

**INTERNATIONAL WATER RESOURCE MANAGEMENT
COOPERATION IN CENTRAL ASIA**

By

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Abstract

Since the collapse of the Soviet Union with its centralized unified system of allocation of water quotas, Central Asia has become the region of conflicts related to distribution and management of water resources. Growing demand and declining supply along with rising nationalism and competition between five Central Asian states have deteriorated a possibility for finding a regional approach to replace the Soviet system of water management. This study seeks to examine why Central Asian states (Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan) find it difficult to cooperate in the sphere of water resource regulation. It will also explore factors why regional institutions and agreements have not been successful in the Central Asian context. In conclusion, some policy recommendations for improving water management in the region are suggested.

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Introduction

Water is the central resource, which is scarce and cannot be replaced by anything. Definition of transboundary waters according to Helsinki Convention of the United Nations is “any surface or ground waters which mark, cross or are located on boundaries between two or more States; wherever transboundary waters flow directly into the sea, these transboundary waters end at a straight line across their respective mouths between points on the low-water line of their banks”. Water is unusable in many countries and massive investments will be necessary.¹ In general, increasing demand and declining supplies of water have hampered water cooperation between states.

Water is an important, critical and limited resource in Central Asia. The post-Soviet states of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan cover a large area and home for roughly 60 million people. Two main rivers are the source of fresh water, which come from mountain ranges of Pamir and Tien Shan, in the Eastern part of Central Asia.

A landlocked territory of Central Asia has arid climate zone, making agriculture only through irrigation. Refined irrigation system that provided water for millions of hectares was present nearly 3500 years ago in the “Mesopotamia”² of Central Asia. Since the Soviet rule, new irrigation system has been imposed in order to cultivate cotton on a larger scale. With the collapse of the Soviet Union in 1991, “Central Asian republics were not prepared for independence, which suddenly came

¹ Libor Jansky and Juha I. Uitto, “*Enhancing participation and governance in water resources management: Conventional approaches and information technology*”, (United Nations University Press), p. 21

² An ancient region in Asia between the Tigris and Euphrates rivers: now part of Iraq

to the region. Since local administrations were not equipped with each necessary fiscal, military, political, or economic framework”³ with dealing with each other, the two major challenges arose related to water in Central Asia. First, given the predominantly agricultural economy of Central Asian states and consequent problems,⁴ water management is not only a matter of domestic concern but it also acquired consideration on international level. Second, unresolved disputes over the transboundary waters create obstacles to efficient political and economic dialogue among Central Asian states. Dependence of economies of Central Asian states on agriculture make these states highly dependent on significant amount of water from upstream countries for irrigation. However, upstream states use their water not only for irrigation but also for hydroelectricity that brings to the conflict situation between upstream and downstream states. Upstream Kyrgyzstan discharged a significant amount of water from the largest Toktogul reservoir flooding downstream neighbors Uzbekistan and Kazakhstan and creating shortages of water for irrigation during summer season. The reason is a shortage of water during irrigation season and floods that in turn result in land and crop devastation, soil salinization and damages to property of people. Moreover, there is “one of the world’s greatest human-induced ecological disasters: the desiccation of the Aral Sea in Central Asia”. Uzbekistan and Kazakhstan prefer to retain their earlier-won positions, i.e. to extend the previous conditions of quotas for the near future. Kyrgyzstan and Tajikistan take each

³ Pinar Akcali, “*Nation-State Building in Central Asia: a Lost Case?*” in *Central Asia in Global Politics: Conflict, Security, and Development*, ed. Amineh, Mehdi Parvizi and Henk Houweling. (Leiden: Koninklijke Brill, 2004), p. 96

⁴ Sébastien Peyrouse, “*The Multiple Paradoxes of the Agriculture Issue in Central Asia*”, (EUCAM, ISBN 13: 978-92-9079-934-4, 2009), p.4

opportunity to stress their striving for a complete recalculation of quotas, of course, in favor of their countries.⁵

Following that, the research question of this thesis paper is why Central Asian states (Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan) find it difficult to cooperate in the sphere of water resource regulation. In addition, the reasons why regional institutions and agreements have not been successful in the Central Asian case will be analyzed. This thesis paper argues that unfriendly political relations of four states (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan), weak institutional capacity and ineffective agreements provide the ground for non-cooperation in transboundary water management. In particular, I will try to prove my hypothesis in three parts. The first chapter is the leading guide to the understanding of the theoretical background of water resource as a good. Two case studies are introduced to demonstrate comparison of factors which led either to cooperation or conflict. The second chapter analyzes the political relations between Central Asian national leaders. It concludes that, political will of presidents to cooperate is an essential part for international water management. The final part discusses factors why regional institutions and agreements have been ineffective. In conclusion, policy implications to improve water resource management in the Syr Darya basin are suggested.

⁵ Pinar Akcali, “*Nation-State Building in Central Asia: a Lost Case?*” in *Central Asia in Global Politics: Conflict, Security, and Development*, ed. Amineh, Mehdi Parvizi and Henk Houweling. (Leiden: Koninklijke Brill, 2004), p. 97

Chapter I: Theoretical Framework

There are several ranges in understanding water management cooperation on transboundary rivers. Such as game theory, interdependency, rights, and externalities. Water may be understood in political, economic, and social sense., Garret J.Hardin in his “*Tragedy of the Commons*” states that water has increasingly been perceived as a global common, thus starting a debate over the need for collective action in order to avoid a so-called “tragedy of the commons”, in which individuals, acting independently and rationally according to each one's self-interest, behave contrary to the whole group's long-term best interests by depleting some common resource.⁶ Thus, transboundary rivers in Fergana valley owned by three states could be as such. Barry B. Hughes, *Continuity and change in World Politics: Competing Perspectives*, also states that an idea of collective good that is any kind of good (issue) which requires collective action of states.⁷ Furthermore, David Leo Weimer, *Policy Analysis: Concepts and Practice*, brings up the same idea that International water is a common property resource, which means non-excludable ownership and rivalrous consumption – one riparian state cannot deny access of the other riparian state to this good, because they both share this water and do not have ‘full control over use of the good but want to secure it only to themselves because what one consumes cannot be consumed by another.’⁸ Exploitation of common good in a wrong way leads to the mismanagement of good. It assumes that one side (downstream state) has a negative external disambiguation on another side (upstream state). Upstream and downstream states may have both negative and positive

⁶ Garret J.Hardin, *Tragedy of the Commons*, Science, New Series, Vol. 162, No. 3859 (Dec. 13, 1968), pp. 1243-1248

⁷ Barry B. Hughes, *Continuity and change in World Politics: Competing Perspectives* (Upper Saddle River: Prentice Hall, 1996), p. 166

⁸ David Leo Weimer, *Policy Analysis: Concepts and Practice* (Upper Saddle River: prentice Hall, 1998), p.75

externalities. Phillips concludes that conflicts over water resource emerge when ‘riparian states feel constrained in the ability to realize their national goals and objectives, generally as a result of one or more co-riparians unilaterally using the resource. This analysis fits the Central Asian case.

States resort to water rights when deciding who is entitled to what amount of water. Jan Lundqvist distinguishes two types of rights related to water: first, human right to water, and second, formal water rights. The first type of right considers the basic principle of meeting human need for water, while the second one is a complex of formal water rights that involve economic, political and environmental obligations on the part of all stakeholders, including states, consumers, business and civil society.⁹ Peter H. Gleick shares the same view, indicating that rights must be always followed by obligations. “A right to water can not imply a right to an unlimited amount of water. Resource limitations, ecological constraints, and economic and political factors limit water availability and human use.”¹⁰ A right to water should be guaranteed for every citizen of the state. If the state fails to securitize itself with water, then whole population suffers from shortage. Therefore, national water rights must be respected, followed and defined. Aysegul Kibaroglu and Olcay Unver suggest another set of rights that riparian states demand depending on their national interests: first, acquired water rights that are based on historical use of water basin by some nation and, second, needs-based rights, under

⁹ Jan Lundqvist, “*Rules and Roles in Water Policy and Management*,” SIWI/IWRA Seminar “Towards Upstream/Downstream Hydrosolidarity”, Stockholm International Water Institute (August 2000), http://www.siwi.org/documents/Resources/Reports/Report8_Water_Security_for_Multinational_Water_Systems_2000.pdf

¹⁰ Peter H. Gleick, “*The Human Right to Water*”, SIWI/IWRA Seminar “Towards Upstream/Downstream Hydrosolidarity”, Stockholm International Water Institute (August 2000), http://www.siwi.org/documents/Resources/Reports/Report8_Water_Security_for_Multinational_Water_Systems_2000.pdf

which water should be given to a nation according to its needs.¹¹ Water distribution among Central Asian states is based on acquired water rights because these states still follow the old Soviet scheme of allocation of hydro resources. In fact, it is the downstream states which require water distribution that is based on historical practice as it gives them the largest portion of water. To the contrary, upstream states insist on their needs-based rights, to increase the use of their own water.

Cooperation is a key for riparian states to have water rights equally provided on international level. LeMarquand identifies influencing variables for cooperative politics within basins: hydrological, economic, foreign policy dimensions, domestic politics. Since cooperation is, as Garry J. Miller puts it, a repeated social dilemma, water cooperation can be described through the theory of repeated games that says that “in a game that is likely to be repeated enough times, it is better to cooperate if one’s opponent is cooperating”.¹² North agrees: “cooperation is difficult to sustain when the game is not repeated (or there is an end game)”.¹³ Therefore, it may be concluded that if two conditions (first, if parties stand for long-term relationships, otherwise the short-run incentive to cheat in a social dilemma) will overrun the long term gains in the future; second, there is a common knowledge that each party plans to cooperate and knows that the other party is also cooperative.¹⁴ The folk theorem in game theory suggests that in repeated games

¹¹ Aysegul Kibaroglu and Olcay Unver, “An Institutional framework for Facilitating Cooperation in the Euphrates-Tigris River Basin,” http://www.gap.metu.edu.tr/html/yayinlar/an_institutional_framework_AKibaroglu.pdf (Accessed February 02, 2014)

¹² Garry J. Miller, *Managerial Dilemmas: the Political Economy of Hierarchy* (Cambridge: Cambridge University press, 1992), p.185

¹³ Douglass C. North, *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University press, 1990)p. 12

¹⁴ Garry J. Miller, *Managerial Dilemmas: the Political Economy of Hierarchy* (Cambridge: Cambridge University press, 1992), p.186-187

cooperation is “not the only outcome”.¹⁵ A number of possible results may be derived from the rational actors of the game. These outcomes range from cooperation to non-cooperation. In order to reach their interests, two sides of the game need to do “equilibrium refinement”. It is trying to narrow down the wide range of possible outcomes considering all independent variables,¹⁶ economic, social, political and environmental changes.

Neo-realists strongly believe that the world is full of mistrust and constant security competition. As little change was made since the pot-cold war period, Waltz and Mearsheimer state that cooperation can occur but it is difficult to achieve. The reason that states cannot agree on common goals is the problem of cheating. They fear that others will cheat on agreements and attempt to gain advantages.¹⁷ A sense of confidence to each other has been damaged throughout the history among Central Asian leaders.

Thomas R. Dye notes that the idea of “game” implies that state governments make choices that are interdependent. “Players must adjust their conduct to reflect not only their own desires and abilities but also their expectations about what others will do”.¹⁸ Throughout the time, riparian states have shaped their national interest, which guides their behavior. Although upstream states have natural advantage over downstream neighbors, they don’t necessarily have leverage over the

¹⁵ Ibid, pp.199-200

Additional information on Folk theorem from this book: “Even when the conditions for cooperation are fulfilled, cooperation is not a unique, determinate outcome of long-term social interaction. The folk theorem proves that [...] there are an infinite number of outcomes that are sustainable as long-run equilibria by rational, self-interested actors. [...] This means that anything from mutually cooperative, to mutually non-cooperative, to one-sided exploitative outcomes can be sustained by rational actors playing the same repeated game.”

¹⁶ Ibid, p.202

¹⁷ Glenn H. Snyder, *“Mearsheimer’s World—Offensive Realism and the Struggle for Security”*, (W.W. Norton, 2001, p. 151

¹⁸ Thomas R. Dye, *Understanding Public Policy* (Upper Saddle River: Prentice Hall, 2002), p.27

use and distribution of water. Moellencamp is convinced that the final say on water distribution depends on “geographical location of a state”.¹⁹ It implies that if the economic and political situation of the downstream state is better, that it has the power to impose its water interests. Since the power is naturally asymmetric, according to Basu,²⁰ it involves degree of influence – the bigger is asymmetry, the higher is influence over the state.

Homer-Dixon comes to conclusion that “the renewable resource most likely to stimulate interstate resource was is water”. According to Moellencamp, besides sharing international river basin, neighboring states also share wide range of other relations. Thus, it is important to note that any changes in social and economic, and political situation impact water cooperation. Other factors such as international legislative framework, lack of supranational authority, environmental issues may also prevent cooperation. Philips Micklin proposes that conflicts over water resources emerge when “riparian states feel constrained in their ability to realize their national goals and objectives, generally as a result of one or more co-riparian’s unilaterally using the resource”.

There is a growing literature suggesting that conflicts around water resources will increase dramatically in the years to come and may even lead to war.²¹ However, while undoubtedly resource scarcity has motivated wars, historical or

¹⁹ Sabine Moellencamp, “*The WFD-effect*” on Upstream –Downstream Relations in International river Basins – Insights from the Rhine and the Elbe Basins,” *Hydrology and Earth System Sciences*, no.4 (June 2007): 1410

<http://www.hydrol-earth-syst-sci-discuss.net/4/1407/2007/hessd-4-1407-2007.pdf>

²⁰ Kaushik Basu, *Prelude to Political Economy: a Study of the Social and Political Foundations of Economics* (New York: Oxford University Press, 2000), pp.132-136

²¹ Renner, M., “*Fighting for survival: Environmental Decline, Social Conflict, and the Age of Insecurity*”, (Norton, NY, 1996), p. 30

contemporary evidence does not support the notion that major wars have been fought over water resources.²²

Waterbury John, being more suspicious about the possibility of voluntary cooperation between co-riparians in international river basins, suggests that some ‘modest steps starting at the national level can nevertheless be attempted such as water pricing, misdistribution and technological innovation aimed at the achievement of more efficient water users. At the same time, creation of joint independent monitoring and assessment units can help to ‘monitor the process of harmonization of regulatory regimes within riparian states and the actual application of such rules. Despite the abundance of water in the region, misdistribution is a danger that may cause ‘water wars’. Jeremy Allouche suggests, “Water conflict in Central Asia is not a crisis of quantity but of distribution”.²³ It is logical to state that inefficient use of water can also become an instrument for military conflict between four states. Therefore, Central Asian states must recognize the need for sustainable cooperation and seek long-term mutual benefits rather than one-sided relative gains.

²² Homer-Dixon, “*The myth of global water wars forum international committee of the Red Cross*”, (Geneva, 1999), pp.10-13

²³ Jeremy Allouche, “*Water Nationalism: an Explanation of Past and Present Conflicts in central Asia, the Middle East and The Indian Subcontinent?*” (PhD diss., University of Geneva, 2005), p.151

http://www.transboundarywaters.orst.edu/publications/abst_docs/related_research/allouche2005.pdf

Case of Euphrates and Tigris

Case of Euphrates and Tigris rivers in the Middle East, shared by Turkey, Syria and Iraq is similar in the problem of water cooperation to the Naryn River in Central Asia, which is shared by Kyrgyzstan, Kazakhstan and Uzbekistan. Riparian states Turkey, Iraq and Syria managed to come for a successful cooperation despite hostility in water relations. These two rivers are essential for the population of the Middle East. Economic projects located along the basins were preconditions for similarities between Euphrates-Tigris basin and the Naryn basin. Kyrgyzstan and Turkey (upstream states) gave most of water to Kazakhstan, Uzbekistan, Syria and Iraq (downstream states). A number of projects were developed to regulate the flows by Turkey and Syria, which would reduce the water flow to Iraq and Syria. This was one of the main reasons why conflicts over water distribution escalated at some points to political and military threats.²⁴

Such authors as Olcay Unver (President of the Administration of the Southern Anatolia Project), Aysegul Kibaroglu (part-time lecturer at the Middle East Technical University), Waltina Scheumann, Mehmet Kucukmehmetoglu, Bulent Topkaya, Ibrahim Kaya and others studied water cooperation on the Euphrates-Tigris basin.

There was an evolution of transboundary water relations between Turkey, Syria and Iraq over four consecutive periods. The first period was nation building in the region, when the riparian states focused on their domestic need for socioeconomic development. The second period coincided with competitive

²⁴ Ibrahim kaya, "*The Euphrates-Tigris basin: An overview and opportunities for Cooperation under International law*," <http://ag.arizona.edu/oals/ALN/aln44/kaya.html> (Accessed on March 2, 2014)

transboundary water politics shaped by large-scale water projects. During the third period, there was a connection between transboundary water issues and nonriparian security issues. Moreover, in the fourth one, even though Turkey, Syria and Iraq were involved in “water war”, the role of water bureaucracies in the reorientation of water for cooperation has been formed. These states share the Euphrates and Tigris rivers which originate in Turkey, flow through Syria and when reach Iraq merge in Shatt-al-Arab, after which rivers discharge into Persian Gulf.²⁵ In 1946, three states signed Treaty of Friendship and Good Neighborly Relations that became the beginning of the international legal framework. Until 1960s states did not have problem of water distribution and environmental externalities – the quantity and quality of water provided by the Euphrates, 90 % of which originates in Turkey,²⁶ and the Tigris, 51 % of which flows from Turkey,²⁷ was more than enough for the region.

However, in August of 2001, Syria and Turkey agreed on a protocol of cooperation for Turkey’s GAP and Syria’s corresponding GOLD (General Organization for Land Development) projects that arose tensions. Each side blamed the other for non-observance of international norms, bilateral agreements, lack of cooperativeness and simply non-recognition of historical rights and needs for water.²⁸ Two major crisis points in history of relations between Turkey, Syria and

²⁵ Ibid

²⁶ George E.Gruen, “*Turkish Water Exports: a model for regional Cooperation in the Development of Water resources,*” http://link.springer.com/chapter/10.1007/978-3-540-69509-7_15 (Accessed on March, 2014)

²⁷ Ibrahim kaya, “*The Euphrates-Tigris basin: An overview and opportunities for Cooperation under International law,*” <http://ag.arizona.edu/oals/ALN/aln44/kaya.html> (Accessed on March 2, 2014)

²⁸ Historical or acquired water rights approach is imposed by downstream states: Syria, Iraq on Turkey, whereas, turkey has been insisting on needs-based approach in water allocation that implies: (1) equitable right to water, (2) obligation not to cause significant harm (McCaffrey, 1991)

Iraq are Turkish Keban and Syrian Tabqa projects on construction of dams on the Euphrates River (1960-70s) and Turkish Ataturk dam (1990s). Unlike Ataturk – “the centerpiece of Southeastern Development Project of Turkey”²⁹, Keban is an example of participation of all riparian states in decision-making over local issue of regional importance. That is Turkey recognized Iraqi and Syrian interests in the Euphrates River and considered their proposals under the project because Keban is “an integral element of the overall Euphrates development scheme.”³⁰ This dam was constructed for generation of electricity, and would not change water balance in the basin. The dam increased water shortage capabilities of these states by ensuring the regulation of variance in the flow of approximately 70 % of the water of Euphrates.³¹ However, Syria and Iraq claimed for guaranteed exact flows to be released by upstream state during the damming up period. All the sides agreed on the project that would not change existing amount of water flow. The project commenced in 1966 and was completed in 1974. Third parties played a great role in making the trilateral cooperation happen. During the whole construction decade, Turkey, Syria and Iraq had gone through a number of negotiations with the third-party involvement: donor agency USAID (financed construction and demanded recognition of water rights of downstream state and coordination of construction activities of Turkey with Syria and Iraq) and government of Saudi Arabia and allegedly Soviet Union mediated larger stakes from Syria to Iraq.³²

²⁹ Aysegul Kibaroglu and Olcay Unver, “*An Institutional framework for Facilitating Cooperation in the Euphrates-Tigris River Basin,*” http://www.gap.metu.edu.tr/html/yayinlar/an_institutional_framework_AKibaroglu.pdf(Accessed on March 2, 2014)

³⁰ Ibid

³¹ Ibid

³² Ibrahim kaya, “*The Euphrates-Tigris basin: An overview and opportunities for Cooperation under International Law,*” <http://ag.arizona.edu/oals/ALN/aln44/kaya.html> (Accessed on March 2, 2014)

Turkish Keban development Project demonstrates the water problem as a lack of cooperation in management and distribution of water. It illustrates obstacles that states with relative equality in power and capabilities face when sharing water that is considered to be transboundary but not international.³³ Allouche suggests that water crisis or conflict can be prevented through “de-territorialization” of water issues.³⁴ It implies that effective transboundary water management is achieved through involving all stakeholders in decision-making, including third parties. Under the surface of successful negotiations between three states, there were serious tensions such as military threats to bomb the dam and high possibility of armed conflict when “countries moved troops towards their common border.”³⁵ As I have mentioned above, not only water issues, but also political and economic situation of states effect on cooperation in utilization of water resources. With the start of new projects, states also began moving to a new phase of water relations. Having no one supranational joint body and international legal framework that would regulate and allocate water has led to the dead-end of conflict unless the interference of third party.

Inability to agree on water rights has brought problems in distribution of transboundary water between Turkey, Syria and Iraq. Turkey, having the water start, wanted increase the amount of water in its own territory. Whereas, Syria and Iraq being downstream states required their historical rights on water. Thus, these

³³ Turkey argues that Euphrate and Tigris are the transboundary rivers but not international. Transboundary water would mean that all water reserves that originate in Turkey belong to Turkey, as well as decision over distribution of water; whereas, international water implies that river basin belongs to all riparian states and must be allocated with consideration of interests of all riparian states.

³⁴ Jeremy Allouche, “*Water Nationalism: an Explanation of Past and Present Conflicts in Central Asia, the Middle east and the Indian Subcontinent?*” (PhD diss., University of Geneva, 2005), p.286

³⁵ Ibrahim kaya, “*The Euphrates-Tigris basin: An overview and opportunities for Cooperation under International Law,*” <http://ag.arizona.edu/oals/ALN/aln44/kaya.html> (Accessed on March 2, 2014)

downstream states saw any construction project as a threat to their water supplies and security.³⁶

As the cooperation case was back in 2001, one cannot say anything about the current political relations between Syria and Turkey, which therefore may have an impact on water management issues. However, as it was mentioned above, this case of Euphrates and Tigris is similar to the Central Asian one. All rivers (Euphrates, Tigris and Naryn) in two cases play significant role for the population of Middle East and Central Asia respectively. In both situations, water flow is a main factor why conflicts over distribution spill over. Thus, examining the Middle Eastern experience is essential to study Central Asian water management system for analytical comparison.

³⁶ Aysegul Kibaroglu and Olcay Unver, “*An Institutional framework for Facilitating Cooperation in the Euphrates-Tigris River Basin,*” http://www.gap.metu.edu.tr/html/yayinlar/an_institutional_framework_AKibaroglu.pdf (Accessed on March 2, 2014)

Case of Kyrgyzstan and Kazakhstan in the basins of Chu and Talas Rivers

“Nowhere in the world is the potential for conflict over the resources as strong as in Central Asia”.³⁷ Water cooperation between Kyrgyzstan and Kazakhstan is considered successful despite tensions in distribution of hydro resources. Kyrgyzstan has abundance of water because it is located in the mountain systems of Pamiro-Alay and Tien Shan. 94 % of its territory is over 1000 meters above the sea level and 40 % exceeds 3000 meters above the sea level.³⁸ Due to mountainous relief, Kyrgyzstan is rich in water resources. Three large and important rivers flow from Kyrgyzstan into Kazakhstan: Naryn, Chu and Talas. Naryn is the second largest river in central Asia that discharges into the Syr Darya. Chu is formed in mountain ridges of Kyrgyz Alta too to the west of Lake Issyk-Kul in the junction of two rivers. Talas is 558 meter long, of which 444 flows in Kazakhstan. It has twenty tributaries in Kyrgyzstan, whereas no water from Kazakhstan flows into the river.³⁹

There are several historical, political, economic and environmental reasons for successful cooperation on Chu and Talas rivers between Kyrgyzstan and Kazakhstan. Firstly, Kyrgyz and Kazakh people are nomads, thus agriculture was not a source for living. Whereas, Uzbek and Tajik nations have many unresolved problems on water management. Secondly, Chu and Talas rivers flow only through only two states – Kyrgyzstan and Kazakhstan.⁴⁰ This enables to solve water management on bilateral level. Thirdly, there is an economic aspect. Chu and Talas are used only for irrigation purposes, thus it does not create much tensions as Naryn

³⁷ Smith, D.R., “*Environmental security and shared water resources in post-soviet Central Asia Post-Soviet Geography*”, 36(6) (1995), pp.351-370

³⁸ T.T. Sarsembekov, A. Nurushev, A.E. Kozhakov, M.O. Ospanov, *Ispolzovanie I ohrana transgranichnyh rek v stranah Tsentralnoi Azii* (Almaty: ATamura, 2004), p.87

³⁹ Alexander Nikolaenko, Zhanat ALyashov, Igor Petrakov, eds., *Sovremennyye Problemy Chu-Talasskogo Basseina* (Taraz: Kontur, 2006), p.127

⁴⁰ See Appendix II for maps.

River, which also produces hydro energy. Lastly, an environmental aspect such as weather conditions and amount of water flow make the issue highly sensitive. Salinization, drought and/or shortage and pollution of water of Chu and Talas concern both Kyrgyz and Kazakh sides. Such big organizations as OSCE, TACIS (EU), ADB, and UN have financed cooperation projects that led for resolving technical problems.

Moreover, cooperation between Kyrgyzstan and Kazakhstan in the basins of Chu and Talas rivers is greatly conditioned by the Agreement on Utilization of Water Facilities of Interstate Use on Chu and Talas Rivers.⁴¹ The agreement addressed development of legislative mechanisms of both states. Failure to adhere to the agreement led to the punishment for violation either through decrease in amount of water or through compensation of water-released damages.

In July 2006, there was an official opening of the Kyrgyz-Kazakh Commission on Utilization of Water Facilities of Interstate Use on Chu and Talas Rivers. It emerged as a long-term solution of the water problems, where two states are equally represented in the Commission and the Secretariat. The power of the joint Commission laid on the sanctions that can be imposed on violator state of norms and rules of the Kyrgyz-Kazakh agreement. no sanctions were forced, as states willingly cooperated. The secretariat, being the main executive body, has done much work in setting the dialogue between local governments, Commission, mass media; data gathering and design of legal, economic, environmental and conceptual frameworks of cooperation on distribution and management of water. Cooperation of Kyrgyzstan and Kazakhstan on Chu and Talas basins creates interest in developing other international institutional agreements.

⁴¹ See the Agreement in Appendix I.

Chapter II: Description of water management in Central Asia

According to the International Crisis Group, Central Asia may have two sources for interstate conflict: Islamic extremism and interrelated water, energy problems. After the collapse of the Soviet Union in 1991, a new system of water management has been brought by Central Asian countries. It also caused a sudden power vacuum and the breakdown of the state- controlled, subsidized provision system.⁴²

From historical times, riparian states have been shaping their national interests, which guide their behavior. Tajikistan and Kyrgyzstan are poorer than Uzbekistan and Kazakhstan, so control over water is one of the few ways they are able to retain advantage over the (current) two international leaders in the region.⁴³ Upstream and downstream states pursue incompatible national interests, thus change their positions. "The main problem is that the interests of the countries using water resources do not coincide. Some countries want to use the water in the irrigation mode, others for power. As a result, a conflict situation occurs," says the professor at MGIMO, Gusev. Basic water resources are controlled by Kyrgyzstan and Tajikistan; in sum these states account for 80,7 % of the region's overall flow. Kyrgyzstan controls 58 % of total storage capacity of the Syr Darya largely because of the Toktogul reservoir. Central Asia consumes 110 to 120 billion m³ of water per annum for domestic needs, which is several times higher than in the Middle East.⁴⁴ Uzbekistan alone uses three-fifths of regional water supplies.⁴⁵ Both republics use water for the produce of energy to export and for an internal usage, while

⁴² Gregory Gleason, *Inter-state Cooperation in Central Asia from the CIS to the Shanghai Forum*, (Europe-Asia Studies, 2001), p.54

⁴³ Ibid

⁴⁴ T.T.Sarsembekov, A.N. Nurushev, A.E. Kozhakov, M.O. Ospanov, *Ispolzovanie I ohrana transgranichnyh rek v stranah Tsentralnoi Azii* (Almaty: Atamura, 2009), p. 80

⁴⁵ Ibid

Kazakhstan and Uzbekistan – only in irrigation purposes. Herewith, Tajikistan and Kyrgyzstan increase water release during the winter period, and believe that water allocation scheme that was inherited from the Soviet times is unfair⁴⁶ because it does not allow them to use water in the fullest extent for development of agricultural and hydro energy sectors. Due to inefficient irrigation techniques and infrastructure, the region has the highest per capita water withdrawal in the world that is \$770 million.⁴⁷

In the former Soviet Union, there were attempts to resolve this problem using unified energy system, including control and rational use of water flows, and energy distribution. Such aim was achieved through an initial barter scheme between Kyrgyzstan, Kazakhstan and Uzbekistan that Kyrgyzstan will provide Kazakhstan and Uzbekistan with water during irrigation season, and Kazakhstan will provide Kyrgyzstan with fuel and oil and Uzbekistan will supply Kyrgyzstan with gas during the heating season.⁴⁸ Water overexploitation is the major reason for downstream riparians' water scarcity. Uzbekistan and Turkmenistan use either water inefficiently and hence they experience water scarcity in a time of water abundance.

Nevertheless, due to lack of ineffective regulation mechanisms, states often fail to adhere to this agreed barter scheme that results in dangerous situation leading to the interstate conflict. Syr Darya and Amu Darya – are the two largest rivers in the region, around which conflicts may be caused. The Syr Darya originates in Kyrgyzstan (its tributary is the Naryn River), flows through Uzbekistan and falls into Aral Sea in Kazakhstan, whereas the Amu Darya springs from Tajikistan and flows

⁴⁶ Daene C. Mc. Kinney, “*Basin-Scale Integrated Water Resources Management in Central Asia*” Third World Water Forum Regional Cooperation in Shared Water Resources in Central Asia, Kyoto, March 18, 2003.

⁴⁷ Paramonov V., *Vodnoenergeticheskaya problema Tsentralnoi Azii i politika Rossii* [http://www.europarl.europa.eu/RegData/bibliotheque/briefing/2013/130621/LDM_BRI\(2003\)130621_REV1_EN.pdf](http://www.europarl.europa.eu/RegData/bibliotheque/briefing/2013/130621/LDM_BRI(2003)130621_REV1_EN.pdf)

⁴⁸ Zainiddin Karaev, “*Water Diplomacy in central Asia*,” *The Middle East Review of International Affairs* 9, no 1 (March 2005): article 5, <http://www.gloria-center.org/meria/2005/03/karaev.pdf>

through Uzbekistan and Turkmenistan and discharges into the Aral Sea.⁴⁹ According to the UN Development Program, the unresolved problems with exploitation of water resources in Central Asia annually create losses worth \$1.7 billion due to mismanagement of water resources.⁵⁰

In 1998 independent states of Central Asia attempted to solve water problem through cooperative framework between Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan on the usage of Naryn - Syr Darya reservoirs and Toktogul hydro plant. The largest river in Kyrgyzstan, Naryn, creates the biggest and most serious problem. The reason is that states have two different interests: hydro energy (industrial) and agricultural. First, Naryn River has a system of power plants that gives electricity to Kyrgyzstan. The Toktogul hydro plant provides 91 % of all energy produced in the state. Second, Kyrgyzstan uses only 20 % of its surface waters, while the rest 80 % is given to the neighboring states: Uzbekistan, Kazakhstan, China and Tajikistan.⁵¹ The 90 % of water in Central Asia is used for agricultural needs.⁵²

Indeed, during the last decades there have been several unresolved water issues incidents. Uzbekistan and Kazakhstan prefer to retain their earlier-won positions, i.e. to extend the previous conditions of quotas for the near future. Representatives of Kyrgyzstan and Tajikistan take each opportunity to stress their striving for a complete recalculation of quotas, of course, in favor of their countries.

⁴⁹ The International Crisis group, “*Tsentralnaya Aziya: Voda I Konflikt*,” Otchet po Azii #34 (May 30,2002), [http://www.crisisgroup.org/~media/Files/asia/central-asia/Central%20Asia%20Water%20and%20Conflict.pdf](http://www.crisisgroup.org/~/media/Files/asia/central-asia/Central%20Asia%20Water%20and%20Conflict.pdf)

⁵⁰ UNECE, *UN Economic Commission for Europe*, <http://www.unece.org/env/water/cadialogue/cadwelcome.html> (Accessed March 22, 2014)

⁵¹ T.T.Sarsembekov, A.N. Nurushev, A.E. Kozhakov, M.O. Ospanov, *Ispolzovanie I Ohrana Transgranichnyh Rek v Stranah Tsentralnoi Azii* (Almaty: Atamura, 2009), p.88

⁵² Spetsialnaya programma OON dlya ekonomik Tsentralnoi Azii, Proektnaya rabochaya gruppa po energeticheskim I vodnym resursam, *K ukrepleniyu sotrudnichestva po ratsionalnomu I effektivnomu ispolzovaniyu vodnyh I energeticheskikh resursov Tsentralnoi Azii*, New York, 2004.

As it was mentioned in the theoretical part, Moellencamp noted that besides sharing international river basin, neighboring states also share wide range of other relations: social, economic, political situation impact water cooperation.

Water management issues in Central Asia have been an important source for enmity between leaders. Historic competition between peoples of Central Asia is fuelled by the fact that their leaders do not seem to like one another.⁵³

The countries do not have strong reliable relationship with one another. In ideal, these countries could have integrated on water and energy issues, in turn; integration would assist in consolidating attempts to improve social-economic status of states in the region, increase effectiveness of mutual investments, and agree on foreign policy activities. There are no foreign investors, which could politically influence. Thus, presidents of Central Asian states request World Bank and Asian Development Bank to help. Fight for water management advantage in the region has not yet ceased and might not yet have reached its peak; therefore, powerful investors have not yet appeared on the battlefield who could propose to calm down political discussions for the sake of tangible economic benefits.⁵⁴

In order for state leaders to be willing to take action to secure access to or preserve a certain good, it has to be considered to be of critical importance.⁵⁵

The Syr Darya basin poses high risk of conflict. The river comprises the most diverse part, shared by Kyrgyzstan, Tajikistan and Uzbekistan – Ferghana Valley. It is a home to close to 12 million people, approximately one fifth of the total population of

⁵³ Mariya Pak, Kai Wegerich and Jusupbek Kazbekov, “*Re-examining conflict and cooperation in Central Asia: a case study from the Isfara River, Ferghana Valley*”, (International Journal of Water Resource Development, 2013), p.5

⁵⁴ International Strategic Research Institute Under the President of the Kyrgyz Republic SOCINFORMBUR, the Friedrich-Elbert-Stiftung in the Kyrgyz Republic, *Water Problems of Central Asia*, (Bishkek, 2004), pp. 36-40

⁵⁵ Marit Brochmann, Paul R. Hensel, “*Peaceful Management of International River Claims*”, (Centre for the Study of Civil War (CSCW), PRIO, 2008), p.10

Central Asia, living on just 1% of its surface area, and it produces about a third of Central Asia's irrigated agricultural output.⁵⁶ The 1989 events have demonstrated the mixed demographic composition of the population in there. Moreover, the Toktogul reservoir creates another conflict. A hydroelectric facility, built in the Soviet era, is a disagreement between Kyrgyzstan and downstream states. Kyrgyzstan releases water only during the winter season, Kazakhstan and Uzbekistan relies on that water to irrigate cotton and crop to irrigate during the summer period. Such controversial situation has preceded Uzbekistan to enact policies aimed at increasing self-reliance and reducing dependence on the Toktorgul Reservoir, which include the construction of a reservoir capable of storing 2.5 billion m³.⁵⁷

In reply to that, Kyrgyzstan also maintains a greater strategy of two new dams and hydropower plans construction. Such planning will enable enough electricity for national use and export. However, gross national income of Kyrgyzstan is much higher than those projects' cost. An alternate strategy is developing a lower cost thermal power plant to meet winter energy needs; this, however, would increase Kyrgyz dependence on natural gas supplies from Uzbekistan, which are periodically suspended.⁵⁸ Moreover, Kazakhstan is exploring the unilateral option of construction a reservoir in Koserai of 3 billion m³. Such ambitious projects demonstrate that Central Asian states are seeking self-sufficiency and decreasing reliance on neighboring states.

The ethnic division in Central Asian region brings more trouble. Those states classify ethno-territorial issue is a top priority. This incongruence is likely to produce

⁵⁶ Ibid

⁵⁷ Ibid

⁵⁸ Beatrice Mosello, "*Water in Central Asia: a Prospect of Conflict or Cooperation?*" Journal of Public and International Affairs, Volume 19, Spring: p. 162

territorial conflicts, especially when economic, demographic and ecological pressures exacerbate already existing tensions.⁵⁹

Other factors, which intensify the potential for conflict, are high population growth rates in Central Asia. The current population number is 66,453,533 people.⁶⁰ During the period of 1051 and 1989, the number has tripled, reaching 35 million. The growth rate is about 2.5 % per year, much higher than the Soviet average of 0.87 % in the period of 1979-1989.⁶¹ Water resource relations between riparian states are influenced by internal political structure and socio-economic reform of the state. Kyrgyzstan and Kazakhstan follow democratization and market-oriented economy, while in Uzbekistan a political power is in the hands of traditional clans. Due to Civil War in Tajikistan, old organizations regained power.

It is significant to understand that water in Central Asia is a ‘national concern, thus is included in the national security agenda. Controversies of irrigational and energy interests between republics create challenges in realization of consented conditions of water distribution and need further regulation. Thus, upstream states suggest confess water as a good, while downstream states consider that water – is not a good, but “the gift of the nature”, that does not have an economic price.

⁵⁹ Ibid

⁶⁰ Statistics on world population, <http://www.worldpopulationstatistics.com/asia-population-2013/> (Accesses on April 2, 2014)

⁶¹ Micklin Philip, “*Managing Water in Central Asia*”, (London: Royal Institute of International Affairs, 2000), p. 269

Chapter 3: Cooperation in Water Management in Central Asia

A. No regional level institution that is strong enough to pay the role of negotiator between countries

According to radical liberalism, denationalization is the main problem why Central Asian states cannot cooperate on water resource management. A completely independent structure cannot replace government agencies. Firstly, such independent institutions are unable to protect management activity; secondly, deep disagreements inside the institution may appear. Interstate cooperation is based strongly on contacts between national branches of power.

Although a new independent water management system was established since the dissolution of the Soviet Union, the organization has weaknesses and faces many challenges.

The literature suggests that regional and international institutions together with the establishment of independent monitoring and assessment units can help to promote cooperation in shared river basins.⁶² Moreover, agreements and treaties are strongly recommended, as they lay down specific provisions, rules, and mechanism that all signatory parties are legally bound to follow.⁶³ Besides that, there are universally recognized international law principles, such as the 1997 UN Watercourses Convention, which need to be actualized.

The Almaty agreement further reiterated the need for cooperation, stating that “only unification and joint coordination of action” would help improve economic and environmental conditions in the region. Significantly, the Almaty agreement makes no provision for Afghanistan, despite the fact that around six percent of flows

⁶² Beatrice Mosello, “*Water in Central Asia: a Prospect of Conflict or Cooperation?*” *Journal of Public and International Affairs*, Volume 19, Spring: p. 164

⁶³ Ibid

within the Aral Sea Basin are generated on Afghan territory. The regional organizations such as IFAS have been initiated by the Presidents of Central Asia. The fundamental aim of the agreement was to use and protect water resources between the involved states. The first article of the agreement determines the equitable use of water resources, as well as the mutual responsibility for a rational utilization and protection based on the region's water resources.⁶⁴ Furthermore, it states that "each of the Parties (...) is obliged to prevent actions on its territory which can infringe on the interests of the other Parties and cause damage to them" (Article 3), therefore, reflects the principles of the Helsinki Rules of 1966 and then the 1992 UN/EC Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

To regulate quotas and activities of the river basin enterprises the ICWC (Interstate Commission for Water Coordination) has been created on the water ministry level. Main functions of the Scientific Information Center include training water officials, operating a comprehensive database that can be evaluated by the member states. Executive bodies of the ICWC, the Basin Water-Management Association (BWA) Amu Darya and the BWA Syr Darya, supervise implementation of quotas, and have a right to allocate them up and down by 15 %. This organization is criticized to be pro-Uzbek and paying much attention to the problem of the Aral Sea. The International Fund for Saving Aral Sea (IFAS) and the Interstate Council for the Aral Sea Basin (ICAB) were established in 1993 aiming to direct the problems of the Aral Sea and to provide assistance to the population living in that area. These organizations were created with the expectation that they would

⁶⁴ Stefan Klotzli, "*The Water and Soil Crisis in Central Asia: a Source for Future Conflicts?*" (Environment and Conflict Project (ENCOP), ETH Zurich and Swiss Peace foundation, 1997), p. 14

coordinate their activities closely with the ministries that are responsible for water management in each Central Asian country.⁶⁵ Presidents have reiterated their commitment to cooperative water management via the IFAS, other regional organizations and regional summits. It has widened throughout the region, attracting most the upstream states: Kyrgyzstan and Tajikistan. In 2002, Dushanbe Declaration was created where four states expressed their intent to use the IFAS capacity as the main instrument for the regulation of water relations and to promote its strengthening also with the attraction of external donors' assistance. IFAS board was created at the level of deputy prime minister. However, in August 2002 Turkmen president offered to transform IFAS from fund to agency, decreasing its reputation. Program gradually started fading away. The possibility of financial projects put of national budgets was illusive.⁶⁶ Nonetheless, it became clear that such agreement on water quotas was impossible, thus many bilateral and multilateral agreements had to be negotiated. Due to low conditions of the region's population and technical infeasibility, the public was doubtful with the idea of saving the Aral Sea.

In summary, it is possible to pinpoint five main causes for the deleterious impact of institutions in Central Asian water management sector.

Weak institutional capacity

Since 1991, there has been a dramatic decline in the number of people employed in the water management sector because of financial constraints and changing social and political conditions within the Republics. Poor staffing and poor execution direction in designing program objectives and projects characterize the

⁶⁵ Beatrice Mosello, "*Water in Central Asia: a Prospect of Conflict or Cooperation?*" *Journal of Public and International Affairs*, Volume 19, Spring: p. 157

⁶⁶ International Strategic Research Institute Under the President of the Kyrgyz Republic SOCINFORMBUR, the Friedrich-Elbert-Stiftung in the Kyrgyz Republic, *Water Problems of Central Asia*, (Bishkek, 2004), pp.64-70

water management institutions in Central Asia.⁶⁷ Despite the fact that BVOs obtain all components of the overall water management system, they have no real authority. BVOs have considered power in practice; they are incapable of genuine basin wide management. Organizations responsible for water management within the Republics are equally strapped for cash and officials throughout the region constantly bemoan the fact that they are unable to fulfill their commitments because of the lack of resources and personnel. The virtual collapse of the region's economy, however, has made it an almost impossible task. Dams and reservoirs are in urgent need of repair, irrigation canals are silting up, and much of the drainage system is so choked with weeds that it no longer works and equipment for maintaining the system is largely defunct.

Limited mandates

River basin organizations have specific functions such as monitoring water intake and collecting data. Narrowing their work limits ability to develop wider systems of benefit sharing. For instance, The Interstate Commission for water Coordination (ICWC) concentrates only on water division, and thus cannot deal with agriculture and energy, which are the sectors that consume most of the water.

Lack of enforcement

Enforcing agreements is the core for successful implementation of programs. In 1996 and 1997, after years of dispute, two treaties were signed to reach equitable water-sharing solutions and to exploit energy resources on the Syr Darya. However,

⁶⁷ Beatrice Mosello, "*Water in Central Asia: a Prospect of Conflict or Cooperation?*" *Journal of Public and International Affairs*, Volume 19, Spring: p. 158

implementation has suffered from non-compliance and the absence of enforcement.⁶⁸

The institutions face administrative difficulties including visa regime between some states. Senior officials from Uzbekistan need to get visa first, and then enter the country. Furthermore, lack of sufficient funding for equipment and regulation, no authority imposed fines when quotas were exceeding.

Lack of sufficient funding

Having sufficient funding is important for having balanced negotiation.⁶⁹

The process of negotiation contains long periods and requires technical data and expertise. For example, the International fund for the Aral Sea (IFAS) was designated to fund programs on Aral Sea. Notwithstanding, due to economic situation in the Central Asian states, thus, their inability to sufficiently contribute to the program, it failed. Member states are unable to fulfill their commitments, only Uzbekistan and Turkmenistan continue their payments. Failure to recognize the need for cooperative maintenance is a factor for worsening of the funding system. In addition, international donors mostly concentrate their focus on Aral Sea problem, disregarding the challenges faced by two river basins.

⁶⁸ Ibid

⁶⁹ Jeremy Allouche, “*Water Nationalism: an Explanation of Past and Present Conflicts in central Asia, the Middle East and The Indian Subcontinent?*” (PhD diss., University of Geneva, 2005), p.153, http://www.transboundarywaters.orst.edu/publications/abst_docs/related_research/allouche2005.pdf

Policy recommendations

In “the diagnostic report for the preparation of the regional strategy of effective and efficient use of energy and water resources” (UN SPECA Program, 2002) it is noted that the reform of national water resource management systems proceeds painfully in all countries of the region.⁷⁰ “Johannesburg Declaration” indicates that better water policy means progress in all three components of sustainable development: social, economic and ecological. The World Bank, IMF and WTO increasingly consider the privatization of water resources as an effective way of improving access to water in poor states. The official website of UNDP has a similar recommendation: “We need a creative approach to the process of pricing in the area of water resources to find alternative ways of providing farmers, industrious enterprises, cities and other consumers with inexpensive water”.⁷¹ Currently it is not simple to identify exact principle of water division: will each country put into the “one pool” or water reserves will be formed in the upstream states.

In the UN convention of 1997, it was noted that water management is the states’ overall responsibility. Therefore, it is significant to mention that interstate cooperation is strongly based on contacts between national branches of power. Interference of presidents is required to solve water management problems. Hence, reliability among five Central Asian states should be constructed. Countries need to achieve agreement on each water problem, including quota distribution, climate change and management system. Ideally, the four states would establish common system, recognized by all parties.

⁷⁰ International Strategic Research Institute Under the President of the Kyrgyz Republic SOCINFORMBUR, the Friedrich-Elbert-Stiftung in the Kyrgyz Republic, *Water Problems of Central Asia*, (Bishkek, 2004), pp. 70-72

⁷¹ UNECE, UN Economic Commission for Europe, <http://www.unece.org/env/water/cadialogue/cadwelcome.html> (Accessed April 20, 2014)

After presidents will have a sense of reliability to each other, another approach of creation of joint –management mechanisms can be implied. In different countries, main objectives of these bodies are called differently: water management councils, commissions to develop “common rules of the game”. A joint institution will comprise all water management functions. In that case, the speed of making and implementing management decision increases significantly and the army principle of the common beginning exclude the possibility of disagreements between agencies, though the danger of the agency’s monopoly increases and the country where absolute power over water is entrusted to incompetent or corrupt masters is in trouble.⁷² In such institution, democratic principles should be followed to avoid monopoly and public control over their performance should be made.

A fundamental difficulty for Central Asian states to establish regional cooperation is autonomy of existing institutions, specifically Interstate Coordination Water Commission and the International Fund for the Aral Sea. Autonomy over technical, financial and administrative decisions makes institutions more effective. The case of the Binational Autonomous Authority of Lake Titicaca set up by Bolivia and Peru in 1996 serves as the best example.

Structures of joint management institutions cannot be applied to everyone, because each case is unique. For example, the Interstate Commission for Water Coordination of Central Asia created in 1992 in Almaty, has been widely criticized for not solving many problems. Accordingly, three options are in need to be reformed. Firstly, there should be an expansion of the ICWC staff members. Then, there should be an improvement of the status of the commission. Thirdly, alternative intergovernmental organizations should be created. Agencies should be of different

⁷² Ibid, p.74

level – republican, basin, systematic or administrative- territorial. Hierarchy of executive body should be established such as presidential, ministerial, etc. Moreover, decision-making needs to be transparent, fair and open. This will maintain regulation of funds.

Financial and political supports play a crucial role to develop strategies for integrated socio-economy and environmental conservation. Reinforcement from foreign donors may be the solution for enhancing river basin and promoting regional cooperation. However, such approach needs to be looked carefully, as each case is unique.

Later, as a joint-management institution will be created, agreements signed by the member-states should be codified in detail, balanced in interests of countries, sectors and population groups. One should take into consideration that against this background the revision of water usage quotas in favor of the countries with the up-river areas of transboundary rivers can be implemented only at the expense of their lower lying neighbors: in order to avoid the risk of undermining the brotherly relations among neighboring states, any costs incurred by one country in favor of another country should be properly compensated.⁷³

The law of the Kyrgyz republic “On the international use of water objects, water resources and water facilities in the Kyrgyz Republic” was passed in July 2001. This law, unlike many hundreds of pieces of internal legislation developed and passed by the parliament of the Kyrgyz Republic, was for a long time a bestseller among regional politicians, who were discouraged by a phrase in Article 5, containing a commitment to the principle of charging for the use of water in the area

⁷³ Wolf, A., Yoffe, S.B., & Giordano, M, *International Waters: Identifying Basins at Risk. Water Policy*, 5, 2003, pp.29-60

of international water relations.⁷⁴ Uzbekistan and Kazakhstan understood it as that Kyrgyzstan was intending to benefit from the sale of water to the neighboring states. Modern law does not deny the principle possibility of water facilities management on transboundary water flows as intergovernmental structures and independent transnational corporations, consortiums or joint-stock companies if there is agreement between all interested parties.⁷⁵ Consequently, if all states come up for a partnership, a joint development of legal cooperation needs to be set up. Focus should be made on the joint development of a detailed legal cooperation framework.

The civil society involvement will be significant for regional cooperation. Such organizations as ICWC and IFAS could adopt this model to demonstrate transparency to other NGOs.

Eventually, economic interests shall prevail over political ones, water supplies and other services will be compensated by interested neighboring states, whereas the concept of water as a commodity shall come up only after demand and supply have been balanced.

⁷⁴ CAREWIB, *Central Asia Regional Water Information Base Project*, www.cawater-info.net/bd/index_r.htm (Accessed April 13, 2014)

⁷⁵ Ibid

Conclusion

Water is an increasingly important factor in the strained relations between four Central Asian states (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan) and an important contributor to local conflicts. The problem of distribution and management of water that emerged between Central Asian states after independence was affected by a set of political, socioeconomic and environmental factors. The Syr Darya basin poses high risk of conflict.

Answering to the question why Central Asian states find it difficult to cooperate seems to support the view that national interests of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan do not coincide with one another, thus political will creates a source for conflict. States are seeking self-sufficiency and decrease reliance on neighboring countries. Moreover, ethnic division, high population growth rate, controversial irrigational and energy interests between republics create challenges in actualization of agreed conditions on water distribution and regulation. In addition, weak institutional capacity, limited mandates, lack of enforcement and sufficient funding promote further constellations among states.

A number of recommendations such as joint institution building, detailed codification of agreements, civil society involvement were provided in the previous chapter. In order to implement those recommendations, Central Asian states need to recognize the need for efficient use of water through cooperation. If Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan take responsibility to solve common problem-Aral Sea, as it affects them all, creating an atmosphere for cooperation.

For these solutions to actualize, besides institutions and finance, there should be a political will. This work has not addressed the questions of Russian influence on

the politics of ex-Soviet states. However, these factors remain important to analyze features of conflict in the sphere of water management in the region. Further study is needed to understand the economic conditions that facilitate the emergence of such constellations.

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List of Appendixes:

Appendix I:

Agreement between the Government of Kazakhstan and the Government of Kyrgyzstan on the Use of Water Facilities of Interstate Use on the Chu and Talas Rivers⁷⁶

AGREEMENT

between the Government of the Republic of Kazakhstan and the Government of the Kyrgyz Republic on Utilization of the Water Facilities of Interstate Use on the Chu and Talas Rivers

The Government of the Republic of Kazakhstan and the Government of the Kyrgyz Republic, hereinafter referred to as “the Parties”,
Being guided by the Agreement Regarding Creation of the Single Economic Area of April 30, 1994;

Acknowledging social, economic and environmental value of water resources;
Attaching importance to mutual beneficial cooperation in use of water resources and reliability and safety in operation of the water facilities of interstate use;
Having the common desire to find the most perfect and fair decision in efficient use of water facilities pursuant to the admitted international water law;
Proceeding from the principles of neighborliness, equality, and mutual assistance; Have agreed as follows:

ARTICLE 1

The Parties agree that use of water resources, operation and maintenance of the water facilities of interstate use shall be targeted at mutual benefits of the Parties on the fair and reasonable basis.

ARTICLE 2

The Parties subsume to the water facilities of interstate use the following water facilities owned by the Kyrgyz Republic:

- Orto-Tokoi Reservoir on the Chu River;
- Chu bypass reinforced concrete canals on the Chu River, from the Bystrovskaya hydroelectric power plant to the town of Tokmok;
- West and East Big Chu Canals with facilities;
- Chumysh water structure on the Chu River;
- Kirovskoye Reservoir on the Talas River.

⁷⁶ <http://www.ce.utexas.edu/prof/mckinney/papers/aral/agreements/oandm-agreement.pdf>

ARTICLE 3

The Party-owner of the water facility of interstate use is entitled to receive compensation from the Party-user of the facility for the costs needed to provide safe and reliable operation.

ARTICLE 4

The Parties shall take shared part in the recovery of costs associated with operation and maintenance of the facilities of interstate use and other agreed efforts in proportion to the water received.

ARTICLE 5

For reliable and safe operation of the water facilities of interstate use, the Parties shall establish permanent commissions that set up the operation mode and define amounts of costs needed for operation and maintenance.

ARTICLE 6

The Parties shall annually appropriate funds needed to operate and maintain the water facilities of interstate use.

ARTICLE 7

The Parties shall undertake joint measures to protect the water facilities of interstate use and the territories within their areas of influence from adverse effects of floods, mudflows and other natural phenomena.

ARTICLE 8

In case of emergency at the water facilities of interstate use caused by natural phenomena and technical reasons, the Parties shall notify each other and undertake joint actions to prevent, mitigate and remove consequences of emergencies.

ARTICLE 9

For the purposes of prompt and efficient repairs and reconstruction at the water facilities of interstate use, the Parties shall acknowledge the necessity to use construction, repair, operation and industrial capacities of each other.

ARTICLE 10

The Parties agree to conduct research, design and exploration concerning the efficient use of water resources and water facilities jointly.

ARTICLE 11

The Parties shall implement the order of unimpeded and customs free movement across the boundaries and territories thereof for staff, machines, mechanisms, raw stuff, and materials intended for operation and maintenance of the water facilities of interstate use.

ARTICLE 12

In the event of disputes or controversies related to the interpretation or application of the Agreement, the Parties shall resolve them by negotiations and consultations.

ARTICLE 13

Upon the consent of the Parties, addenda and amendments may be incorporated in the Agreement in the form of separate protocols. The addenda and amendments constitute an integral part of the Agreement.

ARTICLE 14

The Agreement shall come in force from the moment the last notification on the executed internal procedures provided in national legislations has been deposited by the Parties.

The Agreement shall be in effect for five years. It will be automatically prolonged for further five-year periods, unless either Party has delivered a written notice to the other Party of its intention to terminate the Agreement six months before the expiration date.

Done in duplicate, at Astana, this 21st day of January, 2000, in the Kyrgyz, Kazakh and Russian languages, each being equally authentic.

Should a controversy arise, the Parties shall be guided by the Russian text of the Agreement.

Appendix II:

Map of Basins of the Chu and Talas Rivers⁷⁷



⁷⁷ UN Environment Program, Global Resource Information Database, http://www.grid.unep.ch/products/4_Maps/others_1_chu_talas_assab.jpg (Accessed March 8, 2014)

Appendix III:

Map of the Syr Darya Basin⁷⁸



⁷⁸ Ibid