THE LEGISLATIVE AND INSTITUTIONAL FRAMEWORK FOR TRANSBOUNDARY WATER RESOURCES MANAGEMENT IN KAZAKHSTAN

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ABSTRACT

The concept of the transboundary water resource management is extremely relevant to Kazakhstan as almost 45% of country's water resources come from neighbouring countries. At the same time, the country faces environmental challenges such as water scarcity, desertification and climate change. However, legislative and institutional ineffectiveness have caused an unsustainable water resource use and threaten the long-term sustainability of water security in Kazakhstan. Specifically, poorly framed piece of legislation including national Water code have led to under-investment in water efficiency measures, leading to extensive water losses, soil salinity, as well as degradation of agricultural land. This study aims to review and discuss the current water sector in Kazakhstan with focus on legislative and institutional framework for transboundary water resources management in Kazakhstan.

Keywords: Transboundary Water Resources, Kazakhstan, Water Code, Law.

INTRODUCTION

Kazakhstan is the night largest country in the world in terms of geographic area (2.72 million km^2) (FAO, 2010). It borders China in the east, Russia in the north, the Uzbekistan and Kyrgyzstan in the south and the Caspian Sea in the west, respectively. Kazakhstan is also characterised by continental climate, with very cold winters almost everywhere, while summers are warm in the north and definitely hot in the south. There are no obstacles which could protect the country from cold air masses of polar or Siberian origin, while in summer the hot winds from the deserts of Iran can blow. Precipitation also varies depending on the location and climate zone. With respect to geographical features of water resources, the occurrence of water resources varies across Kazakhstan. The total volume of Kazakhstan's renewable freshwater resources on average is about 100.6 km^3 per year, of which that formed in the country amounts to 55.94 km^3 per year, with the remaining part 44.64 km^3 per year, flowing from neighbouring countries-China (19.2 km^3), Uzbekistan (14.7 km^3), Kyrgyzstan (3.1 km^3) and Russia (7.6 km^3) (FAO, 2016a). In this context, complex relationships occur between upstream recharge areas and

downstream Kazakhstan, and the effective management of transboundary water resources is of particular importance for Kazakhstan for two main reasons (Karatayev et al., 2017a).

First of all, transboundary water resources serve as an important source of hydropower supply in Kazakhstan. Hydropower accounts for approximately 13% of Kazakhstan's total generating capacity delivering around 7.78 TWh from 15 large (>50 MW) hydropower stations with a total capacity of 2.248 GW. Large hydro power plants comprise the Bukhtyrma (750 MW), Shulbinsk (702 MW) and Ust-Kamenogorsk (315 MW) plants on the Irtysh transboundary river, the Kapshagai (364 MW) plant on the Ili transboundary river, the Moinak (300 MW) plant on the Charyn river and the Shardarinskaya (104 MW) plant on the Syrdarya transboundary river (FAO, 2016b). Small (1-10 MW) and medium-scale (10-50 MW) hydropower projects have become more popular because of their low cost, reliability and apparent environmental friendliness. There are seven small hydropower plants (<10 MW), with a total installed capacity of 78 MW and an estimated potential of 13 TWh, spanning east and south Kazakhstan, Zhambyl and Almaty provinces (NSA, 2015). Currently the new hydro power plants are planned to be constructed in Mainak (300 MW), Semipalatinsk (78 MW) and Kerbulak (50 MW) with using transboundary water resources. In 2012, Kazakhstan has set a target that will see renewable energy projects contributing 3% to the country's energy mix by 2020 (MARK, 2015). By 2050, the country aims to have 50% of the total power generation from renewable energy sources including small hydropower projects (Karatayev et al., 2017b). The country intends to install more than 400 MW of small hydropower capacity by the decade's end.

The second, in addition to energy sector, transboundary water resources in Kazakhstan are widely used for food production and its current uses are ineffective. Kazakhstan is largest producer of wheat, barley, oats, corn, cereals, rice, oilseeds and cotton. Wheat, rice and cotton require huge amounts of water and energy. Water use efficiency in Kazakhstan is significantly lower than in developed countries. According to FAO data, about 3,500 m^3 of water was used to produce 1 tonne of crops in Kazakhstan; to produce the same amount, it took 1,300 m^3 of water in Poland, 1,000 m^3 in the United States, 790 m^3 in the United Kingdom and 660 m^3 in France (FAO, 2016). Water leakage in irrigation networks is one of the major sources of the inefficiency. It is estimated that water losses during the transport reached about 50% for utilities, 70% in agricultural and 40% in industrial sectors (ICSD, 2016). Of the water reaching the field, waste is also substantial. The application of sprinkler and drip irrigation is almost negligible. Other more efficient and yet less capital-and water-saving methods such as canal lining, border irrigation, hose water conveyance, water quantity and timing control and plastic mulch, are also not widely used (Ospanova, 2016).

METHOD AND SOURCES

As the focus of the study centres upon the legislative and policy framework for transboundary water management in Kazakhstan, the main methodology for this research is document analysis, which included review of official documents, laws, strategic documents, the databases of official institutions and published papers in specific international journals. Document analysis is one of the effective qualitative research methods widely used in different fields including economics, business, education, communications, social, political and health

science. As started by Bowen (2009), both formal and informal documents are important sources of data and information to research realities and facts. The formal documents include governmental directives, orders, reports and official statistics from institutions that mainly reflect public relations. These documents are drafted and approved by state or public bodies, public and private institutions and can be used as evidence. The purpose of these documents is to inform about the current situations, problems, achievement of the goals, as well as the regulation of institutional relations. Informal documents also include materials from local and international mass media that reflect all aspects of society. As said by Ahmed (2010) Document analysis is cost effective research method than the social surveys, in-depth interview or participant observation.

In this research, the methodology includes collection and analyse documents, and country specific data from international organisations such as the United Nations Development Programme (UNDP, 2016) Food and Agriculture Organization of the United Nations (FAO), UN's Information System on Water and Agriculture (UN AQUASTAT), Global Water Partnership (GWP), Interstate Commission on Sustainable Development (ICSD) and Kazakhstani Research Institute of Geography (KRIG, 2013). Furtshermore, it includes analysis of government documents from Ministry of Agriculture of the Republic of Kazakhstan (MARK), Ministry of Energy and Environmental Protection (MEEP) and National Statistic Agency (NSA). The paper uses published papers in specific international journals (e.g., Janusz-Pawletta, 2015; Ospanova, 2016; Karatayev et al., 2017a: 2017b; Petrakov, 2017).

RESULTS AND DISCUSSIONS

The Government of Kazakhstan has developed and applied National Water Programme Ak Bulak 2010-2020 (№ 1176 of 09.11.2010), National Green Economy Concept (№ 577 of 30.05.2013), and State program on Water Resources Management (№ 786 of 04.04.2014) which aim to reduce water consumption per unit of GDP by 33% by 2020 compared to the level of 2012, increase water access in both urban (to 100%) and rural (to 80%) areas and improve water resource quality. In addition, the Government approved the Water Code (№ 481-II with amendments of 20.02.2017). The Water Code consists of 32 chapters and 146 articles and aims to establish the key principles governing domestic as well transboundary water resources in Kazakhstan (Janusz-Pawletta, 2015). According to Water code's Article 15*: "The order of use and protection of transboundary water is established by this Code, and the legislation of the Republic of Kazakhstan on the State border and international treaties ratified by the Republic of Kazakhstan"*. The Water Code's Article 135, provides measures on state support of the transboundary water management system. It includes such measures as:

1. Financing of costs of operation of transboundary water management structures and water facilities of national importance, not related to water supply.
2. Financing of measures to restore especially emergency water management facilities and irrigation and drainage systems, attracting financial resources, including borrowed funds, for the construction of new and reconstruction of existing water management facilities and irrigation and drainage systems.
3. Financing of measures to ensure the safety of water management systems and facilities under state ownership.

4. Subsidizing the cost of services for the delivery of water to agricultural producers and supply of drinking water from especially important group and local water supply systems that are non-alternative sources of drinking water supply, according to the list approved by the Government of the Republic of Kazakhstan.
5. Maintenance of public institutions of the water management system.

The implementation of these activities is carried out within the framework of the relevant budget programs, administered by the Committee on Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan (Petrakov, 2017).

In terms of international level of management in transboundary Rivers, in 1992, a number of international agreements were signed between Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan on cooperation in the joint management of the use and protection of water resources of interstate sources. In accordance with these agreements, the Interstate Coordination Water Commission (ICWC) has been established (MARK, 2016). The ICWC meetings are held quarterly, four times a year, where the operating modes of water management facilities are considered for the non-vegetation and vegetation periods, state limits for the relevant periods are approved. Furthermore, in 2001, an Agreement was signed between Kazakhstan and China on cooperation in the use and protection of transboundary Rivers. This Agreement regulates the water relations of 24 transboundary rivers. In order to implement this Agreement, the Kazakhstan-China Joint Commission on the use and protection of transboundary Rivers has been established, as well as a working group of experts. In 2010, the Agreement between Kazakhstan and Russia on the joint use and protection of transboundary water bodies was signed. Under the Agreement, the Kazakhstan-Russian Commission for the joint use and protection of transboundary water bodies is operating. In accordance with Article 12 of this Agreement, working groups have been formed on the protection and use of water resources in the Ural, Yertis, Yesil, Tobol, Kigach, Bolshoye and Maly Uzeny basins (Petrakov, 2017). The Commission considers the issues of spring flood, the filling of water reservoirs and conditions for water supply to the population, the state and results of the state monitoring of the water resources of transboundary Rivers, monitoring of underground and surface waters, and water protection measures aimed at improving the water resources of transboundary Rivers.

Although the importance of transboundary water resources has been recognised by all countries in Central Asia, China and Russia, however, the issues of management have been scarcely addressed in national legislation and institutional instruments (Janusz-Pawletta, 2015). Kazakhstan and Central Asian countries do not have comprehensive legal and institutional instruments to regulate the use of transboundary water resources (Karatayev et al., 2017a). Uzbekistan and Kyrgyzstan have also shown a substantial lack of water policies for dealing with internationally shared water resources (Ospanova, 2016). There are institutions specialising in transboundary water issues, but the extent of the mandate and its capacity is uncertain (Karatayev et al., 2017b). Regarding the Water Code, while reference is made to important environmental concepts in the first chapter of the Code, these remain in the law more as abstract concepts than as clear and enforceable measures to ensure the protection of transboundary water resources. Furthermore, the central Government has delegated a great number of its duties to the administrative regional provinces, however the new administrative structure is far from clear (GWP, 2011). It would seem that the central Government maintains overall control, while passing management functions to the regions, although the extent of the region’s powers is not

clearly defined and there is little scope for central oversight in terms of practical and concrete measures. Another concern relates to the many inconsistencies and ambiguities inherent in the law itself, complicating the process of implementation and enforcement. It has been pointed out that the Water Code fails to include many important definitions of terms used. Perhaps the clearest evidence of the low quality of this law can be seen in the numerous amendments and modifications that have been introduced since the Water Code entered into force. Finally, the Water Code is a poorly framed piece of legislation. It concerns both the protection and the use of water in Kazakhstan, thus creating an inherent contradiction. This has resulted in an ineffective law, suggestive of a state incapable of effectively framing its policy priorities.

CONCLUSION

Numerous international efforts have been made to raise awareness in policy and decision makers regarding the significance of transboundary water resources and the need for an effective legal and institutional framework to promote the sustainable use of transboundary water resources. Several regional initiatives have been launched for compiling a regional water inventory and analysing legal and institutional frameworks for transboundary water resources management. Most of signed bilateral agreements, however, do not have proper mechanisms and need to be ratified. However, the greatest weakness of transboundary water resources in Kazakhstan is weak regulatory framework. Opportunities exist throughout the improvement institutional coordination, legislative framework, national programmes and technology implementation. In order to manage internationally shared water resources in a sustainable manner, more integrated and proactive approach including models, scenarios and analysis is needed.

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