{ m}^3 = 200 \text{ KZT}$). For the majority of the water supply systems the owner is not defined. It was proposed to (i) define the owners of water supply facilities; (ii) reconstruct and repair the group water pipelines and corresponding water supply structures; (iii) anticipate state funding for maintenance of group water pipeline; (iv) attract local specialists for design and construction works.

6. Institutional issues, Strategically important reservoirs

It is necessary to define the owner status of the water supply infrastructure (state owned or private owners). Strategically important structures should be state owned and their maintenance should therefore also be financed by the state. In addition, it was suggested to implement a standard hydrological and financial data management unit for each reservoir of the river basin to enable better control over the available water resources. In this context a kind of certification for each reservoir was suggested.

7. Small rivers

The problems of the large rivers cannot be solved without taking corresponding problems of the small rivers into consideration. As the present water quality of the small rivers is in a rather critical state, it is necessary to conduct a number of measures to protect the small rivers. Such measures should primarily contain the reduction and avoidance of pollution of the water courses.

8. Industrial waste water disposal

As the technical status of most of the industrial waste water treatment plants of the river basin is rather low, it is necessary to intensify governmental control concerning the release of industrial wastewater into surface waters (particularly into Samarkand reservoir). It is also required to introduce water recycling water technologies and industrial waste water treatment plants.

9. Low density of water monitoring network

The financial status of RSE Kazhydromet, which runs the hydrological monitoring network, is very poor. Therefore, the number of monitoring stations for measuring the quality and the quantity of the water resources of the river basin is considered as too little. Thus, the basis for the control of the water management issues in the river basin is not developed in an appropriate way. It was proposed to consolidate RSE Kazhydromet and to increase the number of monitoring stations. The financing of this measure should be carried out by the state.

10. Preservation of Irtysh-Karaganda canal and nature reserves

The Irtysh-Karaganda canal is considered as a unique water supply structure for the Republic of Kazakhstan. As the maintenance of this canal turned out to be rather expensive and the operating company is unable to finance the maintenance from the available financing sources, state support (funding) is required.

The Nura river is the water source for maintenance of the Korgalzhay lakes. This group of lakes and their surrounding form a large nature reserve. To preserve this nature reserve it is necessary to provide a sufficient quantity of water with appropriate quality from the Nura river.

11. Artesian wells

Due to the decline of agricultural production and related water demand within the river basin and all of Kazakhstan, a large number of wells exist that are not used for groundwater exploitation. As the majority of these wells were constructed in confined (artesian) aquifers, the groundwater head frequently is higher than the land surface and groundwater flows out of these wells into the surrounding. This situation is seen as a massive waste of water resources and therefore measures for overcoming this problem are suggested. It is proposed to either find owners for some of the wells to rehabilitate the related infrastructure and to use the exploited groundwater or to eliminate the wells without owners to prevent the wasting of water resources.

12. Tariff policy

The existing water tariff system is not sufficient, in particular the tariff system for the Irtysh–Karaganda canal. It is necessary to reconsider and develop a new tariff system and it is suggested to put this issue into the hands of the state.

13. Water consumption standard

At having the water consumption rates of the major towns of the river basin in mind, it is necessary to revise the existing water consumption standards and to introduce a scientific and educational program concerning economical water consumption.

14. Xerotization and aridity process

According to the last data on investigations of large areas in the river basin, the processes of soils erosion by wind (xerotization) and desertification are observed. On the territory of Central Kazakhstan this problem is strongest. The removal of soil occurs annually and the decrease of water level is 1-1.5 mm.

Aridization is the process of land desertification. Annually hundred thousand of hectares are exposed to desertification.

15. Attraction of population and local specialists in solving water issues

To create wide spread awareness in respect to the economic use and protection of water resources it is necessary to introduce programs of information distribution to the population and to involve the public into the solution process for the water management problems of the region. In addition, local specialists should participate actively in this process.

2.2 PROBLEMS OF SECOND PRIORITY

1. Deterioration of communal waste water treatment plants

The majority of the existing communal waste water treatment plants are highly deteriorated and treatment is done at the low level. It is necessary to conduct measures for their reconstruction.

2. Water supply of towns and thermal power station adjacent to the Irtysh-Karaganda canal

The towns adjacent to the Irtysh-Karaganda canal obtain approximately 40% of their water from the Irtysh-Karaganda canal. In Temyrtau approximately 55% of the water which is withdrawn from the canal is used as process water for a thermal power plant. As the water quantity of the Irtysh-Karaganda canal is not sufficient any more for these applications, alternative water resources have to be found.

It is suggested to (i) investigate the regional groundwater resources and to use a higher percentage of groundwater for communal and industrial water supply; (ii) use water from other rivers than the Irtysh river, because this solution is seen as a more economic solution than the mercury cleanup of the Irtysh and its outflows

2.3 PROBLEMS OF THIRD PRIORITY

1. Influence of space tests on water resources.

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Within the Karaganda region there is remaining risk of radioactive pollution of surface and groundwater resources from the residues of "Proton" rockets. The investigations are currently being implemented. It is necessary to allocate financial resources for the support of the mentioned investigations.

Signed by

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Project Coordinator

Wilfried Pistecky
Consultant, Posch & Partners

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3. ANNEX A – LIST OF PARTICIPANTS

No	Name of workshop participant	Organization	Position
1	2	3	4
1	Sanat Tungyshbekov	Akimat of Karaganda region	Deputy Akim
2	Evgeny Lukinykh	Committee for Water Resources MNREP RK	Chief consultant for the north-east projects
3	Nariman Kipshakbaev		Project coordinator
4	Wilfried Pisticky	Posch & Partners company	Consultant
5	Roman Solodchenko	World Bank, Country Office in Kazakhstan	Head
6	Evgeny Tyrtysny	World Bank, Country Office in Kazakhstan	Economist
7	Bektaubay Turgaev	Karaganda region territorial department of extreme situations	Chief of department
8	Baltash Kozhakhmetov	Karaganda region territorial department of environment protection	Head
9	N. Sycheva	Karaganda region territorial department of environment protection	Senior officer of water section
10	G. Grebennikova	Karaganda region territorial department of environment protection	Chief of department
11	E. Silina	Karaganda region territorial department of environment protection	Senior officer
12	Polina Gorbunova	Karaganda region territorial department of forest and nature resources	Ichthyologist
13	Gaziz Ashenov	Ishim river basin authority, Astana city	Head
14	Bakhytnasyr Danbaev	Nura-Sarysu river basin authority	Head
15	B. Smagulov	Nura-Sarysu river basin authority	Chief of department
16	L. Pak	Nura-Sarysu river basin authority	Senior officer
17	A. Murzagalieva	Nura-Sarysu river basin authority	Specialist
18	Valentina Kilochenko	RSE Satpaev's Irtysh-Karaganda canal	Key specialist for hydrology and water use
19	Tursun Ordabaev	RSE "Karagandavodkhoz"	Head
20	B. Kandarbekova	RSE "Karagandavodkhoz"	
21	Valery Stratienco	Karaganda center of hydrometeorology RSE "Kazgidromet"	Director
22	Rymkul Adilbaeva	Region Sanitary-and-epidemiologic institution	Sanitary inspector
23	Maroy Raiymbekov	Karaganda region Committee for land resources management	Deputy chairman

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24	Alpys Rakhymzhanov	Karaganda region Agriculture Department	Senior officer of land resources section
25	Zoya Belokurova	Territorial department of Ministry of Agriculture	Senior officer of section
26	M. Grankin	Territorial department "CentrKazNedra"	Senior officer
27	M. Pastushkova	Territorial department "CentrKazNedra"	Senior officer
28	Maroy Arunov	"Kazakhmys" corporation, Zhezkazgan city	Manager assistant
29	Vladimir Danniker	PC "Ispat-Karmet", Temirtau city	Deputy of chief power engineer
30	Manap Yegemberdiev	PC "Vodokanal", Karaganda city	Chief of production and technical department
31	Vladimir Tyl	JSC "Giprovodkhoz"	Director
32	V. Vurman	JSC "Ecom"	Chief executive, senior ecologist
33	Nina Pishelieva	JSC "CentrKazMonitoring"	Chief hydro geologist
34	Dmitry Kalmykov	Museum of ecology	Director
35	E. Maszhanov	Museum of ecology	Expert
36	K. Uekam	Museum of ecology	
37	A. Phabian	Museum of ecology	
38	A. Zolotarev	Museum of ecology	
39	Peter Zhukovsky	"Industrialnaya Karaganda" newspaper	Deputy chief editor

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