Is Post-Soviet water management transformation successful in Kyrgyz Republic? Mapping of perceived problems by water experts

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Abstract

The water management issue in the Kyrgyz Republic has been an unresolved problem for many years since the dissolution of the Soviet Union due to its complex set of issues. The regional cooperation initiatives over the Naryn-Syr Darya river catchment is yet a debate for many domestic and international experts on how to find a win-win solution for all the transboundary states, such as the Kyrgyz Republic, Uzbekistan, Tajikistan, and Kazakhstan. Some of the problems that the riparian states may have are power asymmetries in negotiation and decision-making processes, inequitable use of benefit-sharing mechanisms over the water resources, and non-consideration of multi-year hydraulic fluctuations in the water distribution and allocation scheme. The study aims to analyze the present situation on the water resource management of the Kyrgyz Republic. Sehring’s model of perceived problems is used to analyze water expert viewpoints and determine how decisions taken in the past may adversely affect the current institutional arrangements development in the water sector in the Kyrgyz Republic. The study concludes that in the current context of water management in the Kyrgyz Republic, a coordinated action of a strong single agency (National Water Administration) is needed to design long-term planning and address the existing challenges in the water sector.

Keywords: water management, water governance, Naryn-Syr Darya River, Post-Soviet transformation, Water Code of the Kyrgyz Republic

Paper type: Research paper

1. Introduction

The former Soviet Central Asian countries (the Republics of Kazakhstan, Tajikistan, Uzbekistan, the Kyrgyz Republic and Turkmenistan), some almost completely, others at least partially located geographically in the Aral Sea Basin, have much in common: culture, language, customs and traditions, as well as the necessity for basic survival – water. The latter in the form of the Syr Darya River, as well as the Amu Darya River, the other major river in the region, is a valuable resource for this region as it has been used to irrigate the Ferghana
Valley in the Central Asia for many centuries. Historically, the Soviet government during the 1960s started massive use of the Syr Darya River flow for watering the large-scale cotton and rice production in its basin. The construction of the Toktogul Reservoir (the largest dam on the Naryn/Syr Darya River) on the territory of the Kyrgyz Soviet Socialist Republic in the 1970s made it possible for the Central Asian states to manage the flow of the river for two main purposes: irrigation in the downstream states and electricity production in the upstream states. These two operational regimes worked effectively until the Union of Soviet Socialist Republics (USSR) collapsed in 1991, leaving the newly independent states to solve many problems on their own.

Abdullaev et al. (2006) argued that with the collapse of the USSR water has become not only an essential ingredient for prosperity and survival, but also a source for tension between these countries. Dukhovny (1986), however, confirmed that these tensions between the riparian republics had arisen before the demise of the USSR as the water resources of the Syr Darya River started to diminish in volume by 1980 due to the massive water offtake. During the existence of the USSR, when all these riparian states existed in a collective union, the regional water distribution scheme in the Syr Darya River was coordinated directly from Moscow, not causing a problem of joint use. It was possible due to the compensation system (barter system), where upstream countries were provided with fuel and energy in the winter season in exchange for releasing needed water run-off for downstream countries’ agriculture during the vegetation period.

Abdullaev et al. (2020) divided the history of water management of Central Asia into three periods – (1) pre-historic times until the 1930s, (2) the Soviet hydraulic mission from the 1930s to the 1980s and (3) the post-Soviet period, emerging from the end of the 1980s to the present day. This paper focuses on the third period, where the newly independent states of Central Asia have undergone some transformation developments. Regardless of many attempts from donor agencies to assist the Kyrgyz Republic to transform from centralized decision-making to community-based water management since the mid of the 2000s, institutional reforms in the water sector are still an ongoing process. The study attempts to highlight the major problems of the water agencies in the Kyrgyz Republic and analyze the current water management discourse by exploring factors influencing the water sector performance in the Kyrgyz Republic. For the analysis of the present perceived problems in the water resource management of the Kyrgyz Republic, the paper addresses the following research question: What are the problems in water management in Kyrgyz Republic from the viewpoints of water experts?

2. Literature review

The operating regime of the basin’s largest reservoir, the Toktogul, is a fundamental problem for water management in the Syr Darya River Basin (Antipova et al. 2002; Sorg et al. 2014). Sorg et al. (2014) explain the current situation as “given the interconnected nature of the hydrological system, as well as the Soviet legacy in the definition of a common water
management paradigm, (...) water resource management in the region focuses on infrastructure projects, and pays less attention to increasing the adaptiveness of governance processes” (pp. 73, 75). A point of departure in this section of the research will be given to the explanation of the key steps that the riparian states have been taking since the early 1990s.

The Kyrgyz Republic, the upstream state in the basin with limited resources of oil and gas within its territory, started to change the irrigation mode of operation of the Toktogul Reservoir to electricity generation during winter seasons starting from the mid-1990s. This led to drastic fluctuations of the Naryn River (the main tributary in the Kyrgyz Republic to the Syr Darya River basin) with the release volume capacity during summer seasons dropping by 45% and in winter periods increasing by 55% (Moller 2005). As an effort to ‘cool off’ the resulting tensions in the region, USAID initiated the Long Term Framework Agreement “On the Use of Water and Energy Resources of the Syr Darya basin” in 1998 to provide a new mechanism of water and energy exchange (Bernauer & Siegried 2008; the World Bank 2004) for the Central Asian Republics (CARs). The 1998 Agreement signed by Kazakhstan, Kyrgyzstan, and Uzbekistan (Tajikistan signed it in 1999) aimed initially to negotiate an annual release schedule of the water stored in the Toktogul Reservoir as follows:

(i) Surplus electricity generated as a result of irrigation period releases shall be delivered to Uzbekistan and Kazakhstan;

(ii) Fuel deliveries from the downstream countries to Kyrgyzstan shall be guaranteed as a compensation for the foregone hydropower generation during non-vegetation time (Teasley & McKinney 2011).

However, due to the dry years in the early 2000s, the water level of the Toktogul Reservoir reached a critical threshold of 7.5 billion cubic meters in 2002 (in contrast to effective capacity volume of 14.5 billion cubic meters and total capacity volume of 19.5 BCM). This brought a series of tensions to the riparian countries. According to Subramanian et al. (2012), these unexpected multiyear hydrological fluctuations led the upstream country – Kyrgyz Republic – to increase water discharge during the cold winter season to generate more electricity. Despite the risks with regard to uncertainties over benefits, an alternative to the barter system for water and energy was not agreed upon among the member states. Dukhovny and Schutter (2011) confirmed that no commitments regarding the conditions for the delivery of water resources, according to the schedule established for the hydropower stations on the Naryn-Syr Darya Cascade between these upstream and downstream countries, were successfully completed.

The system of compensations (barter system) inherited from the Soviet times has not prevented the downstream countries, Uzbekistan and Kazakhstan, from raising the price of their fossil fuels. This led upstream countries, Kyrgyzstan and Tajikistan, to counteract the proposed barter system in favor of their position. In 2001, the then-President of the Kyrgyz Republic, Mr. A. Akaev, signed the Law “On Interstate Use of Water Units, Water Resources, and Water Facilities of the Kyrgyz Republic”. The Law was originally initiated to raise the issue over the right to ask for a monetary compensation from the riparian states, Kazakhstan
and Uzbekistan. The Kyrgyz Republic, as Usubaliev (2002) noted, would provide with a water discharge of 23 billion cubic meters per year from its reservoirs. According to Mamatkanov et al. (2006), the operation and maintenance works of the Toktogul Reservoir had resulted in a total loss of USD 154.9 million in 2002 including the loss that the Republic suffered because it could not generate the electricity for the amount of 2.2 billion kWt/h during the non-vegetation period.

Soliev (2014) stated that riparian states have “incentives to hide or exaggerate data to get more water [and] disincentives to increase efficiency as the other party will request to re-consider the shares to make the water supply levels equal” (p. 12). Dukhovny and Schutter (2011) proposed that the speculation over the water-energy issue between the riparian states could be avoided if all the sides were provided with incentives. For the Kyrgyz Republic, it could be the electricity at a reasonable price in winter from the downstream countries.

The Kyrgyz Republic has experienced a wide range of difficulties in the water sector since the demise of the Soviet Union. Sehring (2009) stated that the Department of Water Resources and Land Management under the Ministry of Agriculture and Melioration of the Kyrgyz Republic in 1999 received an annual budget allocation of about USD 5 million as contrast to USD 35 million in the early 1990s, which accounts for 85 percent decrease for water infrastructure maintenance in the Republic. For the Kyrgyz Republic, the failure to introduce a water pricing mechanism, in which farmers, industries, and households pay sufficient fees to maintain the ageing water infrastructure, has been the prime issue in the Republic for more than two decades to date. The current water resources in the Kyrgyz Republic are managed by four main different state organizations:

1) State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic;
2) State Inspection for Environmental and Technical Safety under the Government of the Kyrgyz Republic;
3) State Agency for Water Resources under the Government of Kyrgyz Republic (formerly – Department of Water Resources and Land Management under the Ministry of Agriculture and Melioration of the Kyrgyz Republic);
4) The Agency for Hydrometeorology under the Ministry for Emergency Situations of the Kyrgyz Republic.

According to Article 2 of the Water Code of the Kyrgyz Republic, the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic is the specially authorized state body for environmental protection. (Water Code, p. 2). The State Inspection for Environmental and Technical Safety under the Government of the Kyrgyz Republic is a government authority, which ensures public supervision and control in the area of environmental and technical safety (Central Asia Information Portal, n.d.).

The State Agency for Water Resources under the Government of the Kyrgyz Republic is a
governmental body, which ensures management, monitoring, and regulation of water resources and their use, irrigation and drainage infrastructure, and performs executive and coordinating functions for the implementation of the common public water policy (Central Asia Water Information Portal, n.d.).

The Agency for Hydrometeorology under the Ministry for Emergency Situations of the Kyrgyz Republic is the specially authorized state body involved in the development of information systems on water, monitoring of water resources and state water cadaster (Water Code, p. 2).

Sehring (2009) mentioned that “the objective of the administrative reform of the water management bodies is to improve the coordination and prevent inconsistencies by eliminating double functions and separating functions more clearly. (…) As these agencies are involved in the decision-making process, it proved difficult to come to a decision on reform”.

Each of these agencies has a right to vote in the National Water Council, under the supervision of the Prime Minister of the Kyrgyz Republic. The National Water Council is the state body established by the Government of the Kyrgyz Republic that coordinates all activities and policies in water resource management in the Kyrgyz Republic (Water Code, p. 3; Sehring, 2009, p. 123). However, the First Deputy Prime Minister of the Kyrgyz Republic, Mr. K. Boronov, stated that the participating agencies of the National Water Council have rarely had a gathering since the inception of its functioning (Akipress news agency 2018).

The Government of the Kyrgyz Republic in its press release after the meeting with the World Bank Office in the Kyrgyz Republic and Embassy of Switzerland to the Kyrgyz Republic on June 2018 identified two major problems in water resource management:

(i) No active involvement of the National Water Council in water resource management issues.

(ii) No water use permit, water pricing mechanism, and special state funding for water resource management in the Republic have been granted [from the Parliament of the Kyrgyz Republic] (Akipress news agency 2018).

Regarding the first problem, Article 9 of the Water Code of the Kyrgyz Republic states that the National Water Council is the main body established by the Government of the Kyrgyz Republic to “coordinate the activities of ministries, administrative agencies, and other state bodies concerning the management of water resources, their use and protection” (the Water Code, n.d.). The Water Code (Article 9) stipulates that the National Water Council should meet at least once per year. As of today, it, however, has met only three times – in 2006, 2013, and 2018.

The specificity of the Naryn-Syr Darya River Basin water management issue is mainly based on its complex and interdependent system of the operating regime (irrigation vs. electricity production) introduced during the Soviet era. After gaining their independence from the USSR, the Central Asian republics (CARs) re-shaped their national policies toward pursuing market-oriented goals such as maximizing economic returns. Dukhovny and Schutter (2011) have noted that the present operation of the Toktogul Reservoir in the Kyrgyz Republic and
the overall water resource management of the Syr Darya River Basin is mainly focused on short-term energy needs without any long-term planning. Pak (2014) supported this statement by pointing out that the problem of the Naryn-Syr Darya River is not of institutional origin, but of ‘political will’ of the member states to come up with a shared vision to prepare a long-term planning for the future outcome of the basin. She has then re-invigorated the historical study of water management discourse by analyzing the Soviet basin planning processes both at the high and low policy levels. The crucial part of her study provided us with an understanding of how the newly independent states of Central Asia have institutionally recreated the Soviet basin planning without proper water governance: vision, strategy, implementation and assessment. Pak (2014) concluded that these states have contradicting national water policies, which impede the establishment of a basin-wide water policy vision according to the contemporary needs of the riparian states. Abdullaev et al. (2019) stated that the land reforms emerged in the mid-1990s in the Kyrgyz Republic have resulted in the formation of previously collective irrigated areas into many smaller units, which are used by commercial farmers. Water management and governance have since been decentralized and the main responsibilities for water use and infrastructure maintenance works have been transferred to water users associations. The so-called de-collectivization process in the Kyrgyz Republic has caused a massive fragmentation of responsibilities in water use, management, and infrastructure maintenance all over the country.

3. Data and methods

This study relies on a qualitative method of analysis, using both primary and secondary sources of data. As the study investigates to what extent the Soviet past legacy influences the current water management systems and practices, Sehring’s model of perceived problems helps us to identify how much the institutional capabilities of the responsible water agencies impact the water sector’s performance. The most critical point in this investigation is to identify which problems influence water management the most, and which one less. Sehring (2009) identified understanding the expert perceptions of problems in water management as a suitable way to present international water policy issues and to animate public debates and domestic reform processes. Following Sehring’s model, this research proposes to divide the area of perceived problems in the following three categories:

1) Technical, financial, and human resources capacities;
2) Intra-state institutional factors;
3) International collaboration and coordination.

These three blocks are the slightly modified version of Sehring’s categories. It is argued that through modification they can be a good conceptual basis to identify the problems perceived by Kyrgyz water experts. Sehring’s “Technical, financial, and human resource capacities” category has undergone no change in its name. However, two of its constituents, “Technical infrastructure” and “Lack of finance”, are merged into “Poor technical infrastructure due to lack of finance”. The “Institutional factors” category takes the modified name in this research.
as “Intra-state institutional factors” since the block focuses on institutional factors within the Kyrgyz Republic. Two of its original constituents, “Inadequacy of water law” and “Level of awareness” are not adopted as they are considered irrelevant to the current Kyrgyz water governance. Sehring’s final category “Other” is renamed as “International collaboration and coordination”. Originally this block consists of four issues including “Interstate water regulation”, “Policies of international donor agencies”, “Rational water use”, and “Water quality”. Only the first two are adopted in this study for their critical relevance to inter-state collaboration and coordination. Hence, the name has also been altered as such. Data collection procedures in this qualitative research study involved two basic types of gathering information – (a) in-depth interviews and (b) document analysis. The in-depth interviews included face-to-face interviews to gather ideas and opinions from those who may have knowledge of the matters under investigation. The participants who agreed to join the interviews have provided in-depth knowledge for the study. The analysis of documents consisted of written documents such as news websites, official state reports, academic journals and archival letters.

The collected data are divided into primary and secondary data. The primary data include semi-structured interviews conducted during a field study in the Kyrgyz Republic in August-September 2018. The semi-structured interviews were conducted with government officials, researchers and independent experts, and specialists working in an academic sphere. Regarding the interview process, a roster of participants engaged in policy design and implementation for the water-energy sector in the Kyrgyz Republic (see Table I), was prepared according to their work responsibilities in the water management sector, four other individuals (included two university professors, a senior researcher from a research institution, and a specialist from a donor-sponsored project).

Table I. List of agencies and expert interviewees.

<table>
<thead>
<tr>
<th>Name of organization</th>
<th>Type of organization</th>
<th>Position of the experts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Water Resources and Land Management under the Ministry of Agriculture and Melioration of the Kyrgyz Republic</td>
<td>State run</td>
<td>Head of Water Resources, Water Use and Interstate Water Division Unit</td>
<td>D1</td>
</tr>
<tr>
<td>Open Joint Stock Company “Electric stations”</td>
<td>Mainly state run</td>
<td>Deputy head of the Hydro-technical Service Unit</td>
<td>D2</td>
</tr>
<tr>
<td>Institute of Water Problems and Hydropower, Academy of Sciences of the Kyrgyz Republic</td>
<td>Research institute</td>
<td>Senior Researcher</td>
<td>D4</td>
</tr>
<tr>
<td>The Academy of Management under the</td>
<td>Public</td>
<td>Professor</td>
<td>P1</td>
</tr>
</tbody>
</table>
The secondary data were collected from newspapers, journal articles, necessary statistical data, and archival documents from the Central State Archive Service of the Kyrgyz Republic, as well as the Central State Archive of Social and Political Documentation of the Kyrgyz Republic. Moreover, to ensure reliability and unbiased information with regards to primary data collection, some secondary historical data and statistics (i.e., construction of the Toktogul Hydro Power Station) in water infrastructure were retrieved from the Kyrgyz State Library.

4. Interview results

Based on the information collected during the interviews, a number of important views and ideas were identified to arrange a thematic coding system. One of the initial steps taken was to identify into which classification these data would be interpreted and analyzed. Fifty seven codes were formed by their categorized affiliation toward the problems raised during the interviews.

These codes were then sorted out by their frequency of mentioning from the interviewees and were chosen by the author as important data for the analysis. However, the challenging task was to arrange these codes into measurable indicators, in order to better understand to which extent the problems still exist in the water sector in the Kyrgyz Republic. For this purpose, the retrieved data were then compiled in a classification based on Sehring’s model of perceived problems (Sehring 2009). The three major components following Sehring’s model of perceived problems in water management, indicated in Table II, show the following results:

**Table II. Model of perceived problems in water management.**

<table>
<thead>
<tr>
<th>Technical, financial, and human resource capacities</th>
<th>Intra-state institutional factors</th>
<th>International collaboration and coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor technical infrastructure due to lack of finance</td>
<td>Administrative fragmentation</td>
<td>Interstate water regulation</td>
</tr>
<tr>
<td>2 (67%)</td>
<td>4 (57%)</td>
<td>7 (64%)</td>
</tr>
</tbody>
</table>
The analysis of the interview results based on the main codes collected by the author shows that most of the problems mentioned during the interviews were intertwined with domestic management and regional cooperation with riparian states in the Naryn-Syr Darya River Basin. Of these, interstate water regulation, policies of international donors, and administrative fragmentation are the most frequently mentioned problems by the interviewees.

### 4.1. Intra-state institutional factors

This block, indicated by the two university professors, state agency officials, and one senior researcher at a state research institution, makes up 33 percent by highlighting the water pricing in the Kyrgyz Republic as one of the most challenging issues in this section. This situation is interpreted in the ‘Socio-economic environment’ component based on the fact that domestic water users are not charged for water use for each cubic meter consumption. This indication, however, must be analyzed in order to reveal why it poses such a big problem for the water sector in the Kyrgyz Republic. D4 stated that the republic could earn a profit of 1.5 billion (nearly USD 21.5 million) Kyrgyz ‘soms’ per year, domestically, if a water pricing mechanism were to be introduced.

“I would suggest charging [users] for the water use in the Kyrgyz Republic at three Kyrgyz cents per cubic meter of water. This would bring to the republic’s budget a total revenue of 1.5 billion Kyrgyz soms each year. This would be enough to cover all the expenses spent on the republic’s water infrastructure use, as well as on making the neighboring states pay for water use.” (D4).

He concluded that the price for water usage proposed by the Kyrgyz water users associations (WUAs) is in reality not a water usage fee paid by farmers, industrial and individual household users, but a payment for the delivery and maintenance works only done by WUAs or vodokanals (municipal water departments).

The water resources management in the Kyrgyz Republic is horizontally fragmented and it has a very low capacity in working with local communities.
The ‘Administrative fragmentation’ component is mainly interpreted by a lack of a unified or central coordinating body over the water resources management. This is the second most frequently mentioned problem indicated in the “Intra-state institutional factors” classification. Representatives from the academic institutions and the state agencies mentioned that the Kyrgyz Republic had not yet built a system which would unite tasks and functions of the many fragmented state agencies responsible for consolidating water management into a central coordinating body. P1 mentioned that there should be a special representative of the government for water and energy appointed to represent the national interests of the Government of the Kyrgyz Republic in any negotiation process. Therefore, nomination of an official representative from a respective riparian state during negotiation talks on water related issues is not always an easy task to carry out. One of the challenges raised by several water specialists in the interviews is the frequent change and turnover of senior management officials. Furthermore, Article 11 of the Water Code of the Kyrgyz Republic (Central Asia Water Info Portal, n.d.) stipulates that the State Water Administration shall be established by the National Water Council to perform water resources management and implement under the direct coordination of the Government of the Kyrgyz Republic irrigation, drainage and other water economy activities.

“Unification of competences and responsibilities of inter-governmental agencies is needed. We do not have a single organ over water management resources, groundwater, surface water, glaciers, and lakes. The water resource management is [represented by many state organizations.]” (P1).

However, D4 pointed out that the Government of the Kyrgyz Republic had not yet prepared for the establishment of the State Water Administration to be approved by the President of the Kyrgyz Republic. The solution to this problem lies in the field of effective inter-agency communication in the water sector. It is possible only in the case of a consolidated, smart management system. D4 has stated that a unified or central coordinating body as an arm of the State Water Administration needs to be established to consolidate the management with permanent responsibility tasks. Hence, the strong coordinating state body such as a State Water Administration is necessary. This governmental unit will be responsible for designing and implementing an effective strategy of the water policy and water law implementation.

‘Lack of political strategy’ is the third and the fourth issues in the ‘Intra-state institutional factors’ columns, respectively. Sehring (2009) has identified a lack of national strategy for water resource management as a major problem in the Kyrgyz Republic. These are raised for interagency communication in the water sector to create a strong coordinating state body (i.e., State Water Administration), which could be responsible for designing and implementing an effective political strategy. The State Water Administration guaranteed by the Water Code of the Kyrgyz Republic has not been functioning yet to execute the water policy and water law implementation to its fullest capacity (D4).

“We still have no water policy ideology in place given that no water-energy strategy has been
developed and adopted by the Government yet. Our senior state managers have not been actively involved in water resource management issues yet. There is no strategic ideology or concept in place for protecting the national interest in water-energy development program in our country.” (D4).

The inconsistency of national policies/strategies with regional agreements and the absence of the regional basin plan implementation and assessment activities may refer to the discourse, which could be “based on the premise that each [riparian] state decides for itself whether to give up or limit some of its sovereign rights by entering into agreements with other states” (Leb, 2013, pp. 22-23). Formulation, interpretation and execution of legal regimes within the water management agencies in the Kyrgyz Republic may rest on past records such bilateral and multilateral agreements and negotiations. Such legal regimes could in turn affect the existing institutional frameworks.

4.2. International collaboration and coordination

The ‘International collaboration and coordination’ class suggests that ‘Interstate water regulation’ is the most prominent problem. It summarizes how interstate water regulation in the Syr-Darya River catchment plays an important role and how crucial it is to form a new interstate water agreement with all the riparian states taking into consideration new challenges and perspectives. Riparian states, after signing two treaties - the Almaty Treaty on “Cooperation in the Field of Joint Management on Utilization and Protection of Water Resources” in 1992 and ‘On the Use of Water and Energy Resources of the Syr Darya river catchment’ in 1998 - still have ongoing conflicts of interest and unresolved interstate water regulation issues. Four interviewees (P1, D2, S1, and S2) mentioned that these agreements needed to be revised and two other interviewees stressed the need for adopting a new interstate framework agreement by taking into account all the national interests of the riparian states.

The second important problem in the ‘International collaboration and coordination’ class is the ‘Policies of international donor agencies’. Dukhovny and Schutter (2011) stated that the donor organizations have developed good facilitation efforts to train local specialists to adopt advanced practices and technologies in maintaining a sustainable functioning of the water sector in the region. The Kyrgyz Republic, with the help of international donor agencies, introduced the Water Code of the Kyrgyz Republic in 2005 to establish principles for the management of water resources and identify the base of the state water policy (Article 2 of the Water Code of the Kyrgyz Republic). However, Dukhonvy and Schutter (2011) argued that some donor groups used the support for their own benefit. Nearly 70-80 percent of donor assistance flew back to the donor nations through payments to their own consultants and the purchase of equipment. P2 mentioned during the interview that donor agencies’ water specialists or consultants are mostly hired on a short-term basis and that some of them do not have sufficient skills in working with water related projects.
4.3. Technical, financial and human resource capacities

The third frequently mentioned problem is ‘Technical, financial and human resource capacities’. A sharp decrease in budget allocations has led to ‘Poor technical infrastructure’ in the water sector these days. D4 stated that the problem with poor budget allocations in the Kyrgyz Republic is related to the unwillingness of water users to pay a sufficient amount for water to maintain the water infrastructure (canals, pumping stations, drainage systems, and reservoirs) built in the 1950-1970s.

D4 said that this problem has been an unpopular issue for top government officials to bring up, as most of the water users are not physically capable of paying for the water they use and would not be doing so in the near future unless a convincing explanation for this dilemma is provided by the Department of Water Management.

The second major issue in this bloc is the ‘Attraction of human resources’ to the water sector. Due to low salaries paid by the Ministry of Agriculture and Melioration of the Kyrgyz Republic, the number of young professionals willing to work for the water sector is very low. D4 confirmed that the low salaries in the water management sector is the result of insufficient financial resources from the state budget, which needs to be generated from the income extracted from the water use payment.

The summary of this column identifies two major elements of poor technical infrastructure: (1) limited state funding, and (2) insufficiently qualified staff due to the lack of career incentives to attract professionals toward the water sector.

5. Discussion and conclusion

This study contributes to the literature on the water resource management in the Kyrgyz Republic. Based on the research findings from the semi-structured interviews and secondary sources, this study has shown how challenging the water management issues for policymakers in the Kyrgyz Republic are. Despite the sizable scale of investment poured into the infrastructure development and the capacity-building in the water sector since the 1990s, there are yet significant problems for the Republic. The results of the finding identified interstate water regulation, administrative fragmentation, absence of water pricing mechanism, and poor technical infrastructure as the major problems that the Kyrgyz Republic has to tackle in order to avoid challenges in the water sector. The interviews highlighted the perceptions of water experts that domestic water users would not see the need to pay for water use as the Kyrgyz Republic has abundance of water resource in its territory. The study has revealed how strategic decisions taken in the past may affect the current arrangements developed in the water sector in the Kyrgyz Republic. It would be in the Kyrgyz Government’s best interest to provide all possible means and options for the mid- and long-term development of knowledge acquisition for sustainable water resource management. The institutional capabilities of state water agencies of the Kyrgyz Republic could be strengthened if the stakeholders are technically and financially well supported by the Government of the Kyrgyz Republic. Attraction of human resources to the water sector is another major problem that the Republic is now facing. Due to
low salaries paid by the Ministry of Agriculture and Melioration of the Kyrgyz Republic, the number of young professional willing to work for the water sector is becoming very low.

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