

WATER RESOURCES PROBLEMS IN KYRGYZSTAN

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ABSTRACT

Although the fresh water resources of Kyrgyzstan have enormous potential to contribute to the economy of the country, the efficient use this resource has become a matter of research. These resources which are being utilized by the neighboring countries in increasing their agricultural output, the contribution of the same resource to the agricultural activities and overall economy of Kyrgyzstan raises serious questions.

From a historical perspective, if we take the importance of the past contribution of agriculture to the previous periods of economic advancement of today's industrialized countries, the importance of water which originates from the mountains of Kyrgyzstan will be better understood in the Country as well as by its benefactor neighbors.

The commitment to advance the textile industry in former Soviet Union and the importance of efficient use of water in the cotton agriculture in the fertile Fergana region of Ozbekistan dates back to 1930-40s. 1960-70s are the Soviet era of planning of the current hydroelectric dams currently in use in Kyrgyzstan.

As a result of central planning, instead of Toktogul dam, the Kambar-Ata dam has been constructed. Our Country's water resources have been used, amongst others, in cotton, rice and fish production. According to this continuing trend, it is essential that our country, which has always upheld the interests of its oil and natural gas rich neighbors, must investigate the role of water in our trade relations and its efficient use for the benefit of all while enriching our own economy.

Keywords: Water Resources, Kyrgyzstan, Agricultural Efficiency, Trade Relations

INTRODUCTION

"Water is the most important element of life in our planet. We can live without food for several weeks but without water we can't live even a few days".

Richard Midlton "There is less and less pure water".

Water resources are strategic, vital natural resources having interstate importance. Kyrgyzstan has huge resources of ground and surface waters, the significant stocks of which are in the rivers, eternal ice-houses and snow massifs.

The availability of water resources such as glaciers, lakes, rivers, bogs, and reservoirs are considered. As are the measures needed for deficit liquidation of water and its pollution Kyrgyzstan has considerable reserves of water resources. Annual average volume water of total water resources makes up 2,458 km³ including 50 cub.km of surface river runoff, 13 km³ of potential reserves of ground water, 1,745 km³ of lake water, *650 km³ of glaciers.

Glaciers

In total there are 8,208 glaciers of different sizes on the territory of Kyrgyzstan. The area of icing is 8,169.4 km², or 4.2% of the republic territory. The main glacier centres are located in the extreme east, in the basin of the river Sary-Jaz where the largest plain glaciers are located and in the south of the Zailiy ridge. The supply of fresh water preserved in the mountain glaciers is 650 billion m³, which exceeds 12 times rivers flow resources in the country. Trend to climate warming leads to stable intensive reduction of glacier surfaces. According to forecast, by 2025 the territories of glaciers will be reduced by 30-40% resulting in water volume diminish by 25-35%.



North Inilchek

Lakes

There are 1923 lakes in Kyrgyzstan, the total area of water surface is 6836 km². The biggest lakes of Kyrgyzstan are Issyk-Kyl (the area of water surface is 6236 km²), Son-Kul (the area is 275 km²), Chatyr-Kul (the area is 175 km²).

There is a significant amount of lakes and other natural reservoirs with common area about 6697 km² and with common annual volume of water about 1745 billion m³ on the territory of the republic. It is necessary to note that 84% of lakes are located at heights 3000-4000 m in regions of tectonic origin. Potential annual stock of ground water is 13 billion m³, of ice-houses* about 650 billion m³

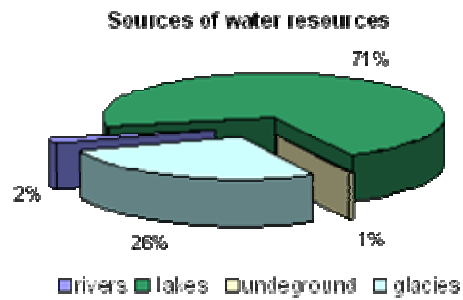


Kyrgyz pearl is the high mountain
Issyk-Kul Lake

Rivers

The longest river is Narin - 535 km length, river Chatkar is 205 km length and the river Chu is 221 km length, annual flow is 5.83 km³ The river Talas and the river Assaa is 2 km³ flow per year. More than 3500 rivers flowing on the territory of the

republic supply water to the neighbouring states: Kazakhstan, Uzbekistan, Tajikistan, and also Sinjan-Uigur autonomous region of China.



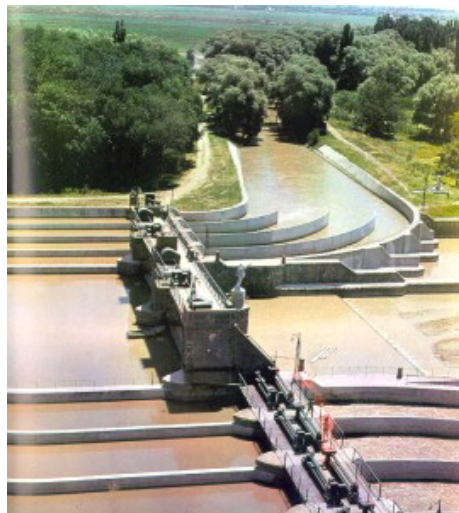
Bogs

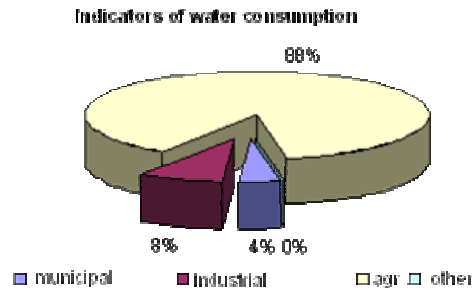
The bogs in the republic are 0.5% of the territory in the places where ground water is near the surface (Issyk-Kul lake, Son-Kul lake, river Chui valley, Talas, Narin).

Water reservoirs

There are 13 artificial reservoirs with the total area 378.2 km³ and volume of water 23.41 km³ in Kyrgyzstan.

About 75% of the river runoff goes out from the republic to Uzbekistan, Kazakhstan, and the Sintzyan-Uigur region of China. More than 10 large reservoirs for irrigation were built to regulate runoff of transnational rivers the Chui, Talas, Naryn, Ak-Bura, Kara-Darya. Damage from agricultural yield shortage on the territories occupied by reservoirs is estimated 11.3 million US dollars

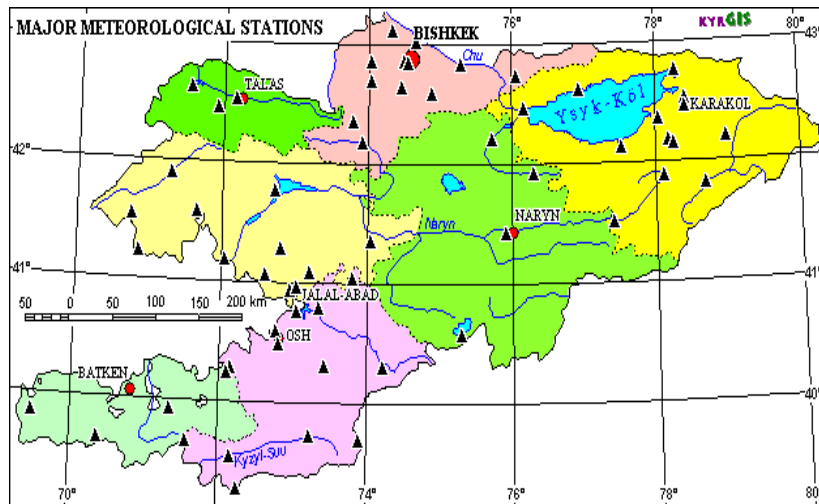




Water consumption

On the basis of the Intergovernmental Agreement of the countries of Central Asia, the republic may use 24% of volume of a river source from an annual source 50 billion m³ (i.e. 12 billion m³). The significant part (about 23%) of return water is lost during their use. The reasons for unsatisfactory technical condition of irrigation and water-distributive systems are, wear of equipment, application of imperfect methods for watering, and an absence of water-saving technologies. In the last years, the stable tendency of growth of unproductive losses of water is marked, and 90% of them are losses in irrigation.

Water in the republic is used for household, industrial and agricultural use. The consumption of water for agricultural irrigation is 88% of total use (about 12% of water is for household and industrial consumption).



There are not enough countries which having big reservoir of potable water in the world. But an effective utilization greater sources of water and to consider as strategic branch depend on a level of development and management of the country. In this respect very hard to define how much effectively used sources of water in our country. There is a following question "We have to build water basins or to use water for the agricultural purposes in order to improve economy?" It is necessary to search answer to this question. In this plan selflessness for the good of balance and well being with neighboring countries of our country and requirements of neighboring countries should be considered. Considering that the bordering countries very strongly need water for irrigation, we should not forget selflessness of our country in this business.

In order to provide with water for an irrigation jayloo Chatkal, we could use simply the river Chatkal, but because of the river Chatkal very important source for water basin Charvak in Uzbekistan we cannot take advantage of this opportunity.

At the request of the first head of Uzbekistan Ahunbayev in 1930, the most beautiful steppe Shahi-Mardan has been given by the first head of Kyrgyzstan Orozbekov to Uzbekistan. Construction of a water basin filled needs of water people who cultivation cotton in Fergana valley, but as soon as have constructed the Andizhan water basin on fruitful agricultural fields there was really loss. And also when have started to build a water basin Andizhan in Kyrgyzstan near the river Kara-Darya has been given the place for accommodation of building base, which in due course became the city of Sovetabad (now Hanavad). Now Hanavad is bordering city and their customs creates big barrier to inhabitants of areas Osh and Dzhahal- Abad.

In 60-70 years Kyrgyzstan by own strength in current of 10 years has constructed the Kirov water basin, under which there were fertile hectares of the ground. From this construction Kazakhstan since 1975 receives every year 800 million m³ of water for irrigation. Water basins Toktogul, Kirov, Orto-Tokoy and Papan have been constructed by the own means and forces. Certainly we should not forget the help of the Central union and credit of Federal union. Above-mentioned water and energy constructions have very much great value as well as for our economy and for neighboring countries.

The neighbouring countries have oil, gas, coal and other natural stocks, and in addition they use agricultural fields. Our country has no such stocks, but it has water sources which every day get great value. And of course we already should sell water resources on market prices, instead of on friendly. Jogorku Kenesh hopes that our neighbour rich countries having seen our losses, will fairly estimate this situation, and will support us. In 1996 the European Union and VARMAP (Improvement of management of water and terrestrial sources) has held a seminar, in which participating given advice and offers:

“There was no interstate basis of cooperation. As there are different levels of development, there should be a mutual understanding. If one country is very rich and developed, it should help to developing country to solve problems. Because you are connected very much, especially by water resources”.

Jogorku Kenesh precisely has noted that sale of water is lawful. Decision of Jogorku Kenesh was accepted by the voting and has been widespread in mass media.

There is a commission by water in the Central Asian cooperation. Only this commission defines borders of use of water resources in this region. Kyrgyzstan has a huge water drain, which volume 1 billion m³. But losses on irrigation do not give it developing in the future. 1 million hectares of the ground requires irrigation. But still there is 2 million hectares of the ground requiring in water.

Under prepared projects USKK volume of drinking and municipal water unlike other countries are per capita very small.

CONCLUSION

As well as in the Soviet period now our water flow away in neighbour countries. Our hydroelectric crossroad supply neighbour countries. It is very badly influences on our country. Soviet Union has broken up, that broke off the help of the Federal budget. The countries using our water sources, but do not compensate losses. Despite of it neighbour countries insist on continuation of those contracts on use of water which were in Soviet Union.

Uzbekistan gives gas to Kyrgyzstan in certain quantity, lately has increased the prices for it. In the same attitude now Kazakhstan, every day getting difficult to getting gas and coal. Principles of neighbouring countries are those: “Our friendship is literary, and money is not the same”. Because of this Kyrgyzstan in the further will stand on the same principle.

In 2010 in the countries of the Central Asia drinking and municipal water on person in day will make:

Kazakhstan - 540 liter/day
Kyrgyzstan - 137 liter/day
Tajikistan - 621 liter/day
Turkmenistan - 592 liter/day
Uzbekistan - 525 liter/day

If to clear USKK has established that Kyrgyzstan as before will supply with water Kazakhstan and Uzbekistan by old price. Also we should improve a condition of water basins by own strength, not asking compensation of damage from another countries. **Measures necessary for solution National programs**

- ◆ development of measures on pollution reduction of some water facilities;
- ◆ joint control of water quality of water objects;
- ◆ prevention of extreme negative consequences of pollution having serious impact on the other state.
- ◆ development of national strategies of water quality control;
- ◆ inventory of pollution sources and risk assessment of pollutant runoff;
- ◆ investigation of water sources and objects, their classification according to pollution level, ecological condition, study of background pollution and human impact;
- ◆ improvement of law mechanism and economic control measures for water quality;
- ◆ working out special projects and programs to prevent contamination of the most significant water pollutants or having potential danger of water pollution;
- ◆ working out national programs to introduce ecologically pure technologies into industrial and other enterprises to reduce pollutant runoffs;
- ◆ working out special programs to protect ground water and development of water-protection zones;
- ◆ determination of acceptable loads of polluted water sources with taking into account its self-cleaning ability (including inside seasonal loads);
- ◆ investigation of contaminated water impact on population health and consequences of its application in economy.

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