

THE KYRGYZ REPUBLIC

NATIONAL REPORT

Within the framework of UNEP support for achieving the Johannesburg Plan of implementation target of “Integrated Water Resources Management and Efficiency Plans by 2005, with support to developing countries”



BISHKEK – 2006

General Information

Geography and the Natural Resources: *The Kyrgyz Republic* is the landlocked State. It occupies the North – Eastern part of the Central Asian region (the Aral Sea basin) between the latitudes of 39° and 43° north. The country borders on Kazakhstan in the north, on Uzbekistan in the west, on Tajikistan in the south, and on China in the east.

Area: The territory of Kyrgyzstan is 199.9 thousand km². **Relief:** 89.7% of territory are mountains (Alai, Tien Shan, and Pamir) with highest point the Pobeda Peak (7,439m), 10,3% are plains: the Western Pamir-Alai (up to 4,643 m above mean sea level) in the south, the Western Tien Shan (up to 4,482 m above mean sea level) in the east, and the intermountain troughs (Fergana, Chu, Talas, Issyk Kul).

Climate of Kyrgyzstan is classified as a clearly expressed continental, and arid one on the major part of the country.

Land Resources: There are 10,713 thousand ha of agricultural lands, including: 1,348 thousand ha (13%) of the arable land (including 1,043 thousand ha of the irrigated arable lands), and 9,365 thousand ha (87%) of pastures and hayfields. There are also 2,833.6 thousand ha of forests and perennial plantations, and 4,855.9 thousand ha of the National parks, nature reserves, refugiums and the “Issyk Kul” biosphere territory. The highly productive husbandry is only possible on the irrigated lands, which comprise around 2/3 of total arable land area.

Water Resources:

Surface waters: There are more than 3,500 rivers, with the largest ones the Naryn and Karadarya rivers (tributaries of the Syrdarya river). Flow of these rivers is 27.4 km³/year. The total average annual surface flow is 47.23 km³. There are 1,923 lakes (with the total area of 6,836 km²). The largest ones are: Issyk Kul (6,236 km²), Son-Kul (275 km²), and Chatyr-Kul (175 km²). There are 12 reservoirs with the total area of 375.2 km², and capacity of 26.39 km³. There are 525 glaciers with the total area of 154 km².

Underground waters: There are 357 fresh water aquifers with the total reserve of 21.5 km³/day, including 10.5 km³/day of water suitable for drinking purposes. Out of this number 267 aquifers are in use with extraction of 8.5 km³/day. There are also 100 aquifers of the mineral and thermal waters and 30 thousands of wells.

Population and Labour Resources: Population of Kyrgyzstan is 5,065 million people (as of 2004), including 35% of urban and 65% of rural inhabitants. The average *density of population* in the country is 25.3 person/km². *The age pattern is* as follows: 0-14 years – 34.5%, 15-64 years – 57.0%, 65 years and over – 8.5%. *The average age* is 26.62 years. *Population growth rate* is 1.1% a year. *Life expectancy* is 68.2 years. *Birth rate* is 20.9 births/1,000 peoples. *Death rater* is 7.1 deaths/1,000 peoples. *Migration rate* is 16.72 migrants/1,000 peoples. *Sex ratio* is 0.978 male/female. *Infant mortality rate* is 20.9 deaths/1,000 live births (2003). *Nationalities:* there are more than 90 nationalities, including: 67.4% of Kyrgyz, 14.2% of Uzbeks, 10.3% of Russians, and 8.1% of the others. *Religion:* 75% are Muslims; 20% are Orthodox Christians; 5% are the others. *Languages:* the state language is Kyrgyz, and the official language is Russian. *Literacy rate* of the adult population is 98.7%. 10% of population has higher education. *Employment:* 65.3% (in the age 15-59 years) of population has permanent employment. Employment structure: 44% of population work in agriculture and forestry, 20% in industry, and 36% in the sphere of services. *Registered unemployment* is 180,000 people. *Population poverty rate* is 16-44.5 % (by the various indices).

According to the UN classification the republic is attributed to the category of countries with the average level of human capacity development. In 2000, Kyrgyzstan was the 102-nd country in terms of the human development index out of 173 countries of the world where this index was calculated.

Political and Administrative Structure: *Administrative division:* There are 7 oblasts, 40 rayons, and 24 cities. Bishkek is the capital city. *Independence day* is 31.08.1991. *Constitution* was adopted on 5.05.1993 with the subsequent amendments on 10.02.1996, 17.10.1998, 24.12.2001, and on 18.02.2003. *Suffrage:* 18 years of age, universal. *Head of the state* is the President. *The legislative power* is exercised by the unicameral Parliament Zhgorku Kenesh with 75 members. *The executive power* is exercised by the Government. The Prime-minister is the Head of the Government. *The supreme judicial power* is exercised by the Supreme Court, the Constitutional Court. *The international relations:* There are the diplomatic representations in more than 70 countries. Kyrgyzstan is the member of more than 30 International Organizations.

Economy: Industry: mining, textile, food processing. Agriculture: Production of various field crops: cereals, grain legumes, tobacco, cotton, vegetable, melons and gourds, horticulture; Livestock production: mainly sheep breeding. GDP is \$4.3 billions (2003). The foreign trade turnover: export is \$581.73 millions, import is \$717.0 millions. The economic entities number is 430.222 thousands (including: 98.4% of private enterprises, and 1.6% of the state-owned ones), and 266 thousands of private farms.

The majority of population and economic activities are concentrated in the fertile Chu and Fergana valleys. However, the highland areas of the country possess the considerable economic potential.

Water Fund of the Kyrgyz Republic

Kyrgyzstan possesses the considerable supply of water resources presented by the rivers flow, underground water reserves and water accumulated in the glaciers and lakes. In the average water availability year the total volume of water resources is 2,458 km³, including: 47.23 km³ of the surface rivers flow (according to various sources the long-term average annual river flow is in the range from 44.509¹ to 51.9² km³), the potential reserves of underground water is 13 km³, volume of lake waters is 1,745 km³ and 650 km³ is water equivalent of glaciers.

Glaciers. There are in total 8,208 glaciers of various sizes on the territory of Kyrgyzstan. The area of glaciation is 8,169.4 km² or 4,2% of the republic's territory. Its main centers are located at the extreme east in the Sary Djaz river basin with the largest valley's glaciers, and at the south in the Zaalai mountain ridge. Fresh water reserves accumulated in the highland glaciers are estimated in the volume of 650 km³. This is 12 times greater than the resources of river flow of the republic.

Lakes. There are 1,923 lakes in Kyrgyzstan with total area of 6,836 km². The largest lakes of Kyrgyzstan are: Issyk Kul (with the surface area of 6,236 km²), Son-Kul (275 km²), and Chatyr-Kul (175 km²).

Rivers. The longest rivers are: the Naryn river with the length of 535 km, the Chatkal river (205 km), and the Chu river (221 km). More than 3,500 rivers flowing through the territory of republic supply water to the neighboring countries of Kazakhstan, Uzbekistan, Tajikistan, as well the Xinjiang Uygur Autonomous Region of China.

Swamps occupy 0.5% of the republic's territory in the areas with the high ground water table (troughs of the Issyk Kul and Son Kul lakes, the Chu, Talas, and Naryn river valleys).

Reservoirs. There are 12 reservoirs with the total area of 375.2 km², and capacity of 26.39 km³.

Currently Kyrgyzstan withdraws for its own needs around 8.0-9.0 km³/year mainly for irrigation. Apart from the closed Issyk Kul lake basin, the rest of water (more than 30.0 km³ in the average water availability year) flow to the territories of the neighboring countries.

Due to the natural conditions of the republic water from the small mountain rivers is mainly diverted for irrigation of 806 thousand ha of agricultural lands (or 76% of the total irrigated land area). Out of this amount only 86 thousand ha of land are fed by water from the regulated river flow. The rest 720 thousand ha are irrigated from the natural (unregulated) river flow.

Around 262 thousand ha (or 24% of the total irrigated land area) are irrigated from the large rivers, including 154 thousand ha from the rivers with the regulated flow. Thus, out of total irrigated land area of 1,043 thousand ha, 240 thousand ha of land (22.5%) are irrigated from reservoirs.

Water Management Situation in the Kyrgyz Republic

The long-term average annual volumes of the surface water flow (km³) by river basins, formed on the territory of the Kyrgyz Republic, are given in Table 1.

¹ M.N. Bolshakov, Water Resources of the Soviet Tien Shan and Methods of Their Calculation. - Frunze: the Ilim Publishing House, 1974, 306 pages.

² A.A. Ergeshev, I.D. Tzigelnaya, M.A. Muzakeev. Water Balance of Kyrgyzstan. the Ilim Publishing House, 1992, 151 pages.

Table 1.

Name of Water Body (Basin)	Long-Term Average Annual Surface Flow (km ³)	
	Total	Including: Formed on Territory of the Kyrgyz Republic
1. Syrdarya River	37.2	27.40
2. Amudarya River	79.28	1.93
3. Chu River	6.64	5.00
4. Talas-Assa Rivers	1.84	1.74
5. Ili- Kar_Kyra Rivers	0.36	0.36
6. Issyk Kul Lake	4.65	4.65
7. Tarim River	6.15	6.15
TOTAL:	159.10	47.23

The main useful underground fresh water reserves (UUFWR) are concentrated in the intermountain troughs, which are the most economically developed territories. Total volume of the UUFWR is 6,085 thousand m³/day (2.22 km³/year). Out of 44 explored and approved aquifers, 20 are suitable for the needs of municipal and drinking water supply, and 24 for irrigated agriculture.

Statistics of the water resources use in the Kyrgyz Republic over the preceding period indicates that the maximum volume of water intake (13.93 km³/year) and its total use (10.05 km³/year) were achieved in 1988. After this year the steady trends towards reduction of water volumes consumption are observed. This was caused by the following reasons:

- sharp reduction of the GDP in the conditions of transition to the market relations, including decline of production in the agriculture and industry sectors;
- removal of some part of irrigated lands from the agricultural use;
- change of the cropping pattern with substitution of the hydrophilous crops (perennial grasses) for the less hydrophilous ones (grains);
- deterioration of the technical conditions of water infrastructure in all sectors of economy;
- degradation of the centralized water supply systems;
- reduction of water consumption due to introduction of payments for delivery of water and low solvency of water users, and, first of all, private farmers, as well as population in general.

It is also necessary to mention the low reliability of the official statistical data on water use, especially over the period after 1995.

According to the various expert assessments the actual water consumption/use exceeds the statistical data by 10-15% as a minimum due to the following reasons::

- lack of the proper water metering by the numerous water users of the agricultural sector emerging after disintegration of the former collective and state farms;
- intentional understatement in the reports the actual volumes of water use by the majority of water user categories after introduction of payments for delivery of water;
- technical and managerial difficulties associated with the state control over use of water resources in the conditions of the sharply increased number of the economic entities.

Water and energy resources of the Kyrgyzstan's river are expedient to use in the integrated manner, harmonically combining the demands of various water use sector: municipal and industrial water supply, agriculture, energy, fishery, recreation, sport, etc. Only with such comprehensive approach to use of water and energy resources the highest economic effect can be achieved. The integrated approach allows obtaining the twofold and threefold effect from use of the same water resources and water management structures.

It is difficult to predict the long-term development of water use/consumption in Kyrgyzstan, including the dynamics of the domestic water use, due to unstable conditions of the national economy that are typical for period of transition to the market relationships.

Three scenarios for development of economy sectors in the Kyrgyzstan's part of the Aral Sea basin had been elaborated within the framework of GEF project (Component A 1): minimum changes; low level of development, and high level of development.

The First Scenario envisages development (rehabilitation) of the agriculture and water sectors only through improvement of management without any demands for development of the additional land and water resources. The necessary investments should be allocated only for the proper maintenance of irrigation and

drainage infrastructure and prevention of its further degradation and collapse. In this scenario the managerial measures are important not only for improvement of the processes in rehabilitation and development of agricultural production, but they are themselves the significant element in improvement of efficiency of these processes and, basically, do not require the high expenses for their realization.

The Second Scenario envisages restoration (rehabilitation) of the agricultural production with its increase from the current level up to not lower than the previously (1990-1991) achieved level. At the same time, there is no intention to develop the additional land and water resources. Volumes of their use will remain at the level of 1990-1991. The possible investments into agriculture and water sectors will be mainly directed to restoration of the operational capabilities (designed capacity, efficiency, and reliability) of irrigation systems, improvement of irrigation methods and agronomic practice, selection of new crop varieties and yield increase, and amelioration of agricultural lands.

The Third Scenario envisages the high level of the agricultural production development in the republic's region attributed to the Aral Sea basin. According to this scenario by 2010-2025, all population of this region should be provided with foodstuff and agricultural products in volumes not less than required by the minimum medical norms. Of course, the additional land and water resources, exceeding their maximum volumes used before (in 1990), should be involved in the agricultural production.

Summary of indices of the irrigated agriculture development and water use scenarios in the Kyrgyzstan's part of the Aral Sea is presented in Table 2.

Table 2.

Development Indices	Development Scenarios		
	First	Second	Third
Irrigated Land Area, thousand ha	415.24	416	493
Water Intake/Use	4275/3557	4633/3778	6141/4952
Total, million m ³ /year	4275/3557	4633/3778	6141/4952
Including, for developed lands;			708/580
Improvement of water availability for irrigation of new lands			800/594

According to the provisions of the Constitution and Water Code of the Kyrgyz Republic, the municipal/drinking water supply for population is and will remain in future as one of the highest priority. On this basis, perspectives for development of the municipal and rural water supply are considered in the same scenario that will ensure in future as far as possible compliance with the normative requirements of the growing population.

In the overall water consumption balance of the Kyrgyz Republic the share of non-agricultural sectors of economy is currently rather small and will remain at this level in future.

Indices of water use/consumption at the level of 1999-2000, had been adopted as the starting point for preparation of forecast of its use/consumption for the future. In the forecast it was taken into consideration that the actual water consumption over these years has exceeded as a minimum by 10-20% the official statistical data. Such conclusion is confirmed by opinions of the majority of independent experts.

The summarized results of water use/consumption forecasting for perspective by the various sectors of economy and the republic as a whole are given in Table 3.

Table 3. Estimated Indices of the Domestic Water Use/Consumption in the Kyrgyz Republic for 2000-2020

Sectors of Water Use/Consumption	Forecast of Water Use/Consumption, million m ³				% from the Total Water Consumption in 2020
	2005г.	2010г.	2015г.	2020г.	
1. Municipal Water Consumption in Cities and Rayon Centers					
1.1. Water Supply for the Urban Population	95-100	105-111	121-126	138-146	1.2
1.2. Water Supply for Organizations, Institutions and their Infrastructure	17-18	19-20	21-22	24-26	0.2
1.3. Water Supply for Industrial Enterprises	(20-40 % from water consumption by population).				
2. Water Supply in Rural Areas					
2.1. Water Supply for Rural Population	97-100	115-120	152-157	175-193	1.5-1.6
2.2. Water Supply for Organizations, Institutions and Settlements Infrastructure	19-20	23-24	30-31	35-39	0.3
2.3. Water Supply for Industrial Enterprises in Rural Areas	(up to 5% from water consumption by population).				
3. Irrigated Agriculture	7500-8500	8500-9500	9500-10000	10000-10600	89-90
4. Industry (Total)	350-400	500-550	600-650	630-700	5.9-6.0
5. Energy	10,5	11	11,5	13	0.1
6. Forestry	20,5	21	21,5	22	0.2
7. Fishery	65	70	75	80	0.6-0.7
8. Total Water Consumption by the Other Sectors of Economy	30	40	50	60	0.5-0.6
Total by the Republic	8,204-9,264	9,104-10,467	10,582-11,144	11,167-11,879	100

Possibilities for the future increase of water intake volumes are limited by not only the international water sharing quotas. Around 78% of irrigated land area on the territory of Kyrgyzstan use water from the natural (unregulated) small rivers flow. As of now all reserves for increase of water intake volumes from these rivers during vegetation period are already depleted. Further expansion of land area irrigated by the gravity systems, which withdraw water from the large rivers, has also extremely limited perspectives. Apart from increase of the domestic water consumption limits with the corresponding decrease of water supply to territories of the neighboring countries, the alternative options for provision of the necessary volumes of water intake are as follows:

- redistribution of the small rivers' annual flow through creation of the accumulating reservoirs;
- interbasin transfer of water resources (the Tarim and Naryn rivers);
- intensive development of the underground fresh water reserves;
- development of the lift irrigation systems for lands along the large rivers;
- efficient use of return waters.

Realization of each of the above options requires attraction of the significant investments. The wide-scale financing of such projects from the state budget or the other internal sources in the nearest ten years is unrealistic. Thereby, the water saving and improvement of water use productivity should play the important role at all levels of water hierarchy.

Priorities and the Key Problems of Water Resources Management

There are some institutional problems, which will make process of the strategic plans formulation and, especially, their implementation more complicated and less streamlined in some main river basins of Kyrgyzstan. These problems include:

1. Data Availability. Data series about water resources often have some gaps due to mainly the financial difficulties. There is no regularity in the data collection and processing. As a consequence the reliable

assessment of the available water resources is impossible. In particular, there is a lack of information about volumes of return and infiltration waters, which play the significant role in the water balance of river basin. Necessity of investments and lack of the stable financing for restoration of the national water resources database and the basin water monitoring structures are the main constraints to the efficient planning of water resources management.

2. Water Supply Guarantees. Only 22.5% (or 262 thousand ha, including 154 thousand ha irrigated from reservoirs) of irrigated lands in Kyrgyzstan are provided with the guaranteed water supply from the large rivers and reservoirs. The rest 78% or more than 800 thousand ha of lands are irrigated from the small unregulated rivers. Practically all water resources of these rivers are used for irrigation and during two months of peak for irrigation water demands water supply deficiency here is 30-50%. The most critical situation with the water supply for the rural population is observed in the populous regions of the Fergana valley. One of the consequences of the limited water supply to these regions is restriction of the potential for expansion of irrigation, as well rural development and improvement of population living standards. Simultaneously at the sub-basin level it is necessary to undertake measures aimed at regulation of water supply and demands as well as need for attraction of investments.

3. Upper Watersheds. Protection and conservation of the forest and snow covered regions in the upper watersheds are the key measures for formation of water flow and its regulation, control over soil erosion, silting of water bodies, and water quality, prevention of floods, mudflows, droughts, etc.

4. Conservation and Regeneration of Fish Resources. Kyrgyzstan possesses a capacity for fish production on the basis of large water bodies for the internal market and export of fish products and aquacultures. Planning of water use for fishery and ecological purposes should be integrated in order to eliminate problems associated with return water pollution in excess of MAC (maximum allowable concentration).

5. Water Use Planning in the Conditions of Growing Uncertainty. Currently water is shared on the basis of the hydrological forecasts of water availability and water demands for irrigated agriculture and the other sectors of economy. Due to deterioration and reduction of the hydro-meteorological data collection network preparation of reliable river flow forecasts becomes more and more difficult, especially in the condition of uncertainty caused by climate change and the other associated unpredictable factors.

6. Scarcity of Basins' Water Resources and unpredictability of their hydrograph are the main factors that impede introduction of the basin principle of management and planning.

It is obvious that balance between water supply and demand at the basin level, as well as water quality will become critical already in the next 5 – 20 years. Availability of water resources and ecological situation differ by basins in accordance with the following brief assessment:

- *With growing ecological problems situation in the Issyk Kul lake basin will become critical in 2010. Further water intake or disposal of wastes will lead to deterioration of the ecological situation in the lake basin;*
- *With the predicted rapid growth of water intake in the Chu river basin the water resources, including the important additional underground water reserves, will be completely depleted by 2020;*
- *Water resources of the Talas river basin will be completely used already by 2008. With the limited reserves of suitable underground waters in this region it is possible to assume that already in the coming several years limitation and regulation of water use in this basin will be a priority;*
- *In the Alai valley of the Amudarya river basin due to low density of population and limited perspectives for water resources development, the limitations on “water supply demand” balance are not envisaged for the next 20 - 30 years;*
- *There is no threat of water supply limitations in the upper part of the Naryn river basin. However, in the Osh, Batken and Djelal Abad oblasts with growth of population density, intensification of irrigated agriculture and the limited resources of the underground waters, as well as with ever growing social and economic risks, water use is the most critical in the country. Therefore, there is an urgent need to undertake actions aimed at regulation and limitation of water use and improvement of water availability in order solve the problem with development needs.*

7. Possibilities and Limitations of Water Delivery Management. The following possibilities for increasing water availability are limited by the high costs and financial difficulties that may prove to be unrealistic in the current economic conditions:

- Regulation of flow of the small rivers and sub-basins;
- Interbasin transfer of water resources (from the Tarim and Naryn rivers);
- Increasing development of the underground fresh water reserves;
- Development of the lift irrigation systems for lands along the large rivers;
- Reuse of return waters and wastewaters after primary treatment (with additional benefit for environment and agricultural production).

Possibilities for the future increase of water intake volumes are limited by not only the international water sharing quotas. Around 78% of irrigated land area on the territory of Kyrgyzstan use water from the natural (unregulated) small rivers flow. As of now all reserves for increase of water intake volumes from these rivers during vegetation period are already depleted. Further expansion of land area irrigated by the gravity systems, which withdraw water from the large rivers, has also extremely limited perspectives. Apart from increase of the domestic water consumption limits with the corresponding decrease of water supply to territories of the neighboring countries, the alternative options for provision of the necessary volumes of water intake are as follows:

8. Management and Planned Possibilities. In the conditions of imminent quantitative crisis with water resources and frequent emergency situations associated with water, the basin planning is the important mechanism for the optimal water distribution, structural regulations and preventive measures, which are based on the long-term planning.

9. Other Priority Issues of the National Planning Include:

- Coordination of water use with the progress in rehabilitation of irrigated lands;
- Transition from the seasonal operative planning of water resources use within the Naryn river basin's cascade of reservoirs with calculation of compensated energy supply on the basis of integrated water – energy models to the integrated long-term one;
- Management of threats to the surface and underground waters pollution oriented on the future planning of water safety, including control over pollution from industry and use of fertilizers in agriculture, environment protection, modernization of irrigation and drainage systems, and prevention of natural disasters, caused by human activities.

The Main Threats to Water Resources

Trends in the global climate warming lead to the steady intensive process of shrinking the area of glaciers. According to forecasts, by 2025, the area of glaciers will be decreased by 30-40% that in turn will lead to reduction of water availability by 25-35%.

In Kyrgyzstan, as in all the other republics of the former Soviet Union, use of the natural resources, and first of all water resources, for economic activities only was the dominating approach. In this approach water resources were considered only from the viewpoint of possibilities to provide consumers with water. The ecological role of water resources, including water requirements for the nature landscapes and ecosystems from the viewpoint of their sustainability, had not been considered at all. Although attempts to take into account the sanitary water releases for rivers in the total volumes of water intake had been undertaken, but nobody used to be blamed for ignoring these volumes. Such approach to use of water resources dominates up to the present time.

In regard to protection of water fund from pollution and depletion, and monitoring in the upper watersheds there are two problems:

Firstly – there are no practically the purposeful activities in this direction due to lack of the necessary financial funds; and

Secondly – created in the past the hydrometric network that carries out observations of river flows, precipitations and the other climatic parameters was and is being decreased over the recent years due to lack of funds. Reliability and quality of measurements are being reduced due to poor salary of staff and drain of specialist from this sector.

Risks Associated with Water

Analysis of trends over the period of 1992-2005, indicates that the huge water potential of Kyrgyzstan is used less and less efficiently at the country level. Its use at the regional level does not provide any tangible economic benefits for Kyrgyzstan and in addition it is often a source of tension in the interstate relations. Along with the well-known objective reasons for these trends associated with overcoming of economic crisis

consequences, on-going degradation of the technical conditions of the water infrastructure, etc., the main limiting factors up to the recent time were:

- lack of the officially approved basics of the national water policy;
- imperfection of water resources management system in the context of implementation of this policy.

Existence of very complicated problems associated with water resources management and land use is typical for the highland territories and upper watersheds of river basins. Floods, mudflows, waterlogging, soil salinization, pollution of ground waters, and irrational water use system are the factors that negatively affect irrigation, and productivity of agriculture in the upper watersheds. Especially serious are the problems associated with soil erosion, degradation of the highland pastures, landslides, and mudflows. The complicated topographical conditions (rugged relief, steep mountain slopes, high slopes of agricultural lands surface), as well as lack of forest massifs, and anthropogenic activities facilitate development of various types of the erosion processes on slopes.

Appearance of water erosion is aggravated by the mudflow phenomena. Mudflow emergence is facilitated by the storm rainfalls and sharp increase of air temperature, which lead to rapid movement of water along the eroding steep slopes. Lack of vegetation and forest cover facilitate mudflows emergence. Mudflows destroy irrigation infrastructure, settlements, roads, bridges, electric power transmission lines, and the other object of national economy.

Positive features of the forest plantations for control over soil degradation are inarguable in such climatic and geographical conditions. Forests on the mountain slopes play significant role in soil and water protection, water and climate regulation. Thereby increase of forest cover in the upper watersheds may have the positive effect on all river basins, because headwaters of the largest Central Asian rivers (Syrdarya and Amudarya) are located in these mountains. Not long ago forests cover the substantial areas, but due to irrational economic activities, intensive disafforestation, cattle grazing and ploughing of steep slopes area of forests was sharply decreased.

Despite development of scientific knowledge and technologies damage from the natural and anthropogenic catastrophes in the mountains is growing every year. At the end of 20 and beginning 21 centuries direct damage from the various types of disasters and catastrophes was on the average USD 24 millions a year. This indicates that the natural and anthropogenic catastrophes in the mountains undermine the country's economy and force the government in the conditions of scarce budget to allocate its significant part for elimination of the catastrophes' consequences, provision of assistance to population and carrying out of restoration works. Growth of a number of the natural disasters and associated damages makes efforts aimed at elimination of their consequences less and less efficient and bring forward the new tasks as more actual and of high priority ones: prediction and prevention of the natural disasters and catastrophes and big man-made accidents, and implementation of the preventive measures.

Regulation of Water Relationships

Up to the present time sectoral management principles was used in the Kyrgyz Republic under which functions and responsibilities in the area of water relationships were distributed amongst various ministries and institutions. The National Parliament (Zhogorku Kenesh), the Government of the Kyrgyz Republic, the Ministry of Agriculture and Water Resources and Food Processing Industry, the Ministry of Emergency Situations, the State Agency for Nature Protection, the State Agency on Geology and Mineral Resources, the Ministry of Health Care, the National Committee on Statistics, the State Inspection on Standardization and Metrology, the Ministry of Foreign Affairs, and the Ministry of Justice carry out regulation of water relationships. In addition, some other bodies deal with solution of water problems, and in particular the Joint Stock Company "Electric Power Stations", municipal services of cities and rayon's centers, etc.

Local state administrations also participate in water resources management, which carry out on their respective territories the following functions:

- protection of water user rights;
- allocation of land for water fund;
- restriction of water use rights in justified cases.

Thereby the numerous state bodies with their own provisions, norms and instructions deal with water resources management.

The Department of Water Resources (DWR) of the Ministry of Agriculture and Water Resources and Food Processing Industry of the Kyrgyz Republic plays the leading role in water resources management. It carries out operation and maintenance of irrigation systems, delivers water to water users and at the same time is the leading state body that establishes water intake limits from the surface and underground sources for all sectors of economy, including irrigated agriculture, industry, municipal/drinking water supply, hydro and thermal power stations, fishery and the other sectors. In this situation the other sectors of economy (apart from agriculture) are not sure that the DWR acts correctly, and therefore the potential conflict of interests in regard to water may arise between them.

The similar situation is in the State Agency on Geology and Mineral Resources that through its hydro-geological service drills boreholes for water extraction and simultaneously awards the drilling licenses to the independent drillers. There is obviously a conflict of interests in this case.

There were some problems in water resources management even during the soviet time in the conditions of strict governmental regulation. These problems now became more aggravated due to emergence of the numerous water users and consumers with various types of ownership.

The main disadvantages of still operating management system are:

1. The key regulatory body, the Department of Water Resources (DWR), is subordinated to the Ministry of Agriculture and Water Resources and Food Processing Industry. As a consequence, over a number of years the DWR actually serves interests of irrigated agriculture only, thereby violating the basic principle of equality of all water relationship entities.
2. In contempt of the commonly accepted in the world practice ideology of water resources management where the surface, underground, return and other waters are considered as a unit, in Kyrgyzstan management functions in the area of water relationships are assigned to a number of the republican ministries and bodies, but without efficient coordination of interaction between them with simultaneous retention of the duplicated authorities and absence of the concretized norms of responsibility for the final results.
3. Unallowable combination of the regulatory, inspective and control and managing functions and authorities in one and the same the republican management body (official persons).
4. Excessive concentration of the operative management functions of economic activities in the republican management bodies which do not possess the sufficient human capacity and in contempt to the principles of government policy aimed at decentralization of managerial decision making and gradual reduction of the government participation in the sphere of entrepreneurship.
5. Over the long period of time the main direction of activities of the republican and local management bodies was oriented on water infrastructure operation with insufficient attention to the strategic problems of water resources protection from pollution and depletion, regulation of the supply-demand balance, stimulation of water saving and efficient use, development of market mechanisms for water use, improvement of participation of public and natural resources use entities in solution of the above mentioned problems, etc.
6. Dominance of the sectoral or personal interests over the national ones is the distinctive feature of all existing system for management of the natural resources use in Kyrgyzstan. This situation is caused by the lack of efficient motivation and concrete responsibilities of officials from the management bodies.

Majority of the above mentioned disadvantages is of the subjective nature and caused by the inconsistency of institutional reforms over the previous period. In particular, measures aimed at reformation were quite often restricted to the mechanical amalgamation of the management bodies and reduction of staff number, or formal replication of the foreign management models that adequate to the conditions of the Western Europe, but do not take into consideration traditions and particularity of water relationships in the Central Asia, including Kyrgyzstan.

Taking into account these conditions, the leading specialists from Kyrgyzstan jointly with the competent foreign experts have prepared the new legal basis for reformation of water resources management system. This document has passed through all the necessary stages of approval and reflected in the "Water Code" of the Kyrgyz Republic. According to the norms of this legislative act the national system of water relationships regulation should be drastically modernized. Since the directions of reformation, envisaged by the "Water Code", are very comprehensive their realization will require the long period of time and attraction of considerable financial and other resources. Thereby, it was recommended to the Government of the Kyrgyz

Republic to implement a number of the high-priority institutional measures that will not require the significant investments from the state budget, but allow resolving the most urgent for Kyrgyzstan water problems in more efficient manner.

Legal Basis for Introduction of the IWRM Principles on the Scale of the Kyrgyz Republic

The “Water Law”, developed at the beginning of formation of the current governmental management structure and market mechanisms in economy, was in force up to 2005. Over the past period it has played certain positive role in development of water relationships.

The Water Code of the Kyrgyz Republic was adopted in January 2005. The objective of the Water Code adoption was establishment of the unified legal basis for regulation of water relationships in the area of water resources use and protection for the guaranteed and sufficient supply of the proper quality water for population and various sectors of economy. At the same time (according to the Item 2 in Article 4 of the Constitution of the Kyrgyz Republic) the Code is aimed at establishment of balance between protection of water resources and ever-increasing economic activities of the legal entities and physical persons.

Being the main normative and legal act on management of water resources use and protection, it provides the basic statement of the governmental principles and policy in regard to water use, as well as rights and obligations of water users and various government bodies responsible for the certain aspects of water resources management. It covers all issues starting from formation of the national water policy and strategy to use of water resources by the various sectors of economy, including also issues associated with protection of water bodies and resources. Established for a long period of time the unified “rules of game” will eventually create the favourable environment for attraction of internal and foreign investments for development of agriculture and water resources management.

The Water Code reflects the natural hydraulic cycle. All water concentrated on land surface, underground, in glaciers and snowfields, and rivers and canals outflowing, flowing by or percolating through such systems is considered in the Water Code as a part of one and the same resource. Water does not recognize administrative boundaries and follows to the physical laws only, freely flowing from one territory into another.

The Code reflects area of responsibilities of the Zhogorku Kenesh (Parliament) and the Government of the Kyrgyz Republic, as well as the other governmental bodies of water resources management taking into account expansion of their authorities as specified in the new version of the Constitution of the Kyrgyz Republic. The Governmental body responsible for water resources management and realization of the Water Code is the State Water Administration. Its competence, as well as competence of the other governmental management bodies associated with regulation of water resources use and protection is given in details in the Code.

Reformation of water resources management within the framework of the adopted Water Code is based on the basin principle. The basin principle considers the hydrological object as the most appropriate area for sustainable management of water activities. With some exceptions, there are specific and clearly defined basin’s water systems in Kyrgyzstan that coincide with the oblasts administrative boundaries. At the same time, configurations of some river basins had been and are being changed as a result of the large-scale water management activities in the past and now, especially in the Chu and Syrdarya river basins. These large-scale and integrated irrigation systems comprise the main and interstate irrigation canals, which intake water from the main rivers and also from the small local sub-basins. As a result, the WUAs and municipalities receive water simultaneously from several sources in various sub-basins. Water supply from these unregulated local sub-basins often does not correspond to the norms and schedules and creates problems associated with complete waterlogging.

Traditionally water in Kyrgyzstan had been considered as a social and economic resource. The additional requirements are to use water as the integral part of environment, meet needs in the ecologically clear water, as well as protect environment within the boundaries of basins.

Planning measures are aimed to ensure such mechanisms for participation in water use that would correspond to the norms of current democratic and liberal economy. One of the important aspects of the transition period economy, reflected and realized in the basin planning is gradual transition from the totalitarian governmental control to the concept of end water user rights and obligations that ensures guarantees of ownership rights and facilitates investments, democratic and socio-economic development, and environment protection.

Another objective of water resources management transfer from the central political, regional and sectoral responsibilities to the basin management is broader involvement of public and stakeholders in order to facilitate implementation of water policy reflected in the basin plans. The basin plans are required for ensuring the objective assessment and distribution of the available water resources and as a basis for participation and cooperation in the inevitable competition for water amongst regions and sectors of economy. Basin's plans also envisage assessment and distribution of the total impact on the sanitary conditions along the entire river course for the safety reasons, instead of control over flow by the local authorities at the estuary that is carried out as a measure for environment protection.

The overall objective of the basin planning is improvement of the social, economic and ecological characteristics of water sector within the main river basins of the Kyrgyz Republic. It is expected that the independent basin planning will facilitate attraction of investments, economic integration, improvement of water use productivity and efficiency and structural changes, as well as social security of population and environment protection.

One of the important tasks of the Water Code is establishment of the official mechanisms for coordination of activities and exchange of information amongst stakeholders. For these purposes the Water Code envisages establishment of the National Water Council. This Council will coordinate activities of water users and consumers, develop and submit to the Government of the Kyrgyz Republic the National water strategy, and manage the activities of the State water administration. Such body will represent interests of the entities concerned and in addition it may be entrusted with the specific tasks. Management of water resources use and protection are envisaged to carry out on the basis of hydrographic territories, which should be established by the Government of the Kyrgyz Republic on the basis of proposals of the National Water Council. Coordination of activities in water sector at the level of main basin should be carried out by the Basin Council established in each main basin (river or the Issyk Kul Lake). Activities of the Basin Council are regulated by the Provision approved by the Government of the Kyrgyz Republic.

For the first time in the history of water legislation of the country the Water Code envisages provisions on the minimum ecological rivers flow. In Article 64 of the Water Code this requirement is written as follows: *"On the basis of approved proposals of the authorized state agency for environment protection and the State Water Administration the Government of the Kyrgyz Republic establish the minimum requirements to the ecological flow for the certain rivers and water bodies for conservation of fish resources and the aquatic ecosystems"*

The Water Code envisages establishment of the advisory National Commission on dam safety and the advisory commissions on irrigation and drainage at the levels of republic, main basin and rayon.

Taking into account the world experience in water resources management, provisions on establishment of the licensing water use system had been included in the Water Code. Necessity for establishment of the licensing water use system had been caused by the ill-conceived and hasty abolition of water use licensing envisaged by the law "On amendments of Law of the Kyrgyz Republic "On Licensing" adopted in January 2001. The efficient water resources management is ensured through the system of various regulating mechanisms with the main one that identify the type of activities allowable in the Kyrgyz Republic on the basis of water use licenses awarded in accordance with the conditions and provisions of the Water Code. The conditions and provisions of the licensing water use system are described in details in the Code. They establish the guaranteed rights to water use for a long period and obligations of these right owners to use water resources in efficient manner taking into account the requirements of environment protection. Thereby, possibilities for corruption in water distribution are reduced, the guaranteed supply of irrigation water increased, and crop yields improved leading to poverty reduction in the rural area.

The Water Code envisages public participation in the decision making on management of water resources use and protection and provides right to access to the appropriate information through the water rights licensing system. As admitted by everybody, the Kyrgyz Republic is the leader in the region in establishment of WUAs, their involvement in the water resources management process, and state support to development of these associations. There are currently 430 WUAs in the Kyrgyz Republic.

Actual Status of the IWRM Process in the Kyrgyz Republic³

The IWRM concept that emerged as response to the growing water problems in the world is vital for Kyrgyzstan as well. Understanding of necessity for the relevant reforms in the republic's water sector stipulated adoption in January 2005, the main normative act, the Water Code of the Kyrgyz Republic. In accordance with the Water Code the State Water Administration (SWA) is entrusted with the leading role in water resources management. By the decree of the Government of the Kyrgyz Republic the Department of water resources is appointed as an acting State Water Administration. The National Water Council also was established by the Decree of the Government along with approval of its provision and list of staff member.

The majority of integrated water resources management principles are envisaged in the Water Code. Adoption of the Code, approved by the Parliament (Zhogorku Kenesh) and signed by the President of the Kyrgyz Republic has provided the legal basis for introduction of the IWRM principles on the scale of republic. Substantial assistance to this process will be provided by the on-going implementation of IWRM projects in the Fergana valley and Chu and Talas river basins. The concrete steps towards realization of the hydrographical management principle are establishment and operation within the DWR system of the Inter-rayon Canal Administrations (in Chu and Talas oblasts, and within the framework of the "IWRM-Fergana" project), the Aravan-Akbura canal Administration (in Osh oblast) and Water Committee of this canal that comprises representative of water users. Currently this committee is reorganized into the Union of Water User Associations of the Aravan-Akbura canal. Experience of these pilot objects is planned to replicate in the other irrigation systems of the republic.

More precise definition of directions and ways for reformation of water management based on the IWRM principles is also planned to carry out within the framework of the "Improvement of water resources management" project that will be commenced in the second half of 2006, with the World Bank sponsorship.

The long-term strategy for development of WUAs had been developed within the framework of "On-farm Irrigation" project as the important component of the IWRM principles development in the Kyrgyz Republic. This strategy envisages the following:

- completion of denationalization process of the water management bodies and formation on their the operation and maintenance (O&M) enterprises with the various types of ownership: private and mixed ones;
- completion of the WUAs establishment process and their active participation in the water infrastructure management and protection of water fund;
- ultimate differentiation of functions and powers of the water relationship entities;
- participation of the government bodies in the O&M activities financed from the state budget only on the strategically important water systems and structures. Economic entities and their associations will be completely responsible for management, and operation and maintenance of the rest of water infrastructure.

For development of water relationships in the conditions of market economy the government consistently carries out measures aimed at:

- adaptation of water users to the conditions of market economy;
- support to water users through provision of credits and grants, technical and methodological assistance, education and advanced training, information support, assistance in organization of construction, repair, and rehabilitation works, introduction of new technologies, etc.;
- protection of water user rights;
- promotion of establishment of water user associations;
- reduction of water users economic activities risk in the agricultural sector through development of the insurance sector;
- gradual transfer of majority of water infrastructure fixed assets to water users or their association with the management and ownership rights.

Activities of the water user associations are regulated by the current Law "On water user associations" and bylaws being developed in accordance with this law.

³ Results of monitoring of process for transition to the IWRM presented in ANNEX, are used in this section (monitoring consultant is Dr. Yu. Rysbekov (SIC ICWC))

According to plan for realization of the “On-farm Irrigation” project, departments for WUAs support are being created in the 19 rayons of the republic with the financial support from the project. After completion of the project these department will be joined with the basin and rayon water management administrations. In future the similar departments will be established in the other rayons of the republic.

In perspective for operation and maintenance of the on-farm irrigation and drainage infrastructure around 500-600 water user associations will be established in the Republic, which may voluntarily unite into Water User Federations.

Although the specific Action Plans for transition to IWRM on the scales of the Kyrgyz Republic are not envisaged directly at the present moment, the necessary conditions for the IWRM implementation (favourable political environment, managerial roles and tools) are appeared in the national and sectoral programs. Practically all the national development plans (on reduction of poverty level or improvement of living standards for achievement of the Millennium Development Goals, agriculture and energy sectors, nature protection sphere and the others) are integrated ones and include the main IWRM principles to one or another extent.

The specific action plans are envisaged and being implemented within the framework of pilot irrigation systems of the “IWRM-Fergana” project.

If to assess objectively how far the Kyrgyz Republic has come towards the institutional capacity building necessary for water resources management based on the IWRM principles, currently no one out of 17 functions, characterizing the institutional capacity, works at the level of the real objective:

- There are some gaps in quality and coverage in:
Preparation of laws and ancillary normative documents, Reimbursement of the water resources management costs, Preparation of the ecological and socio-economic assessments, Monitoring of pollution load, Promotion of water demands management, Water sharing,, Intermediation in resolution of conflicts;
- There are a lot of gaps in:
Formulation of policy, Collection of information about water resources and development of databases, Preparation of water resources assessments, Monitoring of water availability, use and quality, and the aquatic ecosystems, Planning of water resources use, protection and conservation, Cooperation in use of the international water courses.

The main serious institutional limitations impeding execution of necessary functions by the water management organizations are insufficient: budget, equipment (for maintenance of databases, operative measurements and control over water discharges and quality parameters), material and technical supply (mainly with vehicles and machinery). At the same time the staff number and level of their competence to the acceptable extent correspond to the technical complexity of the above listed management functions. Practically all heads of water management organizations are familiar with the IWRM principles. However, it should be stated that staff is only motivated to some extent to water management based on the IWRM principles.

The decision makers and specialists of water management organizations to full extent recognize that the managerial aspects of IWRM envisage fulfillment of the following requirements:

- transition from management within the administrative boundaries to management within the hydrographic boundaries;
- transition from the sectoral water management to the integrated (systemic) one;
- water demands management instead of the traditional supply management;
- introduction of the cooperative forms of water resources management instead of the administrative and command ones;
- replacement of the “closed” institutions by the open (transparent) water resources management structures;
- use of the system for water resources management with the active participation of stakeholders (“bottom-up” approach) instead of the existing previously the “top-down” one.

Under the “IWRM-Fergana” project department of the Interstate Commission for Water Coordination (ICWC) training center on the IWRM problems was established in Osh. This training center holds regular seminars within the framework of the “IWRM-Fergana” project, as well as independent ones. Under the ICWC aegis at regional level (SIC ICWC Training Center, Tashkent) the special trainings, seminars, round

tables for the representatives of different levels of water sector hierarchy of all the Central Asian countries are being held. Program of the regular trainings is quite comprehensive and covers all the IWRM aspects.

The network of training centers had been established in the Kyrgyz Republic within the framework of the “On-farm Irrigation” project. This network comprises the Training Center of the Department of Water Resources (the best one amongst such centers in terms of computer/office equipment availability), and training centers in the oblast and rayon departments of water management administrations.

Questionnaire ¹ (KYRGYZ REPUBLIC)

Note: Answers to the majority of questions are ticked in the appropriate boxes. Since IWRM is the complicated subject, in a number of cases the explanatory comments referring to the number of the question are added.

1. National water policy			
1.1	Does the country have a water policy?		
1.1a	Existing <input checked="" type="checkbox"/>	Give the date of publishing: 09.01.2005	Give the title(s) of the document(s): The Water Code of the Kyrgyz Republic
1.1b	In progress <input checked="" type="checkbox"/>	Give the expected date of finalisation:	
1.1c	Foreseen <input type="checkbox"/>	Give the expected period for preparation:	
1.1d	Not foreseen for the time being <input type="checkbox"/>		
1.1e	Is the policy and the law/regulations harmonised? Yes: <input type="checkbox"/> No: <input type="checkbox"/> Partly: <input checked="" type="checkbox"/>		
<u>Comment on 1.1a:</u>			
Taking into account that:			
<ul style="list-style-type: none"> The Kyrgyz Republic is the successor of former Kyrgyz SSR that had the water policy Succession of the water policy is specified in the Agreement of 1992 (the Agreement amongst the Governments of the Central Asian Countries "On cooperation in the joint management, use and protection of the transboundary water resources") The country had adopted the National constitution and Water Code², and the other provisions, which were outlined in the comments on this questionnaire, 			
it would be incorrect to deem that the national water policy is absent. Adoption of the Constitution, Laws regulating public relationships in the certain spheres, identification of the authorized body and its power for each sphere etc. are an embodiment of policy.			
Besides , the Kyrgyz Republic had adopted and is implementing the following strategies and action plans ³ :			
<ul style="list-style-type: none"> The long-term strategy "Integrated basis of the Kyrgyz Republic Development up to 2010", The Kyrgyz Republic's concept of transition to the sustainable development up to 2010, The National strategy for reduction of poverty for 2003-2005, The National Action Plan on Environmental Hygiene (NAPEH) (1999), The National Strategy and Action Plan of the Kyrgyz Republic on conservation and balanced use of biological diversity (1998), The National Sustainable Development Strategy (1997), The National Environmental Action Plan (NEAP) (1995), The Governmental programs on health protection "Manas", education, environment conservation, and the sectoral programs, etc. 			
These and the other National Concepts, Strategies, Programs, and Action Plans contain to a variable extent provisions associated with the sustainable management and development of water resources.			
There are many "water" projects under implementation. This also indicates not only existence of the policy, but also realization of the relevant policy in the area of IWRM at the national level.			
The only problem is how efficiently these projects are being implemented.			
<u>Comment on 1.1b:</u>			
Policy is a phenomenon. Realization of policy is the continuous process. Dynamism of the public relationships determines the necessity for process of policy change/revision.			
<u>Comment on 1.1e:</u>			
It is practically impossible to ensure complete harmonization between the policy and legislation. The new public relations emerge, which should be regulated by the normative/legislative acts. Policy, as a rule, goes ahead of legislation, and the latter should "support" the former.			

¹ Questionnaire format was developed by the DHI Water and Environment jointly with UNEP Center on cooperation (UCC/DHI – 14.12.2005)

² Water Code of the Kyrgyz Republic (09.01.2005r.);

³ Based on materials from: <http://www.eco-portal.kz/modules.php?name=News&file=article&sid=31> and the others.

1.2	What does the water policy cover?		
1.2a	Water resources management only <input type="checkbox"/>	Water resources management, water supply and other uses ⁴	<input checked="" type="checkbox"/>
1.2b	If a water policy document exists, does it explicitly state IWRM (or IWRM principles) as a basis for water resources management in the country? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/> Partly: <input type="checkbox"/>		
1.2c	Does the water policy define IWRM? Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> but... ⁵		
1.2d	If Yes (1.2c) write definition, if necessary in an annexed document referring to the number of the question.		
1.2e	Does the water policy specify the role of the private sector in water resources management? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>		
1.2f	<p>If Yes (1.2e) describe the role as specified, if necessary in an annexed document referring to the number of the question.</p> <p>Comment on 1.2f: <u>Water Code of the Kyrgyz Republic</u> <u>Article 6. Principles of Water Resources Management</u></p> <p>Water Resources Management is based on the following principles: - principle of participation: all stakeholders should participate in process of planning and decision making;...</p> <p><u>Article 84. Ownership of irrigation and drainage systems, and waterworks</u></p> <ol style="list-style-type: none"> 1. The irrigation and drainage systems and waterworks can be both of the state and private property. 2. The Government of the Kyrgyz Republic on the basis of proposals from the State water administration approves and revises periodically the list of state owned irrigation and drainage systems and waterworks. 3. The irrigation and drainage systems and waterworks of the inter-rayon, inter-oblast and interstate importance, which serve or may serve more than one water user are exclusively owned by the state 4. The irrigation and drainage systems or their parts (canal, drain, drainage collector or reservoir), as well as lands of water fund occupied by these facilities, which are exploited by the state water management body and serve only one water users association, can be transferred with ownership to this association in accordance with the procedure identified by the Government of the Kyrgyz Republic. 		
1.2g	Does the water policy include the “polluter pays” principle (those causing pollution pay the cost of monitoring and treatment)? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>		
1.2h	Does the water policy include the “user pays” principle (water users pay the cost of management and provision of water)? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>		
<p>Comment on 1.2g: <u>Water Code of the Kyrgyz Republic:</u> <u>Article 6. Principles of Water Resources Management</u></p> <p>Water Resources Management is based on the following principles:...</p> <p>- principle of payment for pollution: those causing pollution of water should pay for disposal as for use of the natural resources;</p>			
2. National water legislation			
2.1	What is the situation of ownership of water in your country?		
2.1a	Is water a common good (i.e. it belongs to everyone)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.1b	Is water the property of the State?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.1c	Is water a private property?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2.1d	Is ownership variable according to the type or location of the water body?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

⁴ Provided that the current Water Code (of 2005) of the Kyrgyz Republic is understood under water management policy.

⁵ The IWRM concept is included into legislation in the form of statement “integrated, rational, efficient use of water resources”.

Comment on: 2.1a, 2.1b:

- The Constitution of the Kyrgyz Republic:

Article 4

Land, its minerals, waters, air space, forests, flora and fauna, all the natural resources shall be ownership of the Kyrgyz Republic

- Water Code of the Kyrgyz Republic

Article 4. Ownership of water resources and lands of water fund

1. Water resources of the Kyrgyz Republic shall constitute the exclusive and unalienable property of the state. Everybody has a right to use water resources within the state boundaries and in accordance with the provisions of this Code.

2. Lands of water fund, occupied by water bodies or the state-owned irrigation and drainage systems and waterworks shall constitute exclusively the property of the state.

Comment on 2.1c:

Note: In the “Water Law” (1994) of the Kyrgyz Republic it was specified the following (Article 5):

Water resources, withdrawn from water bodies in accordance with the established procedure may constitute the property of juridical and physical persons and stateless persons.

The Water Code of 2005 has no such norm in an explicit form.

2.2	<i>Does the country have one or more specific water laws, or a water code?</i>		
2.2a	Existing: <input checked="" type="checkbox"/>	Give the date of publishing: 09.01.2005r. 2001 r.	Give the title(s) of the documents : Water Code of the Kyrgyz Republic The Law of Kyrgyz Republic “On the interstate use of water bodies, water resources and water structures of the Kyrgyz Republic”.
2.2b	In progress: <input checked="" type="checkbox"/>	Give the expected date for finalisation:	
2.2c	Foreseen: <input type="checkbox"/>	Give the expected period for preparation:	
2.2d	Not foreseen for the time being <input type="checkbox"/>		
Comment on 2.2b:			
<ul style="list-style-type: none"> • The Law of Kyrgyz Republic “On interstate use of water bodies, water resources and water structures of the Kyrgyz Republic” (2001) evoked the ambiguous reaction within the specialist community of the Central Asian region. “Water is commodity”, as well as the other natural resources is the principle of this law. This law is invalid at the interstate level • The Law of the Kyrgyz Republic “On water user associations” (adopted on 15.03.2002) to the great extent is relevant to the sphere of water relationship regulation. 			

2.3	<i>Does the water legislation include obligations to take into account the following principles?</i>		
2.3a	Public hearings	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2.3b	Participation of the stakeholders in the water management	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3c	Management by river basin	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3d	Management at the lowest appropriate level ⁶	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3e	Financial contribution by the users towards the management of water resources	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3f	The “polluter pays” (those causing pollution pay the cost of monitoring and treatment)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3g	The “user pays” (water users pay the cost of management and provision of water)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3h	The particular role of women in water management	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2.3i	Separation between resource management and water service provision	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3j	Water use efficiency	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.3k	Private sector involvement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

⁶ The water problems should be managed at the lowest appropriate level. I.e. at the level, where the local competences and the capacities make solution to the problems possible and where decision makers are affected by these solutions

Comment on 2.3a:

If the “public” is understood as “governmental”, the only answer is “Yes” (the state accountability).

If the “public” is understood as “common” hearing, the only answer is “No” (such duty is not imposed on the water management bodies).

Comment on 2.3b:

Water Code of the Kyrgyz Republic:

Article 10. Basin boards and their authorities

1. On the basis of proposal from the State water administration the National water council establishes the basin board within each main river basin for coordination and regulation of water relationships.

2. Each basin board includes the representatives of the following organizations: the basin water administration; territorial structures of the state environment protection body; state body on emergency situations; state body on hydro-meteorology; state body on hydrogeology; state body on sanitary; and also the representatives of local state administration, NGOs, and water users, including WUAs. Chairperson of the basin board is simultaneously the head of basin water administration. Deputy chairperson is elected out of the basin board members.

3. Tasks of the basin boards are:

See also the answers to question 1.2e

Comment on 2.3c:

Water Code of the Kyrgyz Republic:

Article 5. Water resources management and the basin approach

1. Water resources management is the integrated system of measures, norms and rules established in accordance with the current Code and the other normative and legislative acts to ensure development, rational use and protection of water resources and environment, protection of population health, as well as protection of settlements, industrial territories and all the other types of property from the dangerous impact of water.

2. The basin approach means that management/use and protection of water resources are carried out within the boundaries of main river basins identified on the basis of hydrographic principle (including Issyk Kul lake rivers and the main river basins of the Kyrgyz Republic). The Government of the Kyrgyz Republic on the basis of proposals from the National water council identifies the area of activities for each basin water administration and basin board. The adopted decision is then published in the official press.

3. Within each main basin the relevant basin water administration and basin board are responsible for the certain aspects of water resources management in accordance with the provisions of this Code

4. Decisions of local bodies of the state administration and territorial bodies of the ministries and administrative institutions should be made in accordance with the present article and basin approach to water resources management.

Comment on 2.3d:

Water Code of the Kyrgyz Republic:

Article 16. Competence of local bodies of the state administration

1. The competence of local bodies of the state administration for realization of the present code includes:

- approval of location, size and regime of sanitary protection zones;
- participation in the activities of basin board;
- coordination of issues associated with approval and realization of rules relevant to water protection zones;
- adoption of the normative acts on regulation and implementation of activities on the territories subjected to flooding and mudflows.

2. On the basis of proposal from the State water administration the Government of the Kyrgyz Republic identifies local body of the state administration responsible for realization of tasks specified in the present Code.

Comment on 2.3f:

See also the answers to question 1.2g

Comment on 2.3g:

See also the answers to question 1.2h

Comment on 2.3j:

Water Code of the Kyrgyz Republic:

Article 1. Objective and tasks

1. The present Code regulates water relationships in the area of use, protection and development of water resources for the guaranteed, sufficient and safe supply of water to population of the Kyrgyz Republic, protection of environment **and ensuring the rational development of the republic’s water fund.**

Comment on 2.3k:

See also the answers to question 1.2e

Comment on 2.3.k:

The Constitution of the Kyrgyz Republic (articles 4 and 19) has appropriate provisions for recognition of the various forms of ownership, including the private one.

See also the Comment on 1.2f.

2.4	Regulations supporting the water law		
2.4a	How many regulations are required by the water law?	Give the titles and other details of regulations in an annex	
Comment on 2.4a:			
There is no exact answer to this question. It is only possible to tell the number of normative and legislative acts, which are specified in the Law (or in the special Decree of the Government) as to be developed. As a rule, this list covers the minimum number of normative and legislative acts at the level of bylaws that should be adopted in the first place.			
Since the normative and legislative acts cover all spectrums of legislation and water law in particular, there may be infinitely many of such acts (Decrees of the Government, sectoral acts, etc.)			
2.4b	Among the regulations foreseen, how many have been adopted? If possible mark "adopted" on the list given in an annex		
Comment on 2.4b:			
According to the provisions of Water Code of the Kyrgyz Republic the adoption of some 28 normative/legislative acts of the bylaw nature is required. Although some 15 drafts normative/legislative acts had been prepared, no one was adopted so far.			
2.4c	Are the regulations effective?	Yes: <input type="checkbox"/>	No: <input type="checkbox"/> Partly: <input checked="" type="checkbox"/>
Comment on 2.4c:			
Practically every newly adopted normative act is the step forward in the national legislation, i.e. it is more effective as compared with its absence. However, due to a number of reasons (it is in general lack or insufficiency of mechanisms for its implementation) it may be not as efficient as expected.			
2.4d	If "No" or "Partly" for which reason? (tick one or more of the following possible reasons)		
2.4e	Regulations insufficiently known by the users:	<input checked="" type="checkbox"/>	
2.4f	Regulations insufficiently known by those who shall enforce them:	<input type="checkbox"/>	
2.4g	Regulations too complicated to be operational	<input type="checkbox"/>	
2.4h	Regulations contradict each other:	<input type="checkbox"/>	
2.4i	Regulations conflicts with customary law or cultural traditions of certain users:	<input type="checkbox"/>	

Comment on 2.4h, 2.4i :	
There is a persistent enough opinion that the various normative and legislative acts very often allegedly “conflict” or not “harmonized” or “contradict” with each other. This is not entirely true.	
The general legal force rules of the normative and legislative acts are as follows:	
<ul style="list-style-type: none"> • The state constitution has supreme legal force • Laws and the other normative and legislative acts are being adopted on the basis and in pursuance of the national Constitution and can not contradict its norms and principles • The normative and legislative acts of ministries, state committees and agencies are being adopted on the basis and in pursuance of the Constitution and Laws, decisions of the Parliament, President and Government • The normative and legislative acts of the local state authorities are being adopted on the basis and in pursuance of the Constitution and Laws, decisions of the Parliament, President, and Government, and also decisions of the superior local state authorities. 	
Correspondence of legal force between the various normative and legislative acts is as follows:	
<ul style="list-style-type: none"> • Normative and legislative act should correspond to the one that has superior legal force • In case of disagreements between two normative and legislative acts, it should be enforced the one that has the superior legal force • In case of disagreements between two normative and legislative acts which have equal legal force, it should be enforced the subsequent one • The normative and legislative act adopted by one ministry, state committee or agency has superior legal force as compared with the normative and legislative act adopted by the another ministry, state committee or agency if institution that adopted such act is specially authorized to regulate the certain area of public relationships. 	
Thereby, in regard to legal force the normative and legislative acts harmonize with each other in accordance the above mentioned provisions.	
Thus, if the State water administration of the Kyrgyz Republic and the State agency for environment protection adopt normative and legislative act in the area of water resources management and provisions of one normative and legislative act in regard to water resources management contradicts to the provisions of the another one , then the superior legal force has the normative and legislative act adopted by the State water administration , because it is the specially authorized institution of the Kyrgyz Republic for dealing with water resources management.	
2.4j	Sanctions are not applied in cases of non-compliance: <input checked="" type="checkbox"/>
Comment on 2.4j :	
Sanctions are envisaged and applied. However, the size of sanctions for non-compliance with the water legislation (the majority of them is considered as administrative violations) as a rule is inadequate to the caused damage.	
2.4k	Monitoring capacity inadequate <input checked="" type="checkbox"/>
2.4l	Institutional enforcement capacity inadequate <input checked="" type="checkbox"/>
2.4m	Other reasons (explain which):

2.5	<i>Is the water law harmonised with other national legislation?</i>		
2.5a	Environmental legislation	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/> Partly: <input type="checkbox"/>
2.5b	Land-use legislation	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/> Partly: <input type="checkbox"/>
2.5c	Agriculture legislation	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/> Partly: <input type="checkbox"/>
2.5d	Health legislation	Yes: <input type="checkbox"/>	No: <input type="checkbox"/> Partly: <input checked="" type="checkbox"/>
2.5e	Other legislation (describe):		
2.5f	If relevant, list key areas of conflict between the water law and other legislation:		
Comment on 2.5:			
In accordance with the above Comments on 2.4h, 2.4i , disagreements between various normative and legislative acts can be easily resolved even in case if there is no agreement (in text or wording) between legislation of various sectors.			

2.6	<i>Is the national legal framework harmonised with the international agreements which the country endorses?</i>
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2.6a	Yes: <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Partly: <input type="checkbox"/>
2.6b	List the water related agreements signed by the country ⁷ and, if possible, mark those which have been integrated in the national legal framework.		
<p>Comment on 2.6a:</p> <p><u>The Constitution of the Kyrgyz Republic</u> <u>Article 12</u></p> <p>Ratified by the Kyrgyz Republic the international treaties and agreements and the other universally accepted principles and normative of international law shall be a constituent and directly effective part of the legislation of the republic.</p>			
<p>Comment on 2.6b:</p> <ul style="list-style-type: none"> • The Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (1998) – had been ratified • The Convention to Combat Desertification (1994) – had been ratified • The Convention on Biological Diversity (1992) – had been ratified • The Framework Convention on Climate Change (1992) – had been ratified <p>Agreements and equated to them the regional political and legal documents signed by the Kyrgyz Republic:</p> <ul style="list-style-type: none"> • The Dushanbe Declaration (2002) • Decision of the Heads the Central Asian Countries of 06.10.2002, “On the main directions of the Program for specific actions aimed at improvement of ecological and socio-economic situation in the Aral Sea basin for period 2003-2010” (ASBP-2) • The Ashgabad Declaration (1999) • The Agreement of 1998, amongst the Governments of Kazakhstan, Kyrgyzstan, and Uzbekistan about use of water and energy resources of the Syrdarya river basin (Tajikistan is the Party to Agreement since 1999) • The Agreement of 1998, amongst the Governments of the Central Asian Republics • The Issyk Kul declaration about the regional cooperation of the Central Asian Countries • The Agreement of 1997, amongst the Governments of the Central Asian Republics “On status of the International Fund for Saving the Aral Sea” • <i>The Almaty Declaration (1997)</i> • <i>The Nukus Declaration (1995) of the Central Asian Countries and the international organizations on sustainable development of the Aral Sea basin</i> • Agreement of 1992 amongst the Governments of the Central Asian Republics “On cooperation in joint management, use and protection of the transboundary water resources” <p>and the others.</p>			

2.7	<i>Does the legal framework include an obligation to elaborate/maintain an IWRM Action Plan/strategy/process?</i>		
2.7a	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>	
<p>Comment on 2.7a:</p> <p>Water Code of the Kyrgyz Republic does not directly specify the development/support to the IWRM Action Plan/Strategy (they are not mentioned exactly under this title), but the IWRM process in terms of “integrated, rational, efficient use of water resources” is included in the legal structure.</p> <p>The projects, which reflect practically all the main IWRM aspects (sustainable development, water saving, public participation, coordination and the others), are presented in the key political document ASBP-2, approved by the Heads of the Central Asian Republics. One of the large ASBP-2 projects (Project #8.3) is entitled “The Integrated Water Resources Management in the Aral Sea Basin”. As “The expected results” of this project it is in particular envisaged the following:</p> <ol style="list-style-type: none"> 1. The new managerial structure of the water management bodies with involvement of public for implementation of the IWRM principles within the hydrographic boundaries at the pilot objects... 2. The legal basis for realization of the IWRM principles in the form of regulation documents package. <p>Development of the Concept of sustainable development in the Aral Sea basin is envisaged by the ASBP-2 as Priority #11. In priority rationale it is said that “the main objective of ASBP-2 ... can be achieved only within the framework of policy aiming at sustainable development (SD)”.</p> <p>In the Nukus (1995), Issyk Kul (1995), Almaty (1997), Ashgabad (1999), and Dushanbe (2002) Declarations of the Central Asian countries it was declared transition of the countries to the SD policy, integrated and multi-disciplinary approach, ecosystem and integrated natural resources management and water use</p>			

⁷ Country can sign the international agreement, but not ratify it.

3. Institutional framework for the water sector	
3.1	Provide the organisation chart(s) for the Institution(s) responsible for water resources management (attach in a separate document or in electronic format)
	<p>Water resources management in the Kyrgyz Republic is carried out on the basin principle. Water management structure includes the following levels:</p> <p>1. National: Department of water resources of the Ministry of Agriculture and Water Resources and Food Processing Industry of the Kyrgyz Republic;</p> <p>1.1. Oblast (basin): 7 basin water administrations with the zones of responsibility which practically coincide with the boundaries of administrative oblasts;</p> <p>1.1.1. Rayon: 40 rayon water administrations within the structure of the basin water administrations.</p> <p>Structure of the Department of water resources also includes:</p> <ul style="list-style-type: none"> - Administration of the large reservoirs of the republican importance (Kirov, Papan, Ortotokoy reservoirs); - Administration of the Inter-rayon canals in the Chu and Talas valleys; - Administration of the Chumysh waterworks and Nizhne Ala-Archin reservoirs; - specialized subdivisions (for example, Construction organization "Selvodzashita" within structure of the Department of water resources. The functions of construction organization include protection of rural settlements and agricultural land from flooding and mudflows..
3.2	Water resources management responsibility <i>If the water resources management responsibility is undertaken by a sector institution (e.g. Ministry of Agriculture, Energy, Environment) are there plans to move the responsibility away from the particular sector institution and place it in a cross-sectoral institution.</i>
3.2a	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
Comment on 3.2a: Currently the main agency that regulates water relationships in the country is the Department of water resources of the Ministry of Agriculture and Water Resources and Food Processing Industry of the Kyrgyz Republic. According to the Water Code of the Kyrgyz Republic the State water administration should be the agency regulating water relationships. Its organizational form (ministry, state agency, state committee or the other form) will be identified by the decision of the republic's government. There is no such decision so far. Besides, establishment of the National water council is envisaged by the provisions of Water Code (see item 3.3a).	

3.3	Institutions in the management framework <i>Which institutions are in place being part of a framework for IWRM?</i>		
3.3a	Is there a national body where cross-sectoral coordination at the overall level can take place?	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	If Yes, give its name: date of establishment frequency of meetings		
	Comment on 3.3a: At the national level: The Government of the republic and the National Water Council, established by the decree of the Government of the Kyrgyz Republic (of 3 February 2006, #64). On the basis and in pursuance of decisions of the Government, departments of ministries and agencies coordinate their activities at the lower levels: oblast, rayon, local levels. The main coordination agency is the state authorities and administrations at the relevant levels. Dates and periodicity of the Government sessions are identified by the Government itself.		
3.3b	Is there a platform where interaction with stakeholders at the national level can take place?	Yes: <input checked="" type="checkbox"/> but...	No: <input type="checkbox"/>
	I If Yes, give its name: date of first meeting frequency of meetings		

	<p><u>Comment on 3.3b:</u></p> <p>This is a platform where interaction with stakeholders may take place: In accordance with the competence, the state authorities and management bodies at the levels from oblast to the lower levels resolve all issues on the respective subordinated territories:</p> <p><u>The Constitution of the Kyrgyz Republic (Article 77):</u></p> <p>1. Executive authority in oblasts, rayons and cities is carried out by the local state administration, ruled by the head of local state administration.</p> <p>2. Executive authority in villages and settlements is carried out by the chairmen of the respective keneshs (councils).</p> <p>Note: The above mentioned bodies are responsible, in particular, for solution of issues associated with water resources management, including issues related with activities coordination and interaction amongst water use entities on their respective subordinated territories.</p> <p>Another issue is poor public control and necessity for establishment of the public Councils at various levels of water resources management: basin, irrigation system or canals of various orders (Basin Councils, Unions and Water User Associations) and their active involvement in the process of Water Resources Management.</p>		
3.3c	3.3c.1. Are there platforms for interaction with stakeholders at the regional/provincial level?	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	<u>See comment on 3.3b, the part relevant to 3.3c.1.</u>		
	3.3c.2. Are they operational (holding meetings and influencing decisions)?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
3.3d	3.3d.1. Are there bodies for participation of the users at the local level	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	<u>See comment on 3.3b, the part relevant to 3.3d.1.</u>		
	3.3d.2. Are they operational (holding meetings and influencing decisions)?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
3.3e	3.3e.1. Are there bodies for river basin management?	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	3.3e.2. If Yes, give - number of basin bodies – 7 - organizational structure - See comment on 3.1. - key functions – See comment on 3.3e.2		

Comment on 3.3e.2:	
<u>The Main functions of Basin Water Administrations:</u>	
<ul style="list-style-type: none"> - O&M of reservoirs, waterworks, pumping stations, drainage/water supply wells, electric power lines and transformers, introduction of the new automation and telemechanics facilities, measures on efficient use of all the installed equipment; - supply of water to water users and collection of payments for services in accordance with the current legislation; - execution of interstate distribution of water resources; - construction, reconstruction and modernization of waterworks, nature protection facilities, implementation of measures aimed at elimination of consequences of natural disaster, accidents and situations associated with adverse impact of water on agricultural objects and irrigated lands, and programs on social reconstruction of rural area in terms of water infrastructure construction; - implementation of modern scientific and technological policy in the area of water infrastructure construction on the territory of Osh oblast; - improvement of economic management methods, financial and credit relationships, and accounting, establishment of the contract works market, as well as creation of independent auditing service; - development of construction capability of water management and the other organizations, production of construction materials, machinery, equipment, spare parts, and consumer goods, as well as provision of chargeable services for population; - cooperation within the Basin Water Administration in supply of industrial products and goods; - creation of economic, legal, and managerial conditions for development of market structures as the basis for efficiency improvement of enterprises subordinated to the Basin Water Administrations; - development of ancillary farms, catering facilities, and supermarkets network; - establishment of integrated use of water resources in various sectors of economy on the basis of rational distribution and taking into account water user requirements, social need of population and economic expedience; - implementation of the unified technical policy in water sector, introduction of modern achievement of science and technology, and up-to-date experience, ensuring of cost-effectiveness and high quality of amelioration and the other works; - participation in implementation of the program for protection of water fund; - scientific, design, survey, construction and the other works associated with irrigation and land amelioration on the territory of Osh oblast in accordance with the relevant agreements; - creation of the favourable conditions for the social development of staff of the Basin Water Administration's enterprises; - provision of methodological and technical assistance and services to water users in regard to problems associated with organization of water user association activities, establishment of primary water metering system, improvement of irrigation application, and operation and maintenance of the on-farm irrigation and drainage system; - organization of staff training, retraining and advanced training. 	
3.3f	Other institutions (explain)
	<ul style="list-style-type: none"> • Unions of canal water users, established within the framework of the IWRM Fergana project • Water User Associations, farmers and dekhkan farms (lower level of water resources management), established during the recent years.

3.4	<i>Institutional Capacity at the national/central level</i> <i>The questions below try to establish how far the country has come towards a realistically attainable institutional capacity for water resources management based on IWRM principles. Imagine a 5 year goal of establishing the management functions below and associated competences. The goal has to be consistent with a realistic water resources management budget and staffing considering the usual or immediately foreseen national budget priorities.</i> <i>For each of the functions below, give your assessment of the national/central level capacity using the following scale: 0 = function not established, 1 = function has many large gaps in quality and coverage, 2 = function has some gaps in quality and coverage, 3 = function operates at the realistic goal level.</i>				
3.4a	Policy formulation	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4b	Drafting of laws and associated regulations	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4c	Recovery of cost of water resources management	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4d	Collecting water resources information and operating databases	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4e	Preparation of water resources assessments	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4f	Preparation of environmental assessments	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>

3.4g	Preparation of socio-economic assessments	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4h	Monitoring of water availability	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4i	Monitoring of ambient water quality	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4j	Monitoring of aquatic ecosystems	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4k	Monitoring of pollution loads	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4l	Monitoring of water use	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4m	Planning resource use, protection and conservation	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.4n	Facilitating water demand management	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4o	Water allocation	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4p	Conflict mediation	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.4q	Cooperation on internationally shared watercourses	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>

3.5	<i>Institutional constraints (apart from human resources) at the national/central level</i> <i>Give your assessment of the severity of major negative factors constraining the water resources management institution(s). Use the following scale: 0 = not relevant, 1 = not severe, 2 = severe, 3 = very severe</i>				
3.5a	Lack of Good Governance (transparency, accountability, integrative, communication, participation)	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.5b	Institutional framework poorly suited to address the key water resources management issues (e.g. mix of regulatory and service provider functions)	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.5c	Institutional mandate poorly defined	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.5d	Responsibilities poorly described for departments/sections	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.5e	Inadequate equipment (laboratory, monitoring equipment, etc.)	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input type="checkbox"/>	3: <input checked="" type="checkbox"/>
3.5f	Inadequate budget	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input type="checkbox"/>	3: <input checked="" type="checkbox"/>
3.5g	Inadequate logistics (e.g. transport)	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input type="checkbox"/>	3: <input checked="" type="checkbox"/>
3.5h	Inadequate office facilities	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>

3.6	<i>Human resources</i> <i>Development of the water resources management functions requires staff with competences at levels corresponding to the technical complexity of the functions. The questions below address the staff capability compared to the realistic goal level of the functions (ref 3.4)</i> <i>Assess the human resource situation in the national/central water resources management institution(s) in relation to the IWRM functions under 3.4a – 3.4q. Use the following scale: 0 = not at all, 1: to some degree, 2: to a reasonable degree, 3: fully</i>				
3.6a	Is the number of staff adequate for handling the IWRM functions at goal level as outlined above?	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.6b	Is the staff sufficiently qualified for to handle the IWRM functions at goal level as outlined above?	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
3.6c	Is the staff motivated to handle the water resources management based on IWRM principles?	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
3.6d	Estimate the number of senior managers in the water sector that are familiar with IWRM principles. Less than 5 <input type="checkbox"/> 5 - 10 <input type="checkbox"/> 10 – 20 <input type="checkbox"/> More than 20 <input checked="" type="checkbox"/>				
3.6e	Are there specific IWRM training activities in your country (if Yes, list them here or in a separate annex referring to the number of the question)	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/> but...		
	List of IWRM training activities:				

Comment on 3.6e:

Within the framework of IWRM-Fergana project the branch of Training Center of the Interstate Commission for Water Coordination (ICWC) had been established in Osh. This Center organizes planned seminars on the IWRM problems as a part of the IWRM-Fergana project activities as well as holds its own seminars.

The specialized regional training courses, seminars, and round tables are held under the aegis of ICWC at the Training Center in Tashkent for representatives of the various levels of the Central Asian water hierarchy. The list of training topics on IWRM is quite wide.

Within the framework of "On-Farm Irrigation" project the network of training centers had been established in the Kyrgyz Republic. This network includes: Training Center of the Department of water resources (the best one amongst such center in the republic in terms of the available office equipment), training centers of the oblast and rayon water administrations. The main objective of this training center is to provide the practical assistance to the WUA (there are 439 WUA in the republic) in the organizational issues, financing of rehabilitation of the irrigation and drainage systems, involvement of water users in the joint management of water resources and joint financing O&M of water infrastructure. This network of training centers holds constant planned series of seminars for the staff of water management organizations, WUAs, local authorities, NGOs, and various water users. This seminars are both the training and informational ones.

4. Processes and Milestones leading towards IWRM

4.1	<i>Status of Action Plan/strategy for implementation of an IWRM Framework (enabling environment, institutional roles and management instruments)</i>
4.1a	Not foreseen for the time being <input checked="" type="checkbox"/> , but...
4.1b	Under preparation <input type="checkbox"/> Since when : month year Expected to be finalised by : month year
4.1c	Existing <input type="checkbox"/> Approved by Date of approval: month year
4.1d	Existing and under implementation <input type="checkbox"/> Agency in charge of implementation Date of start of implementation : month year

Comment on 4.1:

Although such Action Plans on the scale of the Kyrgyz Republic are not envisaged right at this moment, the conditions for implementation of the IWRM (enabling environment, institutional framework and management instruments) appear in the national and sectoral programs. Part of these programs is listed in the comment on 1.1a.

Specific action plans are envisaged within the framework of the pilot objects of "IWRM-Fergana" project.

Within the framework of project "UNEP support for achieving the IWRM 2005 target Central Asia" by October 2006, it is envisaged development and approval of the national "road maps", which will be the basis for subsequent development of the detailed Action Plans.

The "round tables" and activities aimed at assistance to elaboration of the water policy and strategy of development at the appropriate levels of water resources management, and support to public awareness campaign on the IWRM principles are being conducted in the republic within the framework of planned activities of the Global Water Partnership of the countries of Central Asian and Caucasus. These activities include organization of seminars on the IWRM concept with participation of the staff of water management bodies, NGOs, and MM, organization of the political dialogs on use of the IWRM at the national level in the form of "round tables" on the topic "Partnership in the hierarchy of water management: state-water management system- water user", as well as managerial capacity building for speedup of the national process of the IWRM planning through holding of training seminars. Organizational work is being carried out for establishment of the National Water Partnership of Kyrgyzstan that is planned for 2007.

The monthly newspaper and web-site of Department of Water Resources, as well as the information materials, distributed through the Training Centers, are used for public awareness campaigns. The monthly newspaper of Department of Water Resources and Council of veteran-irrigators "Water, Land and People" covers the current problems of water resources management and perspective directions of its reformation, publishes all the normative acts associated with water resources management, including decisions and decrees of the Department's board. This newspaper has a circulation of 2,000 copies and is distributed free of charge amongst all the water management organizations from the republican to rayon level, and the rayon and oblast state administrations.

4.2	<i>If an Action Plan exists (confirmed in 4.1c or 4.1d)</i>
4.2a	Which government and non-government agencies were involved in preparing the plan? Specify :

4.2b	Is there a portfolio of projects to implement the IWRM Action Plan?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/> , but...
4.2c	Is there a programme for capacity building included in the IWRM Action Plan?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
4.2d	If Yes, is it a recurrent programme?	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
4.2e	Does the action plan have mechanisms for monitoring of implementation?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
4.2f	If Yes, which agency is responsible for monitoring?		
4.2g	Is there a strategy for financing of the Action Plan implementation?	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Comment on 4.2b:			
There are some projects that include elements of the Action Plan on the scale of pilot irrigation systems (for example within the framework of "IWRM Fergana" project), but not on the scale of the Kyrgyz Republic as a whole.			

4.3	<i>IWRM in other Plans</i> <i>Is IWRM itself or the principles that form the basis for IWRM parts of official documents (policies, plans or strategies) from other sectors that use water or relate to water</i>		
4.3a	Does IWRM appear in a Poverty Reduction Strategy Paper	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3b	If Yes, provide date and title of document month year title		
4.3c	Does IWRM appear in a National Development Strategy to achieve the MDGs	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3d	If Yes, provide date and title of document month year title		
4.3e	Does IWRM appear in an Agricultural Development Plan	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3f	If Yes, provide date and title of document month year title		
4.3g	Does IWRM appear in an Energy Development Plan	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3h	If Yes, provide date and title of document month year title		
4.3i	Does IWRM appear in a National Environmental Action Plan	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3j	If Yes, provide date and title of document month year title		
4.3k	Does IWRM appear in other national plans development plans	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
4.3l	If Yes, provide date(s) and title(s) of document month year title month year title month year title		
Comment on 4.3:			
Each national development plan (on reduction of poverty or improvement of living standards for achievement of the Millennium Development Goals, agriculture, energy sectors, environmental sphere and the others) is the integrated one and includes the main IWRM principles to one or another extent.			

4.4	<i>Awareness on IWRM</i> <i>Is IWRM and the inherent concepts known and understood by the major operators in the water sector and sectors relating to water (e.g. agriculture/irrigation, hydropower, health, environment, water supply and sanitation). Use the following scale: 0 = not at all, 1 = to some degree, 2 = to a reasonable degree, 3 = fully</i>				
4.4a	High level decision makers	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
4.4b	Professionals in agencies responsible for water resources management	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input type="checkbox"/>	3: <input checked="" type="checkbox"/>
4.4c	Professionals in agencies within water use and water related sectors	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>

4.4d	Major water users (incl. industries)	0: <input type="checkbox"/>	1: <input checked="" type="checkbox"/>	2: <input type="checkbox"/>	3: <input type="checkbox"/>
4.4e	Consultants	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>
4.4f	Non-government organizations (NGOs) in the water sector	0: <input type="checkbox"/>	1: <input type="checkbox"/>	2: <input checked="" type="checkbox"/>	3: <input type="checkbox"/>

5. Narrative descriptions of process towards IWRM	
5.1	Describe in your own words your assessment of the extent to which your country has achieved the target of the Johannesburg Plan of Implementation on IWRM: “.....to develop integrated water resources management and efficiency plans by 2005”
	The IWRM 2005 Plans were not prepared

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