

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 ATYRAU
FOR THE URAL-CASPIAN BASIN*

WORKSHOP PROTOCOL

9 August 2002

Table of Contents

1	INTRODUCTION	3
1.1	BACKGROUND	3
1.2	WORKSHOP ORGANISATION	3
1.3	PARTICIPANTS.....	3
2	PRIORITY ISSUES IN THE RIVER BASIN.....	4
2.1	PROBLEMS OF FIRST PRIORITY	4
2.2	PROBLEMS OF SECOND PRIORITY	7
2.3	PROBLEMS OF THIRD PRIORITY	7
3	ANNEX A – LIST OF PARTICIPANTS.....	9

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 Atyrau covering the Ural-Caspian basin.

1.2 WORKSHOP ORGANISATION

The one-day workshop was organised by the project team with the assistance and in close cooperation with the Ural-Caspian basin authority. It took place in Atyrau at the Business Centre “Premier Atyrau” on August 9, 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. Evgeny Tyrtshny, Operations Officer.

In a first session, the river basin expert Mr. Rizduan Mugaepov 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 35 people participated at the workshop, representing 26 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. Boron and chromium VI pollution of Ilek river

The main source of boron pollution along the Ilek river is the shut down Aktubinsk Kirov's chemicals plant, which has been disposing its untreated wastewater into the river. The second major pollution source of the Ilek river basin is the Alginsk chemicals industrial complex which released hexavalent chromium (chromium VI) pollution into the river. As a consequence the river regime was polluted to a large extent. As the soil contamination in the vicinity of the sites is heavy, pollution still leaches from the soil into the water course of the river. Therefore, it is necessary to complete the construction of the slurry wall at the Alginsk chemical industrial complex in order to isolate the contamination and to prevent further leaching of pollutants into the river regime. At the JSC "Aktubinsk Chromium Compounds Plant" (AZHS) it is suggested to run a soil investigation program to exactly localize the chromium contamination and to isolate the polluted area. Assessed value of the works is approximately equal to 8 bln. KZT.

2. Technical support of the River Basin Authority (RBA)

Overall water management system information is forwarded to the RBA for its corresponding analysis and monitoring. Due to lack of modern technical equipment this activity is carried out at a standard that does not comply with the state of the art. Therefore, support of the RBA with sufficient equipment and personal resources (including training) will overcome this problem.

3. Silting of the Ural river mouth

Due to decline of the inflow of the Ural river into the Caspian sea and the growth of its alluvium (app. 720,000 to 840,000 m³/a), the mouth of the Ural river is increasingly becoming silted. It is suggested to conduct dredging of the Ural-Caspian channel and its branches.

4. Upgrading of water intakes for the fish industry

As a part of implementation of the State food program it is proposed to conduct complex reconstruction of the water intake facilities (pumping stations) and the water transport systems especially at taking the interests of the fish industry into consideration. The effect of this measure is believed to lead to a reduction of water losses and a more efficient use of water.

5. Lack of monitoring network

To enable efficient water management structures within the Ural-Caspian river basin, it is necessary to implement a sufficiently dense water monitoring network including monitoring stations at national boundaries on rivers that flow from another country into the territory of the Republic of Kazakhstan. The monitoring network should comprise the measuring of water levels, discharges and water quality. The most urgent need for such monitoring stations exists at the Indira section of the Ural river and at the Big and the Small Uzen river.

6. Water supply and sewerage of Atyrau city

The technical condition of water supply and sewerage systems of the city of Atyrau is unsatisfactory. Leakages of water pipelines can be observed frequently. The Atyrau Pilot Water Supply and Sanitation Project is completed (including reconstruction of separate sections in water supply and sewage system). It is necessary to continue similar activities.

7. Inconsistence of budget financing and water management activities (Water code)

Regularly the authorization for the financing of water management activities is being approved every spring. At that time of the year an immediate need for irrigation water supply, flood protection measures etc. exists and the financing is being delayed, i.e. budget financing does not correspond to water management activities plan. The participants also made a proposal to reconsider existing water tariffs that do not correspond to real situation. These two issues have to be considered in preparation of the Water code.

8. Rural water supply

It is necessary to intensify implementation of the "Drinking Water" Program and to define the owner of the rural water pipelines since this fact delays implementation of the mentioned Program. Special attention has to be paid to the settlements, located in a distance of 100 km to 150 km from the river because these settlements use untreated water from the channels which does not comply with the drinking water quality standards.

9. Leakages at the irrigation channels and their silting

A pending problem of the irrigation channels of the Ural-Kushum, Dzhanybek and Naryn irrigation systems is the silting and the insufficient weed control of the channels. Due to the silting of the irrigation channels (up to 70%), considerable water losses can be observed. It is necessary to conduct annual clean up of the Taipak main channel with 119 km length, Furmanov main channel with 52 km length, Dzhanybek main channel with 78 km length and to rehabilitate the irrigation systems according to their hydraulic design parameters.

It is necessary to complete reconstruction of the Tamdykool liman irrigation system at the Uil river of Aktubinsk oblast to improve the forage reserves of the region to enable rational use of river water and as a consequence to ensure sufficient water quantities for the subjacent liman irrigation systems of Atyrau oblast.

10. Fluctuation of sea level.

As the water level of the Caspian sea is rising during the past decades, it is necessary to: (i) implement permanent ecological monitoring focusing on the fluctuation of the Caspian sea level and; (ii) create a center for Caspian sea level regulation.

11. Quality of ground waters

None of the 11 ground water sources that are presently available is suitable for human consumption. In this regard it is necessary to investigate the quality of the existing ground water sources of the river basin and to develop strategies for the treatment of exploited groundwater in order to supply the population with drinking water.

12. Group water pipelines

4 out of 6 group water pipelines in Western Kazakhstan are out of order. It is suggested to conduct a study of the existing water pipelines and to rehabilitate the group water pipelines of Kamensk and Urdinsk which are not completely out of order but do not work sufficiently. In addition, it is also seen necessary to improve the functioning of the water pipelines of Kichach-Aktau which are dedicated to the water supply of settlements in which fish industry is operating.

13. Transboundary rivers

The flow of trans boundary rivers that enter the territory of the Republic of Kazakhstan is constantly decreasing. Therefore, it is necessary to negotiate interstate agreements with the Russian Federation to keep up the river water flow that has been agreed on before the collapse of the Soviet Union, concentrating on joint use of river water and protection of trans boundary waterways.

14. Small rivers and Spawning Grounds

An actual problem of the small rivers within the river basin is their water quality. Therefore, it is necessary to conduct measures for the protection of small rivers.

As the number of sturgeon is being decreased, it is necessary to conduct sturgeon protection measures by the upgrading of sturgeon spawning grounds, by increasing the number of sufficient spawning grounds and by developing fish wintering pits at the riffles.

15. Water-desalinating plants at Mangystau power industrial complex.

The water desalinating complex of the thermal power station in Mangystau was constructed from 1972 to 1974. These plants are also supplying the city of Mangystau and the Magystau region with drinking water. The plant capacity amounts to 75,000 m³/day of distillate (for thermal power water supply) and 40,000 m³/day of

drinking water. Due to the insufficient operation of the desalinating plants it is necessary to conduct repair works and rehabilitation of these plants.

2.2 PROBLEMS OF SECOND PRIORITY

1 Uneconomical water resources use

As the water resources of the river basin are used uneconomically, it is necessary to introduce water recycling systems (industrial use) and water saving technologies. Industrial enterprises should switch to groundwater supply. All the enterprises that are constructed in the future should be obliged to apply biological waste water treatment plants.

2.3 PROBLEMS OF THIRD PRIORITY

1. Diversion of runoff from Volga river

Since the Ural-Caspian river basin is short of water resources, the construction of a canal from the Volga river to the Ural river was discussed. About 450 mln.m³ of water per year are planned to be transported in this canal from the Volga river into the Ural river. It is necessary to conduct more detailed investigation on this subject.

2. Reservoir at the Emba river

Due to the lack of flow regulation within the course of the Emba river a considerable shortage of water can be observed in this region. The construction of the reservoir should improve the liman irrigation, the water supply of agricultural and industrial sectors and provide sufficient flow rates that reach the Caspian Sea to ensure ecological stability along the river course.

3. Reservoir at the Big Uzen river

In case of floods the retention capacity within the valleys of the Small and Big Uzen rivers is too small to enable sufficient flood protection for populated areas. It is suggested to construct a reservoir at the Big Uzen river near Zhalpaktak village with a capacity of 19 mln.m³.

4. Micro and macro reservoirs. Outflow to be opened. Investigation of snow cover water equivalent.

A proposal was made to introduce a scheme of the Ural water consumption control by construction of properly sized small and large reservoirs that should be filled during flood periods. Water diversion in other seasons should then be regulated. Natural depressions along the Ural river could be used as reservoirs.

To avoid the blocking of fish and to enable undisturbed passing of fish through the course of the river it is necessary to open the mouth of the Ural river by dredging of the river bed.

All the rivers of the Ural-Caspian river basin are fed by water from melted snow. It is seen as a very important issue to conduct investigations on the snow cover water equivalent to enable prognostics on the river discharges during flood periods.

*COMMITTEE FOR WATER RESOURCES
PRIORITY ISSUES IN 7 MAJOR RIVER BASINS IN KAZAKHSTAN
ATYRAU WORKSHOP*

Signed by

Nariman Kipshakbaev
Project Coordinator

Wilfried Pistecky
Consultant, Posch & Partners

COMMITTEE FOR WATER RESOURCES
PRIORITY ISSUES IN 7 MAJOR RIVER BASINS IN KAZAKHSTAN
ATYRAU WORKSHOP

3 ANNEX A – LIST OF PARTICIPANTS

No	Name of workshop participant	Organization	Position
1	3	2	4
1	Serik Nokin	Akimat of Atyrau region	Deputy Akim
2	Nariman Kipshakbaev		Project coordinator
3	Wilfried Pistecky	Posch&Partners company	Consultant
4	Evgeny Tyrttyshny	World Bank, Country Office in Kazakhstan	Economist
5	Bisen Kuanov	Ural-Caspian river basin authority	Head
6	B. Rakhmanov	Atyrau region Inspection for protection and use of the interior of the Earth	Head
7	V. Tolmacheva	North-Caspian regional Administration for nature resources protection	
8	I. Amirov	CSE "Drainage" (Communal State Enterprise)	Director
9	A. Bekeshev	Atyrau region territorial Department for environmental protection	Senior officer
10	G. Sarsemaliev	Atyrau region department of fish industry	Senior officer
11	A. Bolshov	KRTC	Director
12	Nurmaganbetov	Regional Committee for land resources management	Deputy chief
13	G. Yashkov	PC (Public Corporation) "Atyrau Petroleum Refinery (APR)"	Deputy chief executive
14	K. Yermukhanova	PC "Atyrau heat Power Plant (AHPP)"	Engineer ecologist
15	N. Karabalin	JSC "Atyrauvodproyekt"	Director
16	K. Kartanov	JSC "Atyrauvodproyekt"	Chief engineer, designer
17	Revady Zakirov	CSE " Atyrau Water Supply and Water Treatment Administration (AWSWTA)"	Director
18	N. Glonina	Production and technical department of CSE "AWSWTA "	Technician
19	N. Konas	RSE "Atyaruvodkhoz"	Director
20	R. Mugaepov	RSE "Atyaruvodkhoz "	Key specialist

COMMITTEE FOR WATER RESOURCES
PRIORITY ISSUES IN 7 MAJOR RIVER BASINS IN KAZAKHSTAN
ATYRAU WORKSHOP

21	S. Bisenov	RSE "Atyaruvodkhoz "	Key specialist
22	A. Kunshigarov		Water industry veteran
23	M. Diarov	National Academy of Sciences of the Republic of Kazakhstan	Academician
24	L. Pridanova	Atyrau branch of RSE "Kazgidromet"	Chief of hydrology section
25	B. Musin	West-Kazakhstan region territorial Department for environmental protection	Senior officer
26	R. Ryzhkova	"MNEIC" (Mangystau Nuclear-Energetic Industrial Complex)	Chief of irrigation systems section
27	A. Tulendiev	LPDS "Kigach"	Chief of "Astrakhan-Mangyshlak" canal exploitation department
28	Yury Grabov	RSE "Aktobevodkhoz"	Deputy director
29	U. Sabirov	Ural-Caspian river basin authority	Deputy head
30	S. Zhuniskaliev	Ural-Caspian river basin authority	Senior officer of personnel department
31	N. Zhagipashev	Ural-Caspian river basin authority	Chief of section
32	I. Rzhavskova	RSE "Zapadvodkhoz"	Chief hydraulic engineer
33	A. Nurgaliev	Regional television company	Journalist
34	M. Kuanysheva	"Prikaspiyskaya Kommuna" newspaper	Correspondent
35	D. Aruev	"Atyrau" newspaper	Correspondent

*COMMITTEE FOR WATER RESOURCES
PRIORITY ISSUES IN 7 MAJOR RIVER BASINS IN KAZAKHSTAN
ATYRAU WORKSHOP*
