

ECOLOGICAL ASPECTS IN LEGISLATION OF CENTRAL ASIAN COUNTRIES AND REAL AGREEMENTS

Introduction

Total area of the Kyrgyz Republic accounts for 198 th. km² from which 85% is presented by mountain ridges where rivers' flow is formed. Glaciers cover 4.2 % of territory, fresh water supply in the glaciers is estimated as 650 bln. m³. Total runoff of surface water resources for average humidity year is 47.4 bln. m³.

From this amount Kyrgyzstan takes about 25 % and 75 % remain for other states: Uzbekistan, Kazakhstan, Tadjikistan, Turkmenistan and China.

Kyrgyzstan is rich also with fresh ground water. Water supplies of which accounts for 10 bln. m³ per annum.

Apparently Kyrgyzstan has huge resources of fresh water. All big and small rivers are formed within the territory of the Republic. There is 1070 th. ha of irrigated lands and in the future this figure can increase up to 2.5 mln. ha.

Kyrgyzstan is a mountainous country with complicated relief and vertical climatic zoning. Mountainous ecosystems are unstable and very vulnerable to anthropogenic impact.

All process in the mountains are very active compared with plains.

Most natural disasters and ecological problems in Kyrgyzstan – sells, landslips, etc. are strengthened by human activity (slopes ploughing, roads construction, overgrazing, deforestation, unrational water use, etc.). There are serious problems with pollution of surface and ground water, pasture degradation, water erosion of cultivated lands, chemical pollution, salinization, water logging, etc.

II. Background

In 1994 law “About Water” is adopted by Jokorgu Kenesh of Kyrgyz Republic, where there are articles related to environment protection. State fund comprises all water bodies and structures and lands where they are located. Water bodies include rivers, lakes, glaciers, snowpacks, marshes and other surface sources as well as ground water including mineral and thermal waters. State water fund is property of state.

State water fund protection comprises planning and implementation of set of measures directed to water conservation, pollution and exhaustion prevention.

2.1. According to the low “About water” Jokorgy Kenesh competence is as follow:

- determination of state policy in water use and conservation;

- establishing legal regime of water bodies and structures which are claimed as emergency zones or zones of ecological disaster on water bodies or their parts.

2.2. Government of the Kyrgyz Republic competence is as follow:

- approval of water use normatives, order of determination and payment of fees for water use, waste disposal, water pollution and others;
- establishing regime of special water use within an emergency zone;
- taking decision on organization of specially protected areas on water bodies and structures;
- realizing centralized coordination of design, investigation and research works in a field of water regulation, use and protection.

2.3. Specially authorized governmental bodies competence is as follow:

- organization and regulation of water use and conservation, development of concepts and programs for water fund use and protection from pollution and exhaustion.

2.4. Local authorities competence is as follow:

- provision of population with information about water objects state;
- promotion of measures implementation on water objects' conservation and restoration, prevention of pollution in result of accidents and natural disasters;
- agreement of enterprises, structures and technical means disposal and operation start as well as order of work on water objects within protected zones.

According to legislation water use right is realized by license. In license order and conditions of water use are set up within permissible volume, quality and terms as well as conditions of wastes release.

2.5. Obligations of water users:

- prevent wastes releases to water bodies which do not meet requirements;
- provide following minimum permissible water level and discharge corresponding appropriate ecological and other requirements;
- maintain water and treatment structure in operational mode, improve their operational properties;
- undertake measures on preventing and liquidation of pollution consequences due to accident releases of pollutants;
- to realize measures on fish protection.

2.6. According to law "About Water" water body use for waste release is possible only under permission of specially authorized bodies and agreement with control agencies and other bodies concerned.

Waste release is permitted in cases if it will not lead to pollutant concentration increase in water body over permissible concentrations. In case of norms violation release should be stopped or prohibited.

2.7. In order to improve water resources use and protection from pollution and exhaustion, according to law "About water" water use in Kyrgyzstan is paid. Fees are taken for:

- water resources use within established limits;
- overuse and unrational use of water resources;

- services related to water intake, conveyance, distribution, treatment and other measures;
- pollutants releases into water bodies and structures within established limits;
- water bodies use right.

Since 1995 in the Republic raivodkhozs' services on water delivery to water users are paid.

2.8. In law "About Water" economic measures on water bodies and structure protection are foreseen:

- covering damage to water bodies and structures as well as environment caused by water users;
- giving water users tax privilege for water saving technologies and other nature protection measures introduction;
- increasing tariffs for water use in case of exceedance by water users planned indicators for water use;
- creation of funds for water bodies including international ones protection.

2.9. In law "About Water" articles about water fund and structures protection are foreseen:

- water fund in the Kyrgyz Republic is subjected to protection from pollution and exhaustion which can harm health of people or fish, aggravate conditions of water supply, physical, chemical and biological properties of water, its natural ability to natural treatment, violate water hydrological and geohydrological regime.

2.10. Water fund protection includes system of institutional, economic, legal and other measures directed to prevention of water pollution and exhaustion:

- design, construction, reconstruction and operation of water structures and related rubebankments;
- construction of collectors for industrial and municipal wastes withdrawal is performed under condition of license achieving for water use;
- construction and operation of water structures, including water intake drilling wells from ground water within the lands, belonging to juridical persons and individuals, is permitted under license for water use and prevention any damage to surroundings and to structures operation regime;
- responsibility for water structures operation constructed on water bodies being in state ownership, is borne by owner of license or renter;
- release of industrial, municipal and other wastes into water bodies and structures is prohibited and is allowed only in cases if it will not lead to increase of pollutants concentration above permissible norms;
- enterprises, organizations, institutions and individuals must prevent pollution of water bodies and structures by fertilizers and toxic chemicals, wood, oil products and others influencing water quality;
- water users should prevent pollution of watersheds, river channels, ice cover of water bodies, glaciers, snow packs by industrial, municipal wastes, oil products, fertilizers toxic chemicals influencing surface and ground water quality;
- to protect water bodies and structures, used for drinking treatment and recreation purposes sanitary protection zones are established.

Order of their establishing is determined by the Government of the Kyrgyz Republic:

- in order to prevent pollution and exhaustion of open water bodies along the banks of river, lakes and other water bodies zones of sanitary protection are established by decision of local administration;
- in order to protect water structures and prevent accidents around water intakes, reservoirs, pumping stations, canals, treatment plants water protecting zones are established;
- territory of water protecting zones (stripes) according to land Code of Kyrgyz Republic are related to water fund's lands and transfer under administration of authorized bodies. Water fund's lands use without special permission from authorized bodies is prohibited;
- in order to maintain optimal water regime of rivers, lakes, reservoirs, ground water, to prevent soil erosion, ponds siltation, wildlife living conditions worsening, reduction of water flow fluctuations water protecting zones are established for forests as well as reclamation, antierosion, engineering and other measures are undertaken in order set up by legislation of the Kyrgyz Republic;
- while conducting drilling and mining works related to natural resources exploration, juridical persons and individuals should undertake measures to protect ground water, to install appropriate equipment on wells. Enterprises, organizations, institutions and individuals carrying out wells operation in case of cessation of this operation should provide their conservation or liquidation if necessary;
- while constructing new and reconstructing old enterprises or introducing new technological processes, influencing water state in water bodies and structures, state ecological expertise should benefit carried out. Under expertise control of measures on water diversion and release, water protection from pollution and exhaustion, environment should be provided. Financing of construction without ecological expertise is prohibited;
- state control and account of water use and protection is carried out by specially authorized agencies according to provision on state account and control over water use, approved by the Government of the Kyrgyz Republic;
- part of state water control system is monitoring of water objects allowing to reveal finely changes, to assess them, prevent negative processes.

2.11. State bodies impose disciplinary, administrative and other kinds of responsibility for:

- violation of normative-technical, sanitary-hygienic and metrological requirements to water use control and account;
- refusal from submitting timely and reliable information about water resources states;
- unsatisfactory treatment plants operation, excessive release of pollutants into water bodies;
- putting in operation enterprises, structures and units without treatment plants;
- violation of economic regime of water bodies and structures causing their pollution, water erosion of land and other harmful phenomena;
- violation of norms and sanitary requirements under operation of wells causing ground water pollution;
- wastes release into aquifers;
- not undertaking timely measures on liquidation of ecological catastrophe consequences.

2.12. Kyrgyz Republic on base of international water right performs:

- prevention, restriction and reduction of polluting matters release into boundary water courses by means of advanced technologies;

- establishing water quality criteria;
- development and agreement of monitoring programs on transboundary and boundary waters;
- development and agreement measures on joint operation boundary water bodies and structures;
- establishing if necessary joint bodies to control interstate agreements in water relations implementation;
- operative information exchange, mutual assistance in joint operation of water bodies and structures;
- establishing common and compensative responsibility for damage as a result of influence on boundary water bodies;
- arbitration on water disputes.

2.13. Relations in water use and protection are regulated by law “About Water”, other laws of the Kyrgyz Republic, as well as international treaties, which participant is Kyrgyz Republic. If international treaties set up other rules than those contained on Kyrgyz Republic legislation, provisions of international treaties are applied.

2.14. Economic mechanism of water relations of Kyrgyz Republic with other states, established on base of international right and interstate agreements, foresees:

- compensation for damage to juridical persons and individuals’ interests including non-residents;
- compensation of damage to water bodies and structures;
- compensation of expenses related to diversion, regulation, transportation, treatment and other measures in case of water resources regulation with use of structures belonging to other states;
- compensation of expenses of one state from the states connected with water protection, flow regulation and other measures on transboundary and boundary waters used by two or more states.

Foreign juridical and physical persons and persons without citizenship should follow requirements of the low “About Water” and other legislation of the Kyrgyz Republic and bear responsibility for their violation in order established.

2.15. In 1997 President has signed Decree “About main provisions of the Kyrgyz Republic policy in water resources use of the rivers formed in Kyrgyzstan and coming out to the neighboring countries” in this document state policy in rivers use is defined.

While conducting interstate negotiations related to water resources protection according to President Decree should benefit taken into account:

- one of basic provisions to benefit reflected in international treaty is mutual obligation of the parties to control, prevent and reduce river pollution;
- Kyrgyz Republic pays big attention to collaboration with neighboring countries in water resources rational use, account and protection. For this joint commissions or others bodies both provisional and permanent.

The same Decree commissions to the Government of the Kyrgyz Republic:

- to start preparation of interstate (intergovernmental) treats and organization of negotiation process with appropriate neighboring countries on problems of rivers use and protection;
- develop and submit to Jokorgu Kenesh for consideration proposals on amendments and additions to the law of the Kyrgyz Republic “About Water”.

III. Analytic assessment of current situation in the region

3.1. According to Ministry for Environment data problem of ground water pollution prevention is critical for the Republic, especially in Chu and SyrDarya basins in Osh, Jalalabad and Batkent oblasts. Main reason for pollution is sanitary protection zones absence or violation of economic activity regime in these zones.

From 380 treatment plants available only 60% keep normal treatment. Many of them are aged, absolute and do not meet modern requirements. More than 700 th. are forced to use water from rivers and canals which does not meet sanitary-hygienic norms. Most critical situation is in Osh and Jalalabad oblasts, where 47 and 50 %, respectfully, do not have centralized tap systems.

Existing network for irrigation and water supply are poorly operated and more than 70 % need repair and reconstruction. As result significant water losses (more than 1.8 mln. m³/year or 20-26 % of diverted water), water quality aggravation and water related diseases take place.

Centralized sewerage systems with treatment plants are only in 56 % of the cities.

3.2. In Chu oblast 86 % of water supply systems do not meet sanitary requirements, similar situation is in Talas oblast, where 70 from 100 samples do not met bacteriological standards. As a result of poor operation of the systems drinking water quality is worsening, water delivery schedule is violated.

3.3. In the sphere of land use the most critical problems as follow: soil and pasture degradation, land erosion, chemical pollution, salinization and water logging.

According to Goscadastr:

Total land area	- 19638.8 th. ha
Including irrigated land	- 1066.6
Cultivated lands	- 10 431.3 th. ha (53,1%)
Including irrigated lands	- 856,0 th. ha
Arable lands	- 1306,7 th. ha
Including irrigated lands	- 843,4 th. ha
Forest pasture	- 1175,4 th. ha (45,1%).

Salinized lands – 1170,3 th. ha, including arable lands - 191,4 th. ha, pasture - 960,8 th. ha, strongly saline soil - 109,1 th. ha тыс. га.

Waterlogged lands - 89,3 th. ha тыс. га, including arable lands - 1,4 th. ha, pastures -79,1 th. ha.

Stony lands - 3808,8 th. ha, lands covered by bushes - 1314,7 th. ha.

Subjected to water erosion - 5434,9 th. ha (54,1%), including medium - 2227,5 th. ha and strongly - 936,7 th. ha.

3.4. Thus from 19.639 th. ha of land about 65 % is degraded at some extent, in some regions of the republic this percentage is much higher.

Nevertheless, practice continues to give agricultural lands for non-agricultural uses, that leads to aggravation of food and raw material problems.

IV. Issues and ways of solution

Taking into account complicated ecological situation on the republic Government of Kyrgyzstan together with the World Bank developed and approved national plan of actions on environment protection.

In this plan 5 major issues are determined:

1. Unrational management of water resources and their pollution;
2. Land degradation;
3. Overexploitation of forest resources;
4. Threat to biological diversity;
5. Ineffective practice in mining and processing industry.

The following priority measures are recommended by this plan:

1. Support of water supply, irrigation and sanitary treatment systems; perfection of water resources management;
2. Farmers training in soil protection methods, credit program implementation for agriculture and forestry;
3. Support of existing structure of national parks, broadening of protected national territories;
4. Development of the national strategy of biodiversity maintenance and ecological tourism development;
5. Reduction of releases from thermal power stations, prevention of soil pollution by uranium, mercury and other heavy metals;
6. Appropriate maintenance of treatment plants;
7. Treatment and secure disposal of mining and processing industries wastes.

Ministry of Environment developed Concept of ecological security of Kyrgyzstan which was agreed by Security Council in 1997. Council made correspondent decision according to which all governmental bodies should undertake appropriate measures to provide ecological security of state.

On base of Security Council decision the project of State Program was developed on environment protection and natural resources rational use up to 2005 with achievement of Kyrgyzstan ecological security through measures undertaking in following directions:

- legal provision and institutional measures;
- atmosphere;
- water resources;
- land resources;
- biodiversity;
- ecological monitoring;

- human ecology;
- international relations.

Within the framework of each direction specific measures are foreseen on solution of short-, medium, and long-term tasks.

V. Development forecast, issues to be refined and mutual options of solution.

As mentioned above, the Kyrgyz Republic is a zone of flow formation, water resources of which are used by all Central Asian states. Ecological issues are very important for all states using resources formed in Kyrgyzstan.

All states are interested in natural equilibrium maintenance in zone of flow formation, that is why these issues should be considered and solved both at the national and regional level. I will try to put some questions which are important for ecological situation stabilization.

1. Kyrgyz scientists are afraid of tendency of glaciers water supply reduction. Research in this field should be continued for longterm prediction of rivers' flow change.
2. Due to anthropogenic factors (human activity) within zone of flow formation line overgrazing, forest cutting process of wind and water erosion are strengthening. This problem can be solved by protection zones creation and other measures.
3. Water structures influence ecological situation as well. For example, after Andijan reservoir completion ecological situation upstream aggravated due to ground water level rise. In Chu valley water is conveyed on distance of 200 km to Kazakhstan but damage from water logging is experienced by Kyrgyzstan. Annual losses of Kyrgyzstan due to water logging by reservoirs and canals of common use is not compensated.
4. Kyrgyz Republic bears all expenses connected with formation and ecological management of water resources but all states of Central Asia use them. Additional expenses are made for hydrometeorological, sanitary and ecological observations including observations of glaciers, snowpacks and dangerous lakes created by natural catastrophes. Special attention should be paid to issues of water resources pollution and exhaustion within the zone of flow formation (forestry, establishing protection zones, etc.), combat with flooding, sels, water logging and salinization of lands.

VI. Conclusions and recommendations

1. Existing legislation at national level on environment and water resources does not give possibility to create a system allowing to provide ecological security. Many articles of law "About Water" and appropriate by-laws have character of declaration and have no mechanism of their implementation.
2. Ecological issues related to water resources conservation, exhaustion and protection as well as compensation of annual losses from flooding and land water logging within zone of flow formation should be solved with participation of all states concerned on economic basis.

3. States' interrelations in ecological issues within the zone of flow formation should be solved on base of bilateral or multilateral agreements. While planning state participation in agreed measures share of used water should be taken into consideration.

VII Reference

1. Kyrgyz Republic Constitution.
2. Law "About Water".
3. Kyrgyzstan President Decree of 6 October 1997.
4. T.Usubaliyev "Water is more expensive than gold".
5. Report of Minister of Environment T.Alikulova "About longterm ecological policy".
6. ICWC meetings proceedings.