



# GENDER and WATER in CENTRAL ASIA

Newsletter of GWANET Network

No 7 December 2007

## Transition to integrated water resources management and gender aspects in the Zaravshan river basin



Zaravshan river

A workshop dedicated to integrated water resources management (IWRM) in the Zaravshan river basin was held in Samarkand city on 19-20 November 2007. The workshop was attended by representatives from all water-related organizations and agencies:

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- A. Diyorov, Chief of Zaravshan Basin Authority;
- A. Zhumayev, Deputy Chief of Zaravshan Basin Authority;
- S. Islomov, Chief of Upper Zaravshan Barrage;
- F. Razhabov, Chief of Karmana-Konimekh Irrigation System;
- M. Fayzullayev, Deputy Chief of Amu-Bukhara Irrigation System;
- O. Mirzoyev, Chief of Province Hydromet Center;
- B. Mukhammadiyev, Manager of Division, Committee for Nature Conservation;
- K. Akhmedov, Manager of Division, Municipal Vodokanal (Municipal Water Supply Company);
- K. Nasimov, Chief of Hydro Power Cascade on Dargom Taligulyan path;
- M. Abduraimov, NNO "Zaravshan Basin Protection";



Edited and published by the Scientific-Information Center ICWC within the framework of GWANET project under support of the Asian Development Bank



- B. Khudaybergenov, ministerial representative in Navoi;
- M. Ikramova, national consultant;
- U. Islomov, specialist in irrigation and land degradation (UNDP);
- V. Sokolov, Deputy Director of ICWC;
- I. Akhmedkhodjayeva, senior lecturer of Hydraulics Department, TIMI.



**The Zaravshan river** originating in Tajikistan as a result of merging with confluents Fandarya, Iskanderdarya, Kushtutdarya and Magiandarya is the major water source in the basin. It begins from Zaravshan glacier, is called Matcha before the confluence with Magiandarya, divides into Akdarya and Karadarya at Chapanata highlands, forming Miankal island, and is called Zaravshan again after their junction.

Its catchment area is 11 722 km<sup>2</sup>, weighted average height is 2930 m. The length of the river (from the confluence of Fandarya and Matcha to Karakul fan) is 576 km. The river is mainly fed by snow and ice water. The average annual flow of Zaravshan (Dupuli + Magiandarya) reaches 5130 and 4716 million m<sup>3</sup> under 50% and 75% water availability, respectively.

Water withdrawals for irrigation, seepage losses, return and wastewater inflow to the river influence the Zaravshan river regime below the Magiandarya river mouth. The whole river flow, except emergency flood flows, is taken for irrigation and regulated in reservoirs. On the Zaravshan river 4 waterworks facilities existed before and 2 additional ones have been installed after the transition to basin management, and there are 14 reservoirs.

Chief of the Zaravshan Basin Authority A. Diyorov delivered a speech first. He said that he is very glad that the Zaravshan river basin has been selected for such research, noting that it gives great honor and responsibility for them, since this river is a single water source for 600 million ha of lands.

The work on development of an IWRM program includes a great number of challenges. The main goal is to account and conserve water resources.

This is a first roundtable for different agencies to solve the issue of water shortage and quality in terms of the Zaravshan river basin, which suits very well as a pilot object for development of an IWRM program and for further implementation in other provinces. In this region, all water uses exist, and issues of irrigation, drinking water and energy are interlinked. The Zaravshan river basin is the most favorable object for IWRM development, since having flow of 5.3 km<sup>3</sup>, it uses 6.6 km<sup>3</sup>, of them 1.3 km<sup>3</sup> are return water.



There are a number of difficulties that need to be overcome. One of them is automation of waterworks facilities. Fluctuations of water discharge in the river up to 100 m<sup>3</sup>/day are



occurring. To eliminate these fluctuations, uninterrupted water supply is required, for which it is necessary to have water resources or construct additional reservoirs. For productive work on solving water shortage problem in this region, it is necessary: to intensify international dialogue between Uzbekistan and other countries, intensify interagency dialogue and establish a multi-stakeholder group. In Uzbekistan, water problems are very acute, since 92% of total water resources are used for irrigation needs.



The representatives of all respective services told about their problems and ways to solve them:

- Accounting of water quantity and control over water quality;
- In water supply: irrigation techniques, status of fields, selection of crop;
- Return flow (1.3 km<sup>3</sup>) requiring control, monitoring, accounting of quality and quantity;
- Need for formation of a common information system within the basin, account of legal aspects, building of capacity, training of specialists;
- Water shortage and pollution, water conservation, and rational use of water resources.

Over the last 30 years, there have been great changes in the environment that have led to reduction in surface flow: all cities downstream such as Bukhara, Samarkand, and Navoi suffer from water shortage. The fact that pollution goes upstream is worrying. The further water withdrawal from the Zaravshan river leads to worsening of water supply.

Measures should be taken:

- To provide access to drinking water for population;
- Avoid pollution with domestic and industrial wastewater from Tajikistan, nitrogen pollution as a result of agricultural activities;
- Develop a mechanism to ensure permanent releases;
- Keep water situation at most;
- Agree with hydrogeologists and public utilities;
- Organize instrumental monitoring (by quantity and quality), develop network of measurement stations.

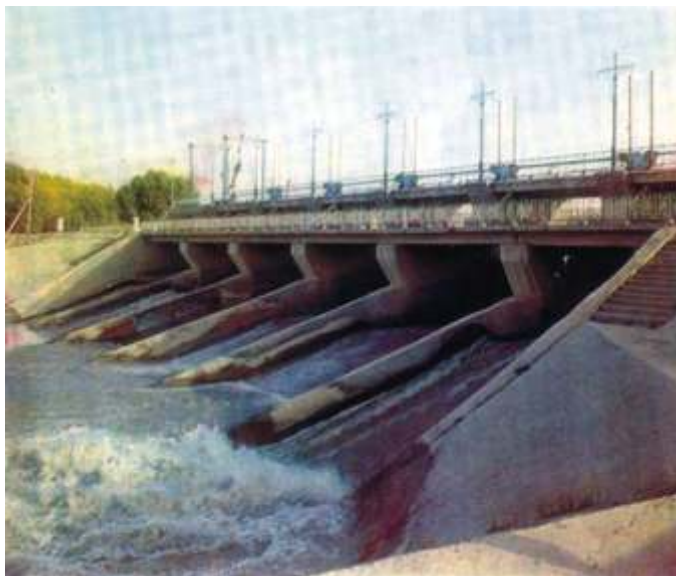
Representative of non-governmental organization M. Abduraimov noted that the water shortage problem has emerged long ago. Akhmad Donish said As far back as the late 18th century that the problem could not be solved using Zaravshan only, it is necessary to use the Amudarya river as well.

He noted with regret that “the orchards of Samarkand, for which the province is always famous, are now falling into decay due to priority irrigation of cotton and other crops, therefore there is no enough water for orchards.



Chief of Hydro Power Cascade on Dargom Taligulyan path K. Nasimov said that the issue of water is number one issue for energy, which is closely connected with ecology. Water comes with a large quantity of garbage. Day and night 5-6 people have to busy with water purification. Information exchange was organized with Chief of the Zaravshan Basin Authority A. Diyorov, though

monthly receipt of water forecast from them could enable to plan energy generation in order to know what equipment should be taken out for repair. Moreover, water quantity accounting facilities have become obsolete, and therefore there is a large difference in their reading. A need has arisen for providing with metrically reliable accounting facilities. Samarkand province is located in the energetic critical zone where every kW of electric energy is very expensive, therefore it is necessary to save every m<sup>3</sup> of water, but 3 stations are staying because of water shortage.



Representative from Vodokanal K. Akhmedov noted that in the region there are 16 Vodokanal branches, 370 m<sup>3</sup> of drinking water a day is taken from the Zaravshan river. The length of water supply networks is 280 km, and that of sewerage networks is 310 km. The age of water supply networks varies from 16 to 40 years, i.e. 30-40% of them are deteriorated that causes great damage and water losses (up to 43%). Of 100%, 18% of water is used only for technical needs.

The second problem is wastewater treatment, because in any case this water flows into Zaravshan. 5 treatment facilities treat 115-120 m<sup>3</sup> of water, but metal structures of treatment facilities are corroded under the influence of heavy metals contained in water during 3 years, and therefore they have to be replaced.

The other important problem is water conservation: wider installation of accounting devices is being carried out in the province, and 379,000 water meters should be installed for cold

and hot water that will lead to respectful attitude to water.

There are also many problems in the field of nature protection in Samarkand. About 29,000 ha of lands belong to protection zone (coastal zone), but 60,500 ha of lands should be removed from crop rotation and transferred to water protection zone that has not been executed so far. Although water in the Zaravshan river is considered moderately polluted (category 2 improved indicators as compared to the analyses of 1980-1990), it is necessary to carry out water treatment further.

Every month and quarter water samples are taken in 9 points on the river and compared with data of Hydromet Center. According to analysis findings, the level of nitrogen pollution is 6 times higher than the standard level.

M.Ikramova emphasized that integrated basin management is impossible without water accounting. The project participants should fulfill important tasks:

- Specify actual reservoir capacities, with account of silting;
- Carry out measures for equipment replacement at on-farm pumping plants;
- Integrate all structures into a unified system of water accounting;
- Put drainage system in order;
- Specify all water pollution sources;
- Arrange information exchange between structures;
- Carry out cleaning work on reservoirs.





The Zaravshan river basin is a region with lowest water availability located on the right bank of the Amudarya river, which needs in natural replenishment of its own resources and improvement of water quality.

When I. Akhmedkhodjayeva made a presentation on gender aspects in the Republic of Uzbekistan, it first caused perplexity of the participating specialists. They could not understand relation between gender and such a serious problem as water. After explaining that gender equality implies that women and men equally have socially valuable benefits, opportunities, resources and rewards, and equality of their opportunities and living chances\*, it became clear that for example in Hydro Power Cascade, 70% of the personnel and 7 of 10 chiefs are women.

About 12 million women live in Uzbekistan. 60% of them live in rural areas, while almost 50% of able-bodied female population is employed in national economy.

The major part of the working female population is employed in such sectors as industry (48%), agriculture (40%), health, social service (70%), popular schooling, culture, science (47 to 60%), public authorities (47%), trade, catering, housing and domestic services (50 to 53%)\*\*.



Insufficient representation of women among specialists in water resources in Uzbekistan was already noted as a problem in many international documents. Insufficient activity of women would mean loss of a large number of qualified and trained human resources.

Women are still not sufficiently represented in leading executive economic and political posts. A little number of women occupying leading posts does not allow them have any real influence upon decision-making processes or take active part in implementation of such ones. The research shows that in 2002 women occupied 24.4% of managerial and executive positions in the country.



The career of woman depends to a great extent not only on her capabilities, purposefulness and workability, but also on settings dominating in society. It is much more difficult for woman to fight her way in society, which sees her above all as mother and housewife, even if she is more capable and diligent than men surrounding her.

It is clear from the analysis of answers to polls carried out under the research on "Change of women status in Uzbekistan in the 1990s: reasons and social consequences"\*\*\*.

Only 61% of men think woman undoubtedly could fulfill the duties of chief of enterprise or organization, while 6% of men are of opinion that woman could not fulfill even these duties anyway. Doubts of men (as well as women themselves) about the ability of woman to fulfill the duties of any chief increase along with position rise. In case with position of President of Uzbekistan, the percentage of doubting men reaches 56%, while doubting women account for 39%.

The fact that in all respects young women are more sceptical about woman capabilities causes anxiety; in other words, one can state that the major part of women of new generation doesn't even dream of any public activity, certainly

\*"Gender and Water in Central Asia". GWANET Newsletter, No.1, June 2007.

\*\*National action platform for improvement of women status in Uzbekistan and enhancement of their role in society. Major measures for its implementation", Tashkent, 1999.

\*\*\*"Gender relationship in Uzbekistan", Analytical Note "Problem of violence against women in Uzbekistan", 2002.

doubting about her capabilities. In any case, young women set limits for themselves (it can be position of district khokim (mayor)), beyond which their dreams don't extend.

At present, only 35% of questioned married women work, while only 21% of the unemployed women don't work for the reason that they can't find suitable work. The major part of the unemployed women is busy with children upbringing (57%) or household chores (11%). However, regardless of any reasons, 80% of the unemployed women want to go to work, only 20% of them meeting with resistance of relatives. Husband and mother-in-law mainly raise objection, sating the main argument that nobody would look after children and fulfill household chores.



It can be concluded that despite the formal equality of women rights in professional field secured by legislation, there is actual inequality of opportunities between men and women in selecting a profession, getting fixed up in a job, advancing in career and so on. The main obstacles are double standard of society and overexploitation of women in household that doesn't give them opportunity for personal professional growth.



It is possible to judge gender position in Samarkand province from the following data.

The breakdown of the population living in Samarkand by gender (th. people) as of 1 January 2006:

- Total - 2907.5; including men 1452.4; women - 1455.1;
- Urban 741.4; including men 367.2, women 374.2;
- Rural 2166.1; including men - 1085, women 1080.9.

The ratio of women to 1000 men in Samarkand on 1 January 2006: total population 1002 th. people, urban - 1019, rural - 996.

In 2005, the economically active population in Samarkand was 1,051,900 or 10.3% of the total population in the republic.

Actually, the number of women and men living in this region is equal (women in rural areas account for 49.9%). It is seen from the given table that Samarkand province (8.8%) takes the second place in the republic (after Khorezm province) according to the number of farmer women.

## Farmer women in Uzbekistan (per province, 2004)\*\*\*\*

Province	Number of farms	Number of women	Percentage of women (%)
Karakalpakstan	6657	296	4,4
Andizhan	3580	279	7,0
Bukhara	7761	152	2,0
Djizak	12547	330	2,6
Kashkadarya	13262	263	2,0
Navoi	4828	209	4,3
Namangan	5140	188	3,9
Samarkand	9705	852	8,8
Surkhandarya	5440	69	1,3
Syrdarya	7141	162	2,3
Tashkent	7719	508	6,6
Fergana	8150	516	6,3
Khorezm	7786	1020	13,1
Total	100 116	4854	4,8

According to data provided by Head of the Zaravshan Basin Authority A. Diyorov, the number of employees working in this Authority is **4419**, among them engineers and technicians are **1688**, of which women amount to **234** or **13.9%**.

\*\*\*\* "Republic of Uzbekistan". Country Gender Assessment, December 2005.

In Samarkand province, data on the number of people working in Zaravshan Basin Authority are provided for 1 November 2007

№	Name of organization	Total people	Including		percentage (%)		Engineers and technicians (total)	Including			percentage (%)		Chiefs	With higher education	With secondary technical education
			Men	Women	Men	Women		Men	Women	Men	Women				
1	BAIS	319	260	59	81,5	18,5	120	92	28	76,6	23,4	5	58	52	
2	Irrigation system	1764	1593	171	90,3	9,7	937	844	93	90	10	24	280	470	
3	Main central system	472	413	59	87,5	12,5	203	169	34	83,2	16,8	3	73	111	
4	UNSE - S - NSO	1107	1025	82	92,6	7,4	209	170	39	81,3	8,7	3	76	100	
5	Hydro reclamation field station	87	70	17	80,46	19,54	85	69	16	81,2	8,8	3	30	55	
6	Uzgiprovodkhoz Institute	40	25	15	62,5	37,5	17	9	8	52,9	47,1	2	11	6	
7	Directorate	19	8	11	42,1	57,9	14	4	10	28,5	71,5	2	10	4	
8	Trust and branches	433	421	12	97,2	2,8	92	86	6	93,5	6,5	4	38	46	
9	Samvodind	160	130	30	81,25	18,75	6	6	-	100	-	11	6	-	
10	Zerdolvodkom	18	16	2	88,9	11,1	5	5	-	100	-	1	2	3	
	TOTAL	4419	3961	458	89,6	10,6	1688	1454	234	86,1	13,9	58	584	847	



## Bookshelf

### UNDP publications on gender in Kyrgyzstan



<http://www.undp.kg/russian/publications/11/index.phtml?l=1&id=632>

#### Mini-survey: Gender aspects of poverty

The strategic UNDP objective in poverty alleviation is the involvement of women in the process of social mobilisation and their empowerment, which is considered to be a special approach to poverty alleviation, aimed at the eradication of gender inequality in society.

The difference between women's and men's experience of poverty (gender specific characteristics of poverty) dictates that the policies and practices of poverty eradication should be gender-oriented. It is not by accident that the problem of poverty is insistently raised by gender and feminist organizations on a global level and has been documented as a major problem in contemporary keystone international documents, including the Beijing Platform of Action and Millennium goals.

This report has been commissioned in order to reflect and give a general overview of a positive poverty reduction experience in Kyrgyzstan through gender mainstreaming and to disseminate the basic principles and findings of a gender balanced policy of poverty alleviation.



<http://www.undp.kg/russian/publications/11/index.phtml?l=1&id=633>

#### Mini survey: Gender aspects of local governance

Research on gender in the context of local self governance; review of the national legislation including an analysis of the existing situation in institutions of local community in the Kyrgyz Republic.

The gender aspects of local governance development have not been the subject of study before. This survey was the first attempt to analyses the gender mainstreaming in the local governance system and development of the recommendations for the gender equality policy at local level.

## Bookshelf



<http://www.undp.kg/russian/publications/11/index.phtml?l=1&id=634>

### **Mini survey: Gender aspects of national governance**

Over the past decade, the issue of balanced participation of women and men in the decision-making process in the Kyrgyz Republic became an issue of broad discussion as a result of the country entering into international agreements and the local implementation of a series of projects by international organisations. However equal participation of sexes in decision-making remains a challenge.

The objective of this research is to carry out a situational analysis and develop recommendations for mainstreaming a gender-oriented policy into national governance.

Due to the lack of any state strategies and programs that would influence women and men in the same way, identification of a

gender perspective in the sphere of governance of the state and of society is a pressing issue today.

This survey is an attempt at presenting proof of the advantages of gender balance in national governance for those who still have doubts about it. For those, who are convinced of the need thereof, this work may become a source of ideas and recommendations to help bring about the achievement of equal participation of the sexes in the decision-making process.

Fulfillment of these two objectives predetermined the structure of the survey. In the first part hereof the reader will find arguments in favor of the equal representation of both sexes in national governance. The second part contains an analysis of the situation in Kyrgyzstan and mechanisms for achieving gender equality in governance, which have been tested in a number of foreign countries.

## Bookshelf



<http://www.undp.kg/russian/publications/11/index.phtml?l=1&id=635>

### Mini survey: Gender aspects of conflicts prevention

In the middle of the XX century a new line of humanitarian thought and public practice emerged – conflictology – as an approach towards the research of the problems of war and peace, which was principally different from all those existing prior to it.

It is worth mentioning that gender aspects of conflicts have not been studied well yet, but their understanding may promote identification of perspective strategies of conflict prevention and settlement and peaceful development of the society.

Ever more scholars and social activists speak today about the unused great potential of women in non-violent conflict resolution, their future prevention and harmonization of social relationships in situations, distant from social explosions.

In this connection this work represents an attempt at the analysis of the existing theories and approaches to the description and explanation of reasons for different models of behavior and roles of men and women in the prevention, development and resolution of social conflicts.

## Regional news

The International Conference “Bishkek+5: Problems and Prospects of Sustainable Development of the Mountain Countries” was held on 11-12 December in the city of Bishkek and was aimed at summarizing the results of 5-year activity of the international community and the Republic of Kyrgyzstan on the implementation of the World Summit on Sustainable Development in Johannesburg (2002), the Global Mountains Summit in Bishkek (2002), the UN General Assembly Resolutions (UNGARs) devoted to the

sustainable mountains development and to achieving of the UN Millennium Development Goals in terms of the Republic of Kyrgyzstan.

In the framework of the conference, a session “The Water Use Problems in Central Asia” was held (moderators Ch.M.Uzakbaev, Deputy of General Director of the Water Economy Department; D.M.Mamatkanov, Academician, Director of the Institute of Water Problems and Hydro-power Engineering of the National



Academy of Sciences of the Republic of Kyrgyzstan).

During the session, reports were made and discussed on the following themes:

- “The Water Use Problems in Central Asia” (Koshmatov B.T. - General Director of the Water Economy Department; Sakhvaeva E.P., expert on water resources).

- “Some results of gender analysis in the high mountains areas and in the valleys of the Republic of Kyrgyzstan” (Sakhvaeva E.P., expert on water resources, National Coordinator of GWANET);

- “Degradation problems of the irrigated lands in the mountainous and piedmont areas of Kyrgyzstan” (Naloychenko A.O., head of laboratory; Zhooshev P.M., head of laboratory; Kyrgyz Institute of Irrigation);

- “Current Climate Change and Water Resources Response in Kyrgyzstan” (Mamatkanov D.M., Director, Academician; Romanovsky V.V., Head of Laboratory; Bazhanova L.V., Senior Researcher; The Institute of Water Problems and Hydro-power Engineering of the National Academy of Sciences of the Republic of Kyrgyzstan).

During the session, the participants adopted the following resolution:

In the Central Asian Region, the water resources are mainly transboundary and used by countries situated in valleys. In this context, a problem of equitable water supply to the mountain areas is particularly important and requires an urgent solution;

The water and land resources conservation problems are still critical in Central Asia because such negative processes as soil erosion and desertification can appear in all the regional countries if the appropriate measures are not taken timely.

Poor condition of the irrigation facilities;

Worsening of quantitative and qualitative characteristics of the monitoring network over hydrometeorological parameters.

The population growth will inevitably generate a need for developing new irrigation lands for food production.

Insufficient involvement of women in the process of water and land resources management.

Current climate change and rainfall increase have caused the active destruction of mountain glaciation, the increase of rivers' water content, and the rise of groundwater level.

Continuation of current climate trends towards the increase in air temperature will result in the future in glaciers degradation and in decrease in water formation. This will aggravate water use problems in the Central Asian Region.

To overcome the indicated negative facts the participants of the session suggested:

- to concentrate efforts on solutions of the water and land resources conservation problems, and on prevention of soil erosion processes to improve the soil productivity.

- to focus on training of young specialists on the environmental management.

- to conduct activities on involvement of women in process of natural resources management.

- to continue investigations of climate change impact on natural resources and sites.

E.Sakhvaeva



## Feedback

### Dear participants of the GWANET project!

Thanks for the interesting and excellently designed bulletin.

I have read it with great interest.

I wish you successes in project and in the gender walk of life!

*With respect,  
Zulfiya Tukhtakhodjaeva,*

President of the Women NGOs Association  
"Mekhr"



### Dear colleagues!

I read all issues of bulletin with great interest. Always I feel thankfulness to all of you who work on the bulletin.

Thanks for the interesting timely information. Your bulletin makes a real considerable contribution to advancement of gender equality.

It is a pity, that we have not enough similar sources of information!

I wish to all of you successes, health and creative forces!

*Yours faithfully,  
Natalia Kurganovskaya*

(expert, trainer on gender)



# HAPPY 2008 NEW YEAR!

***Dear colleagues!***  
***Accept intimate congratulations***  
***with a Happy New Year!***  
***We wish you and yours close happiness, pleasures,***  
***health and well-being!***  
***Let coming 2008 be successful and generous!***

***Team of the GWANET project***

Compiled by G.V. Stulina, D.R. Ziganshina

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If you have any message or material you wish to post in the Newsletter  
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