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The Joint Points of Interests over the Amu River in Post-Soviet Central Asia: The Case of Uzbekistan and Tajikistan

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ABSTRACT OF THESIS

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The former Soviet Central Asian (CA) republics of Uzbekistan and Tajikistan share a transboundary river named Amudarya that plays a vital role in the economy of both of the countries. The cotton production sector of Uzbekistan is sustained with the water formed in Tajikistan. Nevertheless, Tajikistan recently has been aiming to construct a hydro-power station that would use water for producing energy and may dramatically decrease the water level of Amu. Previously water sharing has been managed by water ministry (Minvodkhoz) based in Moscow. The institution and agreements that supposed to replace Minvodkhoz in newly independent countries were not able to prevent dispute eruption between the two. In 2012 Uzbekistan threatened Tajikistan with a war if construction of the dam would not be stopped. The purpose of this thesis was to reveal the reasons for the ineffectiveness of the existing system to prevent escalation of the dispute between Uzbekistan and Tajikistan. To meet that aim the qualitative research method involving interviews with water and political experts has been used. The study found that recently relations between Uzbekistan and Tajikistan have improved but there is still a space for a conflict. Moreover, there are additional ignored factors as rapid glacier meltdown, population growth and most importantly exclusion of Afghanistan from water sharing that may further worsen the situation. To solve the existing issues, the study recommends to create a transboundary river management regime and upgrade the existing agreements that would be effective in peacefully settling the dispute and reach a “win-win” outcome.

Keywords: Post- Soviet, Uzbekistan, Tajikistan, Amu Darya, Water regime, Dispute prevention, Conflict, Win-Win Outcome.

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"One man in a field is not a warrior"

Russian proverb.

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I believe your contribution was for something that is really excellent!

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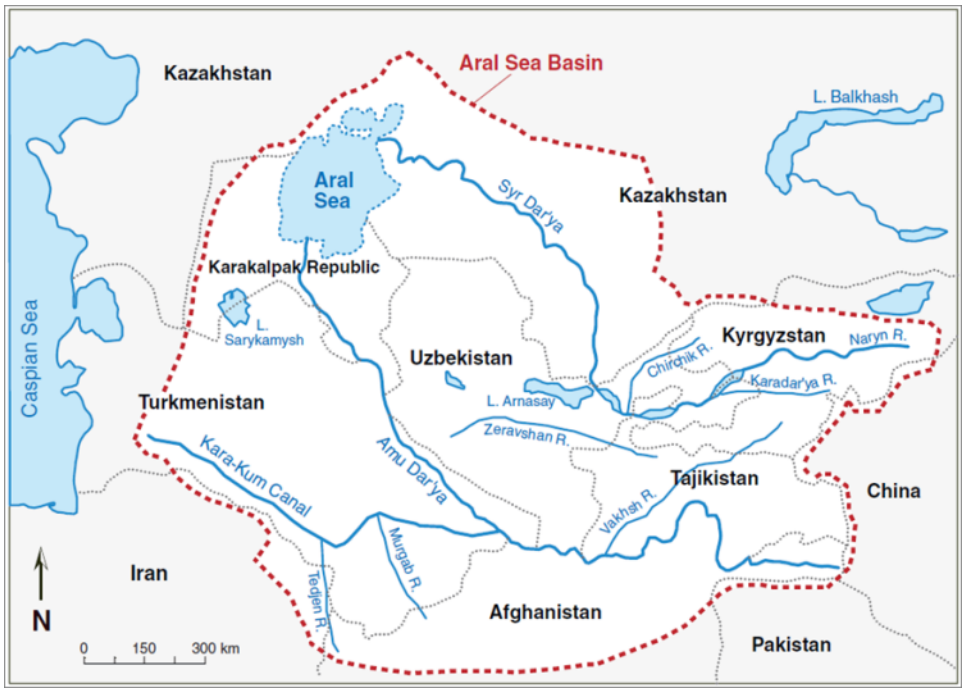
"In a short time, all that land is likely to be destroyed, and to become a wilderness for want of water when the river of Oxus shall fail".
Anthony Jenkinson, 16th Century English voyager to China (Jenott, 2001).

Chapter I: Introduction

1.1 The Problem Statement

The Aral Sea basin is named after the Sea in Central Asia which has once been the fourth largest inland lake in the world but has almost disappeared due to the rapid development of the cotton industry in the region in the last 50 years. The Aral Sea basin consist of seven countries which are: Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, Turkmenistan, Afghanistan and partially Iran. The Sea receives its water from its two main tributaries which are the Amu Darya (Darya means a River in Turkic) and the Syr Darya. The Amu Darya is the second longest river in the region after the Syr Darya, but by volume of water, it is the first. The Syr Darya emerges from the collision of Noryn and Kara-Darya rivers in Kyrgyzstan. The Syr Darya goes through Kyrgyzstan, Uzbekistan, Tajikistan, and Kazakhstan and finally, it reaches the Aral Sea. The Amu river is made of three main tributaries which are the Panzh, Kofarnigon and Vakhsh rivers which receive their water from the high mountains of Pamir and Alai. The river goes through Uzbekistan, Afghanistan, Turkmenistan (the water used in the longest canal in the world called Karakum in Turkmenistan comes from the Amu river) and goes through the deserts of Karakalpakstan autonomous republic of Uzbekistan and dissipates before reaching the Aral Sea due to evaporation, overexploitation and precipitation. The Aral Sea basin can be seen in the Figure I.



(The Aral Sea Basin, Quagliarotti 2017).

During the Soviet period, water sharing in the region had taken place under the control of Minvodkhoz (Ministry of Water Resources) in Moscow. In other words, water management has been centralized as all the other sectors in the former regime. The large territories of Uzbekistan and Turkmenistan were used for cotton cultivation. The Nurek dam on the Vakhsh River (Tajikistan) and Toktogul dam on Naryn river (Kyrgyzstan) have been constructed in order to accumulate water during the winter periods and for releasing it in vegetation periods in spring and summer when water is needed in order to irrigate vast cotton fields. The produced energy during the water release has been shared through the energy grid that connected all Central Asian countries. However, during the winter period the dam did not release a large volume of water in order to keep it for irrigation periods and as a result, energy production used to be low. Both Tajikistan and Kyrgyzstan are rich in water but do not have large agricultural land and huge reserves of gas and oil as Turkmenistan and Uzbekistan do. In contrast, Uzbekistan and Turkmenistan had a huge agricultural potential but poor level of local water supply (O'Hara, 2000). To solve the problem a barter system had been introduced by the Soviet authorities in order to fill the energy and water gaps. The reasoning of the

Soviet leaders, was that the downstream countries, especially Uzbekistan were supposed to provide its upstream neighbors with gas while receiving water in return (Wegerich, 2008). A barter system had been established between the upstream and downstream countries of the basin. This system is also known as "Benefit Sharing" when both sides gain from the arrangement, leading to "win-win" scenario.

All of the hydro engineering works in the rivers have been conducted in order to “bloom the deserts” of Central Asia under the command and control regime (Wines, 2002). The mission was a success with cotton fields spread around the deserts due to canals that used water from the rivers. “Soviet leaders tended to reject the idea of environmental constraints and looked favorably on gigantic “nature transformation” efforts” (Micklin, 2011, p385). The CA countries became one of the biggest raw cotton suppliers of the Soviet Union. They claimed the outcome justified all of the costs. However, in reality, the situation has been less beneficial and diverting water from rivers into the deserts had an enormous environmental and social impact which resulted as Micklin points out due to “water management disaster” (Micklin, 1989). One of the infamous results of the mismanaged use of water resources in the basin was the Aral Sea which has lost 75 % of its water within the last 40 years. The remaining water body was useless for the fishing industry and therefore people in the towns around the Sea who formerly had been earning their income by fishing lost their jobs leading to inner migration. There were other problems such as high levels of soil salinization and frequent dust storms which carried different toxins from the former sea bed (Aslanov et al, 2013). Micklin (1989, p59-60) states the following about the dust storms coming from the sea “Recent reports state traces of Aral salt have been found l000 km to the southeast of the sea in the fertile Fergana Valley, in Georgia on the Black Sea coast, and even along the arctic shore of Russia”. Over the years the sea kept decreasing in size leaving so called “Aral Kum” (Aral

desert) behind. Recently, in march 2018 a storm carrying salt from the Aral Sea covered vast territory of Uzbekistan and Turkmenistan which further resulted in huge agricultural and economic losses (Pannier, 2018). By the end of the 1980s, the Soviet authorities wanted to decrease water consumption in the region to avoid further negative ecological consequences (O'Hara, 2000). To fix the problem the Soviet authorities developed a scheme of building a canal that would connect the Aral Sea with the Siberian rivers as Yenesey and Ob. However, during the last five years of the existence of the union due to economic difficulties and political changes the projects has been stopped and was never realized (Micklin, 2011). But, the problem did not lie within the Sea or scarcity of water resources in the region but in its upstream where water management was inadequate and an abundant amount of water was simply wasted. However, it was already too late to change as the Union itself soon has been abolished. After the collapse of the Soviet Union in 1991 overnight internal rivers became transboundary. Transboundary water allocation and installation of quotas is considered to be the most problematic task between riparian countries (Green et al, 2013). Water played an essential role in agriculture of the semi-arid CA and sustaining agricultural sector without its constant supply was not possible. It was expected that institutionally weak CA countries will start arguing over the issue of water sharing. There was a solid ground for such a prognosis because the economies of the new CA countries almost collapsed, there was ongoing unrest in some of the republics and most significantly there was a lack of cooperation between the governments which were busy with their internal problems (O'Hara, 2000).

> "Societies with weak institutions, fragile political systems, and divisive societal relations can be drawn into cycles of conflict and violence. Increasing scarcity of renewable resources, or grievances over their governance and/or transboundary nature, can drive, reinforce or compound existing stress factors and play a contributing role in the decision to resort to violence" (UN & EU, 2012).

Fortunately, the pessimistic predictions did not come true. On 18th February 1992 in the former Kazakh capital Almaty (current capital is Astana) the heads of five Central Asian countries signed an agreement to keep the Soviet water sharing mechanism. Within the agreement they generally agreed to solve diplomatically all of the disputes which would potentially arise in the future due to water allocation. In the agreement, the interdependence of CA countries in solving the water issues in the region has been acknowledged and it was agreed to share information relating to water exploitation in their territories (Water Agreement, 1992). However, it is well known in international relations that countries pursue their own interests and those interests do not always match. The same pattern has been observed in the case of Uzbekistan and Tajikistan. The two countries have had overwhelmingly bad relations due to water versus energy dispute. However, things have changed and there is a space for improvement, but still, there are problems that are not solved and they may have a long-term negative impact on the development of the countries and the environment as a whole.

This research is directed to reveal the reasons for and consequences of the problems that have resulted due to the dispute over water sharing in CA and especially between Uzbekistan and Tajikistan. The thesis will go through the weaknesses of the 1992 water agreement and intergovernmental institutions which deal with water allocation in CA. Moreover, recommendations will be given by following which the existing agreement can be upgraded and a new one may be introduced. The past of the case will be studied from the perspective of international relations and further developed by analyzing the principles of transboundary regime creation and its implication in the region.

1.2 The Aim of the Thesis

The overall goal of this thesis was to explore the reasons for the failure of the 1992 water agreement that has almost resulted in a war between Uzbekistan and Tajikistan and try to find the means by which the issue can be solved in a mutually beneficial terms.

The following are the objectives of this thesis:

1) Determine the possible ways of solving the water allocation issue.
2) Understand the reasons for and consequences of the ineffectiveness of the 1992 water agreement.
3) Analyze the possible impact of Afghanistan on the water issue between Uzbekistan and Tajikistan.
4) Determine the effect of climate change and population growth on water availability in Uzbekistan and Tajikistan.
5) Understand and analyze the procedures that should be followed to create transboundary river regime between Uzbekistan and Tajikistan.

1.3 Amu Darya and Basin Countries

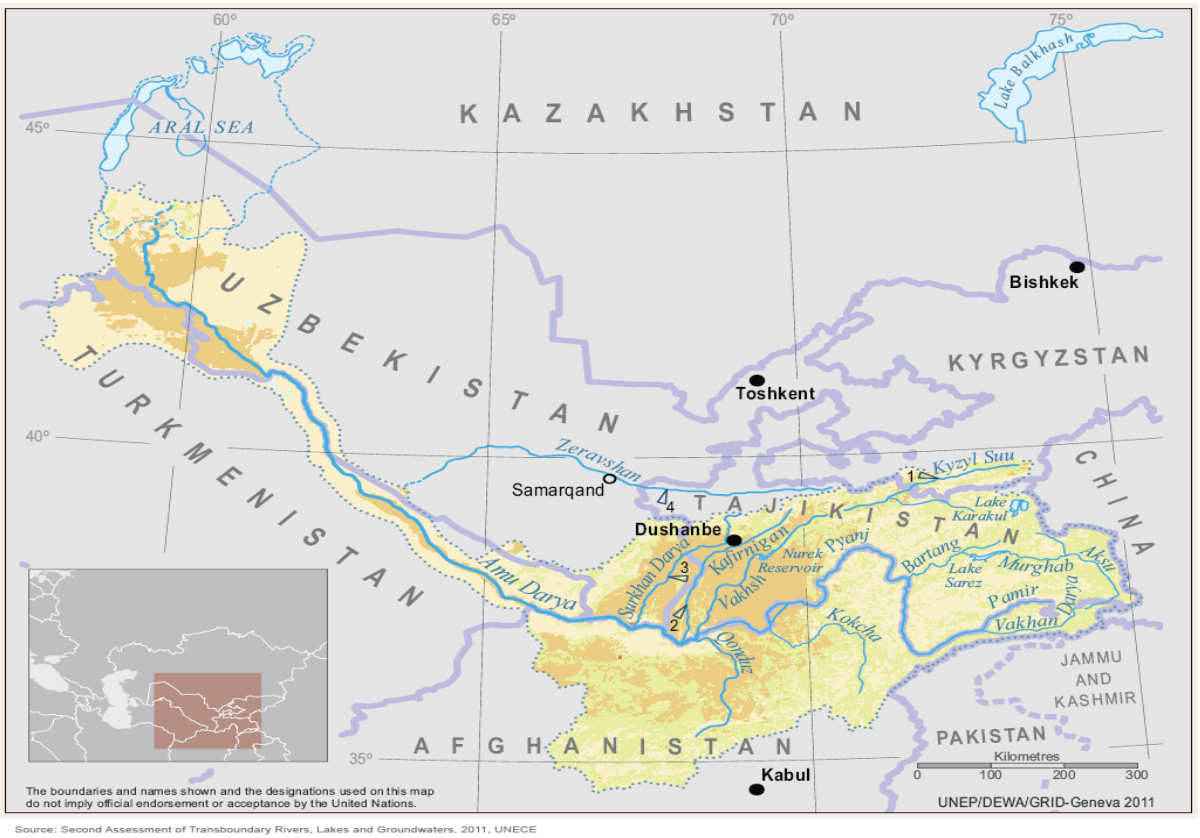
The Amu River has historically been an important river that brought life to the cities locating in the deserts of Karakum and Kyzylkum. The river was called by Greeks as "Oxus" while in the ancient book of Zoroastrians "Avesto" the river was named as "Vakhsha" (Kurbonbaev at al, 2011). The Amu river receives its water from glacier melt and precipitation in high mountains of Tajikistan and Afghanistan. The Amu river is 2.400 km long and its water mainly derives from Vakhsh, Kafernegan and Pandzh rivers which in return are feed by Wakhan (Afghanistan) and Kyzyl Suu (Kyrgyzstan) rivers (Akmuradov et al, 2008). The Zarafshan river which also originates in Tajikistan has also been a big tributary of Amu Darya. However, due to diverting huge volume of Zarafshan the river does not discharge

into the Amu anymore (AQUASTAT). As a result, in the downstream regions the Amu river does not have any further water tributaries. “Approximately 61% of the river’s catchment area lies in the territories of the former Soviet Republics of Central Asia while other 39 % belongs to Afghanistan” (Rakhmatullaev et al., 2009). It is estimated that 80 % of Amu's water is formed in Tajikistan. Further on Afghanistan, Uzbekistan, and Kyrgyzstan contribute 8-6-3 % of the river’s water respectively, while other 3 % is generated in Turkmenistan and Iran (Kasymov, 2011). Before flowing into the Aral Sea, it is widely believed that the Amu used to flow into the Caspian Sea through Uzboy canal which’s remaining can be found in the territory of modern-day Turkmenistan (Spuler, 1989). However, later on the river has changed its riverbed and started flowing into the Aral Sea. The volume of the river reaches its peak in spring and summer, while during the fall and winter seasons due to decrease in temperature and absence of glacier melting the water level in the river is low. At present, the annual water volume in the river is 61.5 km3 (SIC ICWC, 2018). Regardless of this currently, the river is not reaching the Aral Sea due to being diverted into the irrigating fields in Turkmenistan and Uzbekistan in large extend.

The limits for allocation of the Amu river’s water was agreed upon 1992 Almaty water agreement which itself is based on the decision made by Scientific-Technical Council of the Soviet Ministry of Land Reclamation and Water Management to put annual water distribution limits for the basin countries in 1987 (Wegerich, 2008). In order to govern the river in 1992, there was created Amu Darya Basin Water Association (BWO) by the countries of the river basin without involvement of Afghanistan. According to the recent data the river’s water is allocated among the countries in the following way: Kyrgyzstan 0.6%, Tajikistan 15.4 %, Turkmenistan 35.8 % and Uzbekistan 48.2 %. Moreover, from the total sum of water 2.1 cubic km of water is given to Afghanistan annually (ICWC, 2018). However, as it has been mentioned in many literatures that water allocations in dry seasons in the region becomes a

tough task to deal with due to the demand staying the same and supply decreasing. Apart from dry seasons there are many more issues as rapid population growth, climate change and stability in Afghanistan due to which Afghanistan may start exploiting more water resources from Amu river.

Tajikistan due to being a headwater country and because of being located in the mountainous area was a strategically perfect place even in the Soviet period for dam construction that would help to regulate water flow of Amu River (Wegerich,2008). Deriving from the same logic recently the government of Tajikistan has started constructing the tallest dam in the world on one of the main tributaries of the Amu River named Vakhsh. As has already been mentioned a "barter system" of water sharing has been used by the countries of the post-Soviet Amu River Basin. However, soon disputes have started erupting over fair water allocation between the countries and especially between Uzbekistan and Tajikistan. (Map 1.1 Amu Darya Basin, Afghanistan Water Portal)



Source: Second Assessment of Transboundary Rivers, Lakes and Groundwaters, 2011, UNECE

1.4 Conclusion for Chapter One

Over the centuries water played an important role in agricultural Central Asia. However, with the Russian conquest a special attention has been paid to cotton cultivation in arable land of CA republics. Under the Soviet control to boost the cotton production deserts have been transferred into cotton fields by diverting water from the main rivers. The cost for the millions of tons of annual cotton yield was the Aral Sea crisis. Additionally, the CA countries had enough amount of water for sustaining themselves and therefore were not expected to suffer from water shortages. However, water scarcity was taking place due to absence of adequate water management mechanisms. The same patter has been continued after collapse of the Soviet Union. Keeping the "barter system" after obtaining independence left some countries unsatisfied with the outcome. Moreover, the agreements signed between the CA countries were not able to prevent disputes among the riparian states. This research is conducted in order to reveal the main reasons of the failure of water agreements and explain that creating water regime will prevent further disputes in this sphere. In the following chapter the methodology involved in conducting and discussing the research will be analyzed. Following the methodology there will be a paragraph dedicated to the theoretical framework of the thesis.

Chapter II: Methodology and Theoretical Framework

2.1 Methodology

The objectives of this thesis have been met by using qualitative research method that involved several interviews. Within the qualitative research method, an extended cases state has been used due to the research involving the same actors over the period of time (Hancock, 2002). In order to get better understanding of the topic and the situation as a whole, prior to conducting interviews proved valuable in engaging with interviewees and directing the conversation. The information used in the thesis is obtained through interviews which were conducted with water experts from leading regional water organizations of Central Asia. Moreover, the snowball sampling has been involved in order to find people who are experts in this particular sphere and are willing to share information. The snowball method has been used as experts in CA countries due to political situation are not keen on talking to strangers for the sake of security. Moreover, particularly the "elite interview" method has been involved in the research due to the necessity of getting information from "highly skilled, professionally competent, and class-specific" individuals (McDowel 1998, quoted in Harvey 2011). People in the affected area have not been interviewed due to high possibility of them being biased as a result of state antagonistic propaganda which were run on national TV channels for the last 15 years where countries were blaming each other for water and energy problems. In the research conducted by the author in 2017 about the Aral Sea crisis in Karakalpakstan it has been revealed through numerous interviews that people without knowing the true reasons for the desiccation of the Aral Sea were prone to blame Tajikistan and unfinished Rogun dam for the lack of water in their region and the main source of their information back then was TV. In order to avoid the same outcome, it has been decided to interview only experts from competent institutions who were working in the sphere of water management in the region for many years.

Trips to Uzbekistan and Tajikistan have been conducted in order to reveal the point of view of Tajik and Uzbek experts from water institutes about the problems that currently exist between the two countries. Additionally, since the research issue very much related to politics it was important to talk to political scholars who constantly monitor the political situation in CA countries. In order to achieve that aim a trip has been conducted to Kyrgyzstan where political scholars from the American University of Central Asia have been interviewed. Relevant policy experts have been interviewed from the Tajik Institute for Water Problems and Hydrology. However, need to mention that Tajik experts due to the current political situation in their country preferred to stay anonymous and therefore through this thesis they were called as "Tajik experts". Moreover, in order to keep anonymity of the other interviewed individuals they will be referred to as "Respondents" and given numbers accordingly.

The conducted interviews were in Uzbek, Russian and partially in Tajik and have been completely translated into English by the author. Therefore, the author takes whole responsibility for the overall quality of the translation and regrets any potential errors that could be missed during the translation process.

Most of the literature involved in conducting the research related to the issues of transboundary water management, environmental resource conflict, its resolution, and also transboundary regime creation. Apart from English there were used literature in Russian and Uzbek that have been translated into English by the author. Moreover, in order to monitor the current events taking place in the studied countries the government published data and national news agency reports are monitored constantly. Additionally, news reports coming from the foreign agencies and online articles relating to the topic is studied as well.

The analysis of the collected data has been done by using "general inductive approach". This approach has been involved due to qualitative analysis being the main design of the research. Using this approach has helped to "understand the meaning of complex data through

the development of summary themes or categories from the raw data "data reduction" (Thomas, 2003). Therefore, repeated reading and coding of the interview transcripts have been required to find the main themes of the research. The large amount of data obtained in this way have been further categorized by the level of importance by the author. The reliability of the findings has been assessed by using technic of "triangulation within the project" which allowed cross-checking of the data with multiple sources and feedback of the interview respondents (Thomas, 2003).

In the title of the thesis the name "Post-Soviet Central Asia" is used regardless to the fact that almost three decades have passed since the collapse of the Soviet Union and a lot have changed in the region after then. However, the term Central Asia in the western and Soviet literature have different meanings. But, from the geographic perspective according to Cowan (2007, p.1) CA has the following meaning: "The central area of Asia, central Asia, consists of Xinjiang and surrounding areas in Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Afghanistan, Pakistan, Kashmir, Tibet, Qinghai, Gansu, Inner Mongolia, Mongolia and the Russian Federation". In order not to confuse the reader the term "post-Soviet" is used in the title.

The need to mention that Afghanistan which is also a riparian country on the Amu River basin was not broadly researched in the study. Several attempts have been made by the author to talk to water experts from Afghan universities but no proper response has been received within 2-month period. Therefore, no up-to-date data regarding the current irrigational, agricultural and hydrologic situation in Afghanistan has been obtained apart from those coming from decades old literature. However, the information that can be collected from open sources and scholarly articles are argued to be non-accurate as SIC ICWC (2018) report claims that

> "the current numbers relating to Afghanistan's tributaries is stated by scholars who have used materials of someone else's research, characterized by variable degree of reliability, mainly of Soviet and Afghan author, and indicated varying values of recharge of the Amu Darya from Afghanistan's territory and demand of the country"

The up-to-date data regarding the water usage and water flows in Afghanistan simply does not exist while the existing information is based on the estimates made in 1960-1970s. Therefore, there should be caution in using the information coming from old data basis (Horsman, 2008. P.65). However, as Afghanistan is considered to be an important future water user by the author in the region the general data regarding the water usage situation in Afghanistan will be discussed by using the available information.

One may argue that there is Turkmenistan which is post-Soviet country with many issues relating to water scarcity as well. That is true that 88% of all Turkmen water come from Amu Darya through Karakum canal and 95% of the republic's water is spent on agriculture (Ovezberdyyeva, 2009). The main cash crop and employment provider in the country is cotton sector. According to ICG (2002) report roughly 4 million people in Turkmenistan are dependent on the water of Amu Darya. There were disputes between Uzbekistan and Turkmenistan but in 1996 there was signed an agreement on equally sharing the water of the river (ICG. 2002, p.23). Moreover, Turkmenistan does not share a common border with Tajikistan in order to go for an open conflict with the country. However, the Karakum canal due to being outdated and lack of proper management is currently diverting twice more water from Amu river than it is allowed under the agreement. The Uzbek side is not satisfied with this situation. Additionally, the expected water withdrawal by Afghanistan may disturb the plan of Turkmenistan to expend its cotton fields (Jardine, 2015). However, all of these issues can be a topic for one more master's level research.

Finally, the Amu river particularly has been chosen for the research due to abundant number of unsolved issues which are surrounding the river for the last 15 years and also due to the higher chance of conflict eruption between Uzbekistan and Tajikistan over water resources. It should be admitted that the issues of dam construction, water allocation and quality do exist between Uzbekistan, Kyrgyzstan and Kazakhstan in Syr Darya river but they are better coordinated by the help of 1998 water agreement made by the three countries.

2.2 Theoretical Framework

"Game theory" can be applied in the case of Uzbekistan and Tajikistan. "Game-theoretical approaches constitute the core of multi riparian water regimes" (Kasymov, 2011). According to the game theory, a decision made between agents who are interdepended will have an impact on both of the players. As a rational actor, a player always makes the choice which benefits itself the most. The result of this can be the "zero-sum-game" where two rational players which are interdependent may have completely different interests and pursuing these individual goals may bring benefit to one but the losses to the second actor (Turocy & Stengel, 2001. P.2-34). In other words, Tajikistan can gain from dam construction but the outcome may be economic losses and civil unrest in Uzbekistan. But, if Tajikistan does not construct the dam Uzbekistan will be able to expand its cotton fields but in Tajikistan, it will be vise-versa. In order to solve this problem and reach the "golden mean" or "win-win" outcome, there is a need to create a well-functioning "water regime" in the region which will be further explained.

Many countries around the world create regimes that help them to manage transboundary water resources. Krasner (1982) defines international regimes in the following way "regimes are defined as principles, norms, rules and decision-making procedures around which actor expectations converge in a given issue-area". Additionally, Koehane and Nye (1977) claim

that regimes are the "sets of governing agreements" (Koehane & Nye quoted in Krasner, 1982). Moreover, Raadgever (2005) states that regimes consist of formal and informal institutions and in the international arena where relations cannot be made solely by the governments the role of non-governmental institutions is growing rapidly. Ostrom (1990) argues that the problem of resource allocation itself will force the users to create an institution that will help to avoid depletion of natural resource and avoid conflicts. But for this, firstly people surrounding the resource should commonly acknowledge the harm of no action, secondly know that they will be affected in the same way by the problem, thirdly do not have problems in sharing the relevant information and most importantly have trust between each other (Raadgever, 2005). Furthermore, according to Coskun (2004), the rational calculation should lead countries to abandon their self-interest in independent decision-making for the sake of common decision-making. It means that countries in creating transboundary water regime should not put their own interests higher than the joint regional interests which could bring in the long-term perspective more optimal outcome. Finding common interests as Chasek et al (2006) argues can be achieved in two ways: regardless of the "anarchy" in international scene countries share a huge number of joint interests that could be studied by scholars and further realized to strengthen the relations. The second offered method is Functionalism. According to this method when there is a technical cooperation between specialists and organizations in solving issues the degree of interdependence goes up creating global institutions that can overcome national regulations for the sake of bigger good. That means that countries by creating regimes can achieve an optimal outcome for themselves. However, sometimes there should be some effort invested in developing a durable regime.

Levy (1994) states that regimes may consist of two or more participants. However, creating regimes with many participants may be a hard task to achieve. Nevertheless, the

literature suggests that small group of countries negotiating will reach an agreement quicker than the groups with many countries since in a small group it is easier to understand the bargaining strategies of each other (Chasek et al, 2006). Moreover, it is advised by Levy et al (1994) to include independent institutions in the regime creation as a participation of non-state actors improves the effectiveness of the regime. Furthermore, regardless of achieving the same aim regimes are developed in three different ways which are self-generating, negotiating and imposition. The self-generating (spontaneous) regime appears without much effort from the participants and it is also called "order without law" (Ellickson quoted in Levy 1994). Furthermore, the negotiation regimes result from the continuous and conscious bargaining among participants. This is one of the most common regime creation mechanisms in the international arena. The cooperation mostly takes place when the sides consider that the status quo is not any longer acceptable and the "game theory" is applied (Chasek et al, 2006). As has already been mentioned that according to the "game theory" sides are considered to be rational actors and they bargain in order to reach win-win outcome for all of the players. In some cases, countries may agree to lose a certain proportion of their natural resources, for instance, water sharing in exchange for an economic or political benefit. In such a situation both or all of the participants will get certain benefits (Dyomin & Shatalova 2015, p.2). The last regime type is the imposed regime which results from one powerful actor or coalition of actors making an arrangement to which further others are added. It means that a regime is imposed by external or stronger powers (Olson 1965 quoted in Levy 1994). It is also said that during the process of the regime creation all three of the regime creation methods can be involved, but even in such cases one or two of them may play the decisive role. Needless to state that the result of the negotiations should be positive and satisfying for all of the participating parties, otherwise there will be no motivation for further negotiation (Chasek et

al, 2006). A regime can be created through negotiation, spontaneously or forcibly but there is additional factors absence of which will decrease the effectiveness of a regime.

Raadgever (2008) states that there are six main regime elements that make regimes successful and these are Actor Networks, Legal Framework, Policy, Information Management, Financing, and Cooperation process. Actor networks should be within the participating countries where different sectors, NGOs, and citizens should cooperate with each other as all of them have certain resources to offer as a fund, expertise, and information. However, most importantly authorities should acknowledge the fact that they are co-dependent on different sectors and organizations for achieving their target (Raadgever et al, 2008). Regarding the Legal framework, the literature states that water law should be clear and understandable for all stakeholders so they should be able to understand and consequently express their concerns. It also says that a legal framework should include public participation, information management, planning and financing (Raadgever et al, 2008). Most importantly the framework itself should be adaptable to new policies. The policy element requires the constant development of new policies relying on the newly obtained information. Ideally, there should not be a dependency on one particular policy and the people who have been working on the development of a policy should also be involved in its application as well. The shared and obtained information from stakeholders and participants should be somehow managed. As Raadgever et al argued (2008) "The shared knowledge base should integrate technical, political, and process knowledge in order to facilitate informed decision making and avoid unnecessary risks". According to Nishat (2013) in transboundary water management, the essential step which should be made for building trust and strengthening cooperation is done by information and statistics sharing. Moreover, mutual understanding and common vocabulary are reached by information exchange between transboundary water

commissions and governments and by disseminating and making this information available to the public (Nulsson 2003 quoted in Raadgever et al, 2008). Szollosi-Nagy (2018) states that there will not be left a place for conflicts over water resources if there is no secrecy "the fear of unknown evaporates, if there is no secret relating to water then there are no conflicts because there is no secrecy that scares people". Further on, the literature says that no water management system can last long without having an appropriate means of financing.

> "In so-called developing countries, international donors and banks often bear the management costs of negotiating an international treaty, but they may also finance river basin commissions and research projects for a longer time, and give loans for specific projects" Raadgever et al, 2008

However, the same literature claims that heavy dependency on the international donors can be dangerous as it decreases the chance of pricing water that is essential in water management. The final element is the cooperation process which requires mutual trust development among the participating countries. Wolf (1998) suggests that cooperation is a good way of identifying conflicts before they escalate. To know the current situation in the region and figure out the main issues which are leading to disputes between Uzbekistan and Tajikistan there is a need to analyze the existing literature and interviews.

Conclusion of the Chapter II

The thesis is based on qualitative research method which involves desktop and interview analysis. In order to contact with the necessary water and policy experts "snowball method" has been used. There were issues in finding information relating to Afghanistan and water management in that country. Moreover, "game theory" and "regime creation" theories are applied in order to study the case and offer possible solutions. In the following chapters the author will analyze the literature relating to transboundary water conflicts and cooperation.

Moreover, the root causes of the dispute eruption between Uzbekistan and Tajikistan would be closely monitored. The role of stability in Afghanistan and climate change and rapid population growth in Uzbekistan and Tajikistan will be considered as factors that may have an impact on the status quo.

Chapter III: Literature review

3.1 Water principles

It is important to start this chapter by discussing the general principles of transboundary water resource management. According to Gupta (2016) there are five main rules relating to the international water law. The first principle is the "absolute state sovereignty" which was the result of some countries which requested absolute sovereignty of the water resources in their territories. Upstream countries are mostly in favor of absolute sovereignty as according to this principle they can use their water resources as they prefer. At the meantime others were demanding "absolute state integrity" that states that countries have a right to receive water in a good quality and quantity. State integrity is favored by downstream countries as it prevents downstream states from mismanagement of the upstream countries (Dellapena, 2001). The second and third principles require "no-harm" to other riparian states and peacefully solving all of the arising issues. The fourth principle is called "historic rights" according to which countries based on the past experience demand water resources that they have always been using. In such case states which request their "historic share" are potentially stronger and more developed. The last principle is the "equitable share of transboundary resources" (Gupta, 2016). In majority of cases not following one or few of these principles will create a situation which can be solved either by involving violence and national armies or by going for "water diplomacy" and find ways for peaceful resolutions.

Another important issue is the Watercourse Convention which is introduced by the UN in 1997. The convention entered into force only in 2014. The agreement tries to maintain the balance between "absolute state sovereignty" and "state integrity". The convention promotes equal sharing and management of water resources and tries to make countries to come together in order to create inter-state treaties. One of the articles of the convention state that riparian states should not cause any harm to the water resources that is shared with other

countries. In case if it is done then countries are obligated to pay compensation (Gupta, 2016). Moreover, according to the convention if a country is in desperate need of constructing a dam it should be conducted by considering interests and water rights of people in the downstream countries which could be impacted by the project (Kasymov, 2011). However, so far the convention is not ratified by more than 50 countries. Most of those who have ratified the convention are downstream riparian states. In CA only Uzbekistan has joined the convention. It shows that the upstream countries which did not ratify the convention are not willing to lose their "absolute state sovereignty".

3.2 Transboundary water conflicts and cooperation.

The issue of transboundary water allocation can be solved through the means of cooperation or violence. Different pieces of literature suggest that there are two sorts of thesis relating to the transboundary water sharing: the first one is "water sharing leads to a conflict" and the second one "water sharing leads to cooperation" (Wolf, 2007). Other scholars argue that water and environmental relations can trigger conflicts but at the end of the day due to water being an important resource the issue is solved by achieving compromise through negotiations and essentially without involving armies (Goldsotone 2002, quoted in Voza et al, 2012). The history of water relations may have shown either cooperation or conflicts but currently due to rapid environmental changes it is difficult to claim that this pattern will be continued. The argumentation of environmental conflict and water policy experts differ over the issue of water being the reason for conflicts. Therefore, the possibility of both conflict and cooperation should be examined. Firstly, it is important to clarify what "conflict" and "cooperation" are themselves. A conflict arises due to disagreements over ideas, principles and sovereignty where two competing sides fight for a victory (Zaitoun & Warner, 2006). On the other hand, cooperation is defined by Vucovic et al (2014) in the following way

“cooperation as a process through which states explore and act upon possibilities to establish a set of rules intended to guide the behavior of those involved in this issue area”.

Transboundary water management process itself is considered to be a mechanism for potential conflict prevention (Peterson-Perlman et al, 2017. P.2). In case if weaknesses appear in the transboundary water resource management then in the most negative scenario a conflict may start between the riparian states. According to the 2012 UN & EU report conflicts over water resources erupt in the following cases: "Competition between different sectors, reduction of water supply caused by the development of infrastructure, losing access to water supply due to its exhaustion and exclusive control of water resources and its access". Furthermore, in his 1994 book Dixon states that natural resources rarely become reasons for interstate conflicts unless the resource is water. According to Dixon in case a downstream country is heavily dependent on water resources which are formed in neighboring territory and at the same time the country considers itself to be militarily stronger than its upstream neighbors then there is a high probability for a conflict eruption over the issue of resource control (Homer Dixon 1994 quoted in Ho 2017). Further on, Buzan states that “'it is not difficult to imagine the issue of allocations of water along rivers such as the Nile, the Mekong, and the Indus becoming causes for the use of military force' (Buzan quoted in Barnett, 2000). The case of militarily superior Egypt threatening its upstream neighbor Ethiopia which intends to construct a dam can be an example for this. Furthermore, two other specialists like Lipschutz and Holdren do also consider that there is more space for conflict eruption rather than cooperation over the issue of environmental resources and water allocation (Barnett, 2000). Moller (2003) claims that water threats are considered to be threats to the national security as withdrawal of water for any purposes may result in economic losses in other riparian states. As a result, to protect national security countries may refer to violence. To support this point Levy (1995) provides the following argument “for any

environmental threat to be a security threat, there must be some demonstrable connection to some vital national interests" (Moller & Levy quoted in Coskun, 2004). When it comes to the issue of survival then the possibility of conflict eruption is high. Cooley (1984) stated that different countries went for a war over water in the history. The conflict between Israel and Syria which took place in 1967 is given as an example of water conflict by Cooley. Talking about Israel it should be pointed out that 30 out of 37 violent conflicts over water resources starting from 1948 took place between Israel and its neighbors (Ho, 2017Additionally, Starr (1991) believes that soon "water security will rank the same as military security in defense ministries". The problem with water is that in times of scarcity water becomes a target and zero-sum issue that is hard to easily resolve (Barnett, 2000). Moreover, even the former UN secretary Boutros Boutros-Ghali believed that the next war in the Middle East will take place over the right to control and access to the water resources (Frohlich, 2012). Even though the probability of a full scale war breaking up between competing sides may be low but there still some space for conflicts (Zaitoun & Warner, 2006).

Need to mention that regardless of the disputes carrying local character in the long term perspective they may spill over to countries which may be far from the dispute point but may have their own interests in them. Gupta (2016) states the following about this issues "The US, for example, sees its security interests threatened by tensions on the Indus, Nile, Jordan, Ganges and Tigris rivers as well as in the Aral Sea region." Therefore, if transboundary water disputes are not settled in a peaceful way then there can be unpredictable consequences.

The recently published article by the opponents of the "transboundary rivers lead to a conflict" theory state that due to climate change, rapid population growth the correlation between water security and human security will strengthen creating more space for conflicts (Petersen-Perlman et al, 2017). One of the reasons for the scholars having pessimistic view

regarding the water allocation and its future derives from the Neo-Malthusian thinking. According to the theory developed by Thomas Malthus, people will face scarcity and hunger as the result of overconsumption and exhaustion of the natural resources which takes place because of uncontrolled population growth (Granata, 2009). Furthermore, overconsumption and water sharing two or more communities and countries will only add tension to already strained multilateral relationship. That was the negative prognosis relating to the problem of transboundary water sharing and CA countries were not excluded from this.

However, not all of the scholars are pessimistic about the future of water coordination and possible problems arising from them. According to Ho (2017) as water touches the issue of survival and sustenance of those who live close to rivers the changes in its volume due to actions of one party may trigger conflicts. However, the resulted conflict can be classified as "low-intensity conflict" which involve military-political and economic confrontation between the competing side but their intensity is not enough for being considered as wars, but they cannot also be called as peaceful confrontation (Ho, 2017). Furthermore, Wolf (2007) claims that there are water issues between countries that are likely to start a conflict over water resources but in reality, things are more positive. Starting from 1948 there were signed around 295 international water agreements (Wolf 2002 quoted in Ho, 2017) Wolf et al (2011) state that water in majority of cases plays an important role in confidence building, cooperation and in certain moments conflict prevention. For the period between 1945 to 1999 the cases of cooperation over water outnumbered the cases of conflicts to two to one (Wolf et al, 2011). Countries may have overwhelmingly bad diplomatic relations but when it comes to allocation of water resources states are prone for cooperation. The exemplary countries for this theory are Armenia and Azerbaijan, Israel and Palestine. India and Pakistan are the countries which do not have exemplary relation with each other. But, transboundary water issue between the two states has been positively solved in 1960 after 9 years of negotiations which involved the

World Bank as well (WB, 2018). Rationally thinking it can be claimed that the fact that war is a high cost solution may force sides to seek the ways for cooperation rather than conflicts (Ho, 2017). Frohlich (2009) states that even though the probability of conflict eruption due to water allocation is low, anyway there are well-developed diplomacy and negotiation mechanisms that help to further minimize the possibility of disputes. Dixon (1999) believes that "necessity is the mother of innovation". As a result, countries with the problem of resource scarcity try to solve the problem by using their ingenuity therefore cooperate with each other. The "preventive diplomacy" plays a great role in this. Ross (2002) suggests that countries by understanding that "prevention is better than cure" will be prone for negotiation rather than conflicting with each other. Moreover, Barnett (2000) claims that the possibility of conflicts over water allocation is overstated in literature while water is both likely to contribute to peace and spark a conflict between nations. Ho (2017) argues that even though conflicts may take place between countries over water resources in most of the cases takes place due to already existing tensions and water just becomes a catalyst for a conflict eruption. Introducing intergovernmental institutions, signing agreements and treaties, improving working relations between countries are considered to decrease the probability of conflict eruption (Peterson-Perlman et al, 2017. P.2). Moreover, institution development is considered to be one of the most practical tools of solving potential water conflicts. If well-functioning institution is established between countries to manage trans-border water resources then it has been proven that it functions regardless of the conflicts that may arise over other issues (Peterson-Perlman et al, 2017. P.2). Ho (2017) believes that non-state actors and institutions which have cross border networks and access to the government play an important role in normalizing the conflictual situation that may arise between countries. Those organizations contribute in development of transboundary water management.

The water allocation situation CA republics made conflict more probable the cooperation. The following argument has been given about CA countries after their independence "nowhere in the world is the potential for conflict over the resources as strong as in Central Asia" (Smith quoted in Wegerich,2008). The CA countries particularly Uzbekistan and Tajikistan after gaining an independence had almost all the components for a conflict to erupt. So there was a competition between agriculture and energy sectors, there was a possibility for water level reduction due to dam construction and the Uzbek side was afraid that Tajiks intend to get control over water resources and further by limiting access of Uzbekistan to the water resources try to manipulate with it. Fortunately, as it has been previously mentioned a potential conflict over water sharing in CA was prevented in the early days of independence by the 1992 agreement, but it has not been perfect enough in order to solve further arising issues over water allocation in the region.

3.3 Democracy in Uzbekistan and Tajikistan

Needless to mention before discussing Uzbekistan and Tajikistan that after collapse of the Soviet Union the CA countries had problems in transition to democracy. In other words, it can be stated that without considering the slight economic changes that were observed in the beginning of 1990s as such the transition to democracy did not take place at all in CA republics and especially in Tajikistan and Uzbekistan. As a result, both of the countries have authoritarian governments even though Uzbekistan recently has shown some signs of liberalization but still opposition parties are banned and human rights abused. Moreover, the republics are controlled by presidents who have absolute power in their territory. According to the democracy index provided by the Economist (2017) Uzbekistan and Tajikistan out of 167 countries ranked as 158th and 159th respectively. Therefore, it is not difficult to conclude that mass media and freedom of speech are heavily controlled in both of the countries and

state level decisions are mostly made by iron fisted presidents. This factor has a heavy impact on water management in both of the countries.

3.4 Rogun Dam: The [1]Raison D'etre of Tajik Government

Tajikistan [a landlocked country] as one of the five Central Asian countries has been forced to become independent in 1991 due to the collapse of the Soviet Union (Olcott, 1992). The transition process from one system to another was not very painful in many post-Soviet countries and Tajikistan was not an exception. In 1992 a civil war broke out in the country which took 5 years to end. During this war, economy and infrastructure of the country have been destroyed. After signing the peace agreement in 1997 there was an urgent need for Tajik authorities to recover the economy of the country. However, in contrast to its neighbors (except Kyrgyzstan) Tajikistan is not rich with fossil fuels. However, glaciers in the high mountains and high precipitation make the country rich with water resource. Tajikistan has been depended on the gas and electricity supply coming from Uzbekistan. However, the energy supply from Uzbekistan has been considered by the Tajik authorities to be unreliable, as the Uzbek side could switch off the supply during the winter season due to Tajikistan's inability to pay. Another issue was the absence of power line that would connect North of Tajikistan with the center where most of the energy was produced. Therefore, as an alternative Uzbekistan has been providing energy to the Northern province of Tajikistan. However, this has also been used as a tool by the Uzbek authorities. For instance: Uzbekistan used to cut off energy supply to the Sughd province of Tajikistan to force it not to exceed the water limit. Consequently, electricity shortages arise discontent among Tajik people who could understand that the shortage of gas supply is taking place because of Uzbekistan but with the energy potential of the country there should not be scarcity of electricity (ICG,

[1] The Reason for existence

2002). For instance, according to Feaux & Suyarkulova (2015) "Electricity (and heating) provision in Tajik provinces can be as little as three hours a day in winter when demand is high". As a result, businesses which require stable energy maintenance cannot function well and in such a condition it is difficult to improve economic state of the country and wellbeing of people. For instance, due to energy shortages the annual economic losses of the country are considered to be 200 million USD or 3% of the GDP (Fields et al. 2012, p.7)

The pressure mechanism used by Uzbekistan did not have an impact that Uzbekistan has expected. In order to decrease internal and external pressure Tajik authorities had to develop alternative ways of receiving energy. Construction of dams for producing hydro-energy has been seen as a solution for escaping energy dependency and as a way for boosting its economy by which could be achieved by exporting surplus energy to neighboring countries (Kucera, 2013). As a result, in 2008 Tajik government has declared relaunching of the construction of the Rogun Dam. It is ironic to note that the project of the dam was developed in Tashkent (capital of Uzbekistan) in the early 60s which at that time was the scientific center of CA. The construction activities themselves began in 1976. However, the project was halted due to lack of finances and further forgotten after the collapse of the union (Jalilov et al, 2011). Further on, during the civil war the dam facilities were abandoned and damaged by flooding and the country did not have investors for completing the project. The Rogun Dam itself was expected to be 335 m high with the capacity of containing 13 cubic km of water (Savchenko, 2006). However, downstream Uzbekistan and its leader Islam Karimov were not happy with relaunching of the project. Before the starting the construction works the relations between Uzbekistan and Tajikistan were already bad. It is interesting to note that during the Tajik civil war Uzbekistan was one of the supporters of the democratic regime in Tajikistan. However, in 2000 Uzbekistan started accusing Tajikistan of not stopping Terroristic-Islamist groups coming to Uzbekistan through Tajik territory. Consequently, in 2001 Uzbekistan

introduced visa restrictions between the two countries. Following this events, Uzbekistan to put more pressure on Tajikistan started to block railroads which were going through Uzbek territory. Being landlocked and having overwhelmingly mountainous terrain during the Soviet era all of the roads connecting Tajikistan with the world lied through Uzbekistan. From the beginning of the civil war flights between two countries have been stopped. As a result, trade and people's movement between two countries sharply decreased. Needless to say Uzbekistan has a large minority of Tajiks and the author himself belongs to this ethnicity. An "economic blockade" has been a recurring phenomenon. Such tangible relations further decreased trust between two countries making Tajikistan suspicious of any actions carried by Uzbekistan (Juraev, 2012. P2) In 2008 the New York Times named the relations between Uzbekistan and Tajikistan as an "Undeclared Cold War" (Sputnik, 2018). In 2011 head of International Crisis Group (ICG) Luise Arbour pointed out that CA is one of the top ten regions with the high probability of potential war which may take place in near future (Juraev, 2012. P.1).

Regardless of all of the protests of Uzbekistan, the Tajik authorities kept construction of the dam supporting their cause by the Harmon Doctrine "absolute territorial sovereignty". According to the Harmon Doctrine countries have an absolute right to water exploitation in their sovereign territory (McCaffrey, 1996). Moreover, Tajik president Rahmon has not been willing to change parameters of the dam. For instance, in 2007 Tajikistan has rejected an offer made by Russian company "Rusal" to decrease the height of the dam claiming that the Russian company has been protecting the interests of Uzbekistan. In one of the speeches made by president Rahmon he has stated that the completion of the Rogun dam is "a question of life or death" for the country (Juraev, 2012, p.3). In legal terms, according to the 1992 water agreement the possible increase in water consumption in Tajikistan due to using all the potential agricultural land supposed to be considered in the future water allocation quotas.

However, instead of exploiting new agricultural plains the Tajik authorities made an accent on its energy sector which promised to bring more economic benefits to the country. The Tajik side stated that apart from benefiting Tajikistan itself the Rogun dam will serve a great deal for the region as a whole "Tajikistan could supply Uzbekistan, Turkmenistan, and Afghanistan with even supplies of water every year as Rogun would contain enough to compensate for dry years" (ICG, 2012). The independent experts divided into two fronts. For instance, Bologov (2016) stated that "If Rogun is successfully constructed, it will completely eliminate Tajikistan's electric energy deficit and allow the country to export billions of kilowatts of electricity annually, making it the largest electric energy producer in the region". In contrast, others claimed that even if Tajikistan would be able to obtain all of the necessary means to complete the construction of the dam it would not be able to find such a huge market for realizing the produced energy. According to the calculation the overall cost of the dam will be around 3.9 bn USD (Zia, 2016. online). That is due to Central Asian Power Grid that connected all CA countries together which were considered as one entity during the development process of the system. After collapse of the union the grid has been connected with the power system of Russia which has been purchasing Tajik and Kyrgyz energy since 2000. But, the grid goes through Uzbekistan and in 2009 Uzbekistan and Kazakhstan announced that they will leave the power grid. One of the cornerstone reasons for Uzbekistan to leave the energy grid was the dispute over water resources management and dam construction in Tajikistan (Peyrouse, 2009). By taking such procedures the Uzbek side intended to pressure Tajikistan not to finish the Rogun dam. However, Tajikistan has been able to find an alternative market for its surplus energy. In 2016 prime ministers of Pakistan, Afghanistan, Kyrgyzstan and Tajikistan signed an agreement to create CASA-1000 (Central Asia - South Asia) project according to which energy produced in Tajikistan would be sold to energy-hungry Afghanistan and Pakistan. According to the Tajik specialists the project is

supposed to be launched in 2018 (Putz, 2018). Moreover, to deliver energy to the Tajik provinces to which Uzbekistan used to supply energy the Tajik authorities in 2008-2009 developed North-South line that connected northern and southern regions. Therefore, there was no more need for being depend on Uzbekistan for energy flow (Fields et al. 2012, p.14). However, Uzbekistan was not willing to compromise with such outcome.

3.5 Uzbekistan: potential hydro-hegemon or hydro-victim

Uzbekistan a double-landlocked[2] country has received its sovereignty from the Soviet Union in 1991. Vast cotton fields have been obtained from the former regime as a legacy. Moreover, a huge portion of the former Aral Sea is also located in Uzbekistan. The population of Uzbekistan is almost equal to the combined population of all other former Soviet CA countries. (During the process of writing this thesis the population of the country almost reached 33 million) At the meantime more than 60 % of CA people are involved in agriculture and agri-business and most of those individuals live in Uzbekistan and dependent on rivers for irrigation. During the Soviet era, Uzbekistan has been the leading cotton producing country in the union. Acknowledging the importance of the cotton sector, the Soviet authorities have given priority of water usage to Uzbekistan, while hydro-power production was the second in importance (Abdullazev et al, 2012). The trend was kept after the dissolution of the union. Cotton became strategic crop and most of the foreign currency entering the country have been received due to the expert of this product. Uzbekistan spends 60% of CA water for irrigation purposes. Until recently cotton has been the main cash crop in the country. Cotton cultivation has been practiced in the region for many centuries, but in the last 5 decades, there was a huge leap forward in this sector (Abdullaev et al, 2009). According

[2] Uzbekistan is one of the two double landlocked countries in the world [the second one is Lichtenstein] which is surrounded by the countries which are landlocked as well.

to the 2015 reports Uzbekistan is the third biggest cotton exporting country in the world (Putz, 2015). In the meantime, most of the fields are fully depended on flow irrigation (Jalilov et al, 2011). It is important to note that 80 % of the water used in Uzbekistan is formed in neighboring countries making Uzbekistan depended on the upstream countries (Abdullaev et al, 2009). It means that any construction activities conducted in upstream countries that would decrease water level in the main river of CA will have a negative impact on the cotton production and therefore on the economy of Uzbekistan as a whole.

According to the former water agreements Uzbekistan used to supply natural gas to neighboring Tajikistan for a cheaper price, in return the Tajik side has agreed to not release water from its dams in winter period for producing energy. However, in the mid-90s the world price of fossil fuels went up and Uzbekistan was keen on selling its natural gas to Tajikistan with the new price. However, recovering from the civil war and developing its economy Tajikistan was not able to purchase expensive gas from its neighbor (Kasymov, 2011). Unable to buy gas the Tajik government has decided to produce energy by using its huge hydropower potential. That was the moment when water policies of two countries start clashing. From the legal perspective it can be stated that in the Article 3 of the 1992 agreement it is stated that

> "Each of the Parties to this Agreement is obliged to prevent actions on its territory which can infringe on the interests of the other Parties and cause damage to them, lead to deviation from agreed values of water discharges and pollution of water sources". (ICWC, 1992).

However, the agreement did not clarify what actions to take if this article is violated. As a result, Uzbekistan has started to act in a manner that has been appropriate for itself. Uzbekistan has referred to the historic water right that gave priority to agricultural downstream regions. However, the result has not been positive. "Water negotiations based on historical rights or hydrographical rights do not promote peace between riparian states

because they ignore the water needs of the respective countries" (Abukhater. 2013 quoted in Terrascope, online). In the case of Uzbekistan claiming historical rights did not also result in long-term friendship between Uzbekistan and Tajikistan. Except having the biggest population in CA, Uzbekistan has the mightiest army in the region (Wegerich,2008). President Karimov considered the water issue as [3]*casus belli.* In 2012 meeting in Astana with his Kazakh colleague, Uzbek President Karimov warned that there may be not only confrontation but wars can erupt over water in the region due to dam construction in upstream countries (Nurshaeva, 2012). The enraged statement of Karimov was directed to Tajikistan's plan to complete Rogun Dam that has been considered as a threat to water security of Uzbekistan. In other speeches made by president Karimov he used to state that the agricultural lands of Uzbekistan would go from 4.3 million ha to 10 million ha if there was no problem with the water coming from upstream Tajikistan. Moreover, talking about the Rogun president Karimov would always remind the issue of the Aral Sea which is drying out due to scarcity of water resources and potential decrease in water level would lead to complete disappearance of the Sea (Juraev, 2012. P.4). That was done in order to develop negative attitude of citizens of Uzbekistan towards Tajikistan because of which cotton fields are not expending and Aral Sea drying up. Additionally, the Uzbek authorities claimed that the Rogun Dam is the product of the "Soviet Megalomania" that was developed without considering environmental impact of the project. The Uzbek side to support its argument provided an example of diverting water into the deserts of Uzbekistan and Turkmenistan for cotton production that resulted in salinization of the arable lands and dust storms (Michel, 2016).

The attempt of president Karimov to threaten his upstream neighbor can be explained by the realism theory of international relations. According to this theory country in the

[3] A reason or an act that justifies declaration of war.

international scene is a unitary actor and decision makers are rational actors and all of their acts are directed to protect their national interests. This is achieved by using their military and economic might by which they can pressure the weaker countries. The only goal of the leaders is to survive in this competitive environment even the price for it is a full scale conflict (Antunes & Camisao, 2018). However, Tajikistan has also been protecting its own interests.

There was no longer Moscow to which Uzbekistan could refer to in order to get water from Tajik reservoirs during the irrigation seasons, and there was no more Moscow for Tajikistan who used to make the country to release water from its dams by the order of the authorities coming from the capital of the Soviet Union (O'Hara, 2000). But, from the beginning it is believed that the Soviet planners divided the resources in a way that none of the republic can be self-sufficient (ICG, 2002). Now, these were two sovereign countries who supposed to solve their problems without so-called "big brother". In 2014 after an assessment conducted by the World Bank (WB) it was revealed that the dam will not have any social, economic and environmental impact on the region. Uzbekistan was not satisfied with such an outcome of the assessment. The Uzbek side immediately sent a note of a protest against this green light given by the WB calling the assessment “non-sense” (Putz, 2015). According to the Uzbek authorities, the Rogun Dam which will be containing a large volume of water would become a political tool of pressuring during dry seasons in the hands of Tajik leadership. The Uzbek authorities were afraid of the Tajik potential to become a "hydro-hegemon" in the region. According to Zeitoun and Warner (2006) the hydro-hegemon in international arena is a player who dictates “the rules of a game” and identifies what are the issues and what are not during the negotiations process. Moreover, in case if it is a negative hegemony then the powerful party tries to dominate others by simply using the oppression mechanism. Uzbek authorities believed that if Tajikistan becomes a hydro-hegemon then it

will have a right to dictate the terms of negotiations leaving less space for Uzbekistan for maneuvering. However, according to Zeitoun and Warner (2006) countries with the biggest population and economy in the region are likely to control the river system and become the "hydro-hegemon". For instance, in case of Egypt and Ethiopia the downstream Egypt due to being economically and militarily stronger than Ethiopia until recently has been "hydro-hegemon" on the Nile river basin. But, situation has changed when Ethiopia started construction of Grand Ethiopian Renaissance Dam (GERD) on the Nile river in 2011. So far the dispute between the two countries has not been settled (Nasr & Neef, 2016). Interesting to mention that the company named Salini Impregilo which is involved in construction of GERD is also hired by the Tajik authorities to finish the Rogun Dam. As in the case of Ethiopia Rogun could be used by Tajikistan not only to produce energy but also to pressure the neighbors.

Juraev (2012, p3) suggests that Tajikistan has been searching for a leverage against the repeated pressure coming from Uzbekistan, and this mechanism has been found in the form of "Rogun Dam". Previously Tajikistan was not able to ignore interests of Uzbekistan due to being heavily dependent on Uzbekistan for trade (ICG. 2002, p.20). Acknowledging the fact that Tajikistan has been dependent on Uzbekistan over many issues the Uzbek side used this card as a bargaining tool. But later on, since Uzbekistan has decreased trade with Tajikistan there was not much left to lose. However, that cannot be said about Uzbekistan. So far Tajikistan has already been controlling 40 % of the Amu river's volume through Nurek HPS (ICG, 2002). All of suddenly the situation could drastically change for the benefit of Tajikistan. In the words of Warmer (2004) "upstreamers use water to get more power, downstreamers use power to get more water". In order to protect their interests, the Uzbek leadership brought out the following arguments in different sessions and meetings against the Rogun. They claimed that seismic research over the Rogun Dam has not been done in an

accurate way. As a result, there is a high probability that the dam may break up bringing colossal damage to the downstream region. Additionally, the Uzbek side stated that due to the decrease in water level of Amu river for 7.4 cubic km per year because of filling the dam, more than 1.5 million people will lose their means of income which will lead to unemployment in the country (MFA, 2014). Moreover, according to Juraev (2012) filling the dam may require from 8-10 years, which will cost Uzbekistan more than 20 billion USD. At the meantime, Tajikistan due to being an upstream riparian suffers less from negative externalities resulted from its own actions, while as a receiver the downstream Uzbekistan will not be able to avoid this issue (Ho, 2017, online). From the legal perspective Uzbekistan can refer to the Article 12 of 2004 Berlin water resources conference where certain articles where introduced which state that "riparian states in their sovereign territories can exploit and develop their water resources for their own benefit in a manner where interests of other states will be considered and the actions will not cause negative consequences to other basin states" (Water Resource Law, 2004). However, those articles carry a recommendation form and cannot be enforced. But following individual interests in water sharing may lead to a zero-sum-game where one wins while other losses. But, such result may spill over to a conflict. Regardless of all the opposition efforts of Uzbekistan the process of construction did not slow down. Interesting to note that agreements over water allocation have been in place, but they were not successful enough to manage the water allocation issues without state-level disputes. Due to the development of a tense situation, many scholars widely believed that a conflict could erupt between the two countries. But, fortunately predictions do not always come true. Tensions over water allocation have been more or less sustained due to regime changes in Uzbekistan.

3.6 Uzbekistan: water eras.

In 2016 on the eve of 25th anniversary of the independent Uzbekistan its first and only president Islam Karimov passed away leaving numerous issues to his heir. It was expected that not much changes will take place in the country with the arrival of new president. However, the newly elected president Shavkat Mirziyoyev entered the scene by promising to boost relations with the neighboring countries including Tajikistan. The presidency of Mirziyoyev has been a new era in economic, political and most importantly water relations between Uzbekistan and Tajikistan. Now it can be easily stated that in Uzbekistan after independence there were two different water usage eras. The first one belonged to president Karimov who continued the old cotton policy inherited from the Soviet regime. Apart from creating an ecological disaster the cotton policy has played a negative role in worsening relations with upstream countries. Moreover, between provinces within the republic tensions erupted because of uneven water allocation. For instance, due to overexploitation of water resources in Surkhandarya and Bukhara provinces which are considered to be upstream region of Uzbekistan the lower lying Khorezm and Karakalpakstan were not receiving sufficient level of water for irrigating their own agricultural fields. These are just couple of consequences of Karimov's presidency (ICG, 2002, p.12). However, after the arrival of Mirziyoyev, the second era of water management has been launched.

Contrary to Karimov president Mirziyoyev started searching for the reasons of the water problems not from outside but from inside of the country. Plans for the future agricultural development were made accordingly. For instance, in the newly introduced development strategy of Uzbekistan from 2017-2021, it is stated that the country will decrease cotton fields and make an investment in water saving technologies and improve irrigation canals what are the main reasons for water losses in the country (Tashkent Times, online). That was done in order to improve international image of Uzbekistan as well. Needless to mention that cotton

production in Uzbekistan is criticized numerous times in international arena due to its tendency for violating human rights. In Uzbekistan cotton is hand-picked, but it is not done in a way of hiring some people who voluntarily give their consent to work in fields and paid accordingly. Instead under the rule of Karimov cotton collection was made by students, teachers, doctors and children who were forcibly brought to fields to pick up the cotton under the threat of being fired from a job or expelled from a university. By combining the harvest in this way it was believed that cotton would be in high quality and therefore expensive. However, due to human rights abuse and child labor involvement numerous international brands as Addidas, Puma, H&M and many other refused to purchase cotton from Uzbekistan. Therefore, the country has been selling its product to Bangladesh for a low price as European countries have not been willing to buy this from Uzbekistan. This has been named as "cotton curse" of Uzbekistan. (Bologov, 2017). Fortunately, after the election of new president the system that was in place since the Soviet period was banned.

Colossal changes in foreign policy did also take place. As has already been said prior to the death of Karimov the Uzbek side used to send numerous protest notes concerning the Rogun dam to international organizations including UN. However, with the arrival of Mirziyoyev Uzbekistan seems to be more open for negotiations over water as well. Regardless of all of the existing hostilities between the two countries the president Rahmon participated in the funeral of Karimov. A month later in 29th October 2016 the Tajik president participated in a ceremony dedicated to starting the construction process of the Rogun dam and personally on a bulldozer "pushed a pile of dirt" into the Wakhsh river (Putz, 2016, online). However, this time Tajikistan did not receive any threats from Uzbekistan. Interesting to note that by that time Mirziyoyev has been in office only for a month. Instead of accusations there was a willingness to cooperate and solve all the issues considering the interests of both parties. An example for it can be the rhetoric of the minister of Foreign

Affairs of Uzbekistan Abdulaziz Kamilov who claimed that improving relations with Tajikistan and Kyrgyzstan is “an important foreign policy priority” and the following has been said about the Rogun dam by him:

> “The position of principle remains that during the construction of such dams, the interests of both upstream and downstream countries should be considered. We do not say that our Tajik friends should stop the construction of the Roghun Dam. Go ahead and build it, but we hold to certain guarantees in accordance with these conventions that have been signed by you” (Kamilov A quoted in Putz, 2017, online)

The same year on the 72nd session of the UN president Mirziyoyev in his speech stated that “I am convinced that there is no alternative to addressing the water problem other than equally taking into account the interests of the countries and nations of the region” (MFA, 2017). The importance of cooperation has been acknowledged by Uzbekistan. In 9th march of 2018 president Mirziyoyev conducted a historic visit to Tajikistan. Need to mention that before this event president Karimov did not conduct any official state visits to Tajikistan, excepts the ones which were made within the international summits which involved many country representatives (Pannier, 2018). During the visit 27 different documents were signed between the two leaders which are directed to strengthening the relations. An important issue discussed during the meeting was the problem of Rogun Dam construction. No official agreements regarding the water sharing have been signed that is available to the public. But it is said that so-called a "gentlemanly agreement" has been made between two country leaders over water sharing. The problem lies in the reliability of the new deal made between the presidents. During the interview conducted in Dushanbe with the Tajik experts, the author was told that all of the water issues between two countries have been solved after the state visit of the Uzbek president. However, it is difficult to believe that the problems which did not find their solutions more than two decades have been solved overnight. Uzbekistan can cope with decreased water level in Amu river in case the dependency on this water resources will be

reduced. This can be achieved by changing irrigation system and intensive crops that are the biggest water consumers. However, Micklin (2014, p.5) argues that "cotton growing is a key economic activity and main job provider, and quick fixes as rapidly decreasing the cotton fields may cause issues more serious than they initially try to solve". When the population of Uzbekistan in 2002 was 25 million, the number of people who were depended on the water of Amu Darya was 14 million respectively (ICG. 2002, p21). Therefore, rapid decrease in cotton production will result in massive unemployment and consequently it may lead to civil unrests as well. As a result, Micklin (2014, p.6) suggests that long term sustainable management apart from huge investments and up-to-date technologies also require fundamental economic, political and social changes in a country. Logically thinking it will take quite a decent period of time to switch from cotton monoculture to less water intensive cash crops that would not create unemployment. Additionally, there arises the issue of creation of transboundary water regime with independent institutions that will work for preventing the eruption of any kinds of similar disputes that may lead to decades-long disagreements. Furthermore, this research will consider the negative impact of non-cooperation between the neighboring countries.

3.7 Conclusion of the chapter two

According to the above discussed literature water can both trigger a conflict or play a role in peace making. The same can be said about Uzbekistan and Tajikistan as well. After the collapse of the Soviet Union Uzbekistan had no other choice rather than keeping the cotton policy for maintaining stability. This in return demanded a huge supply of water resources that originated in the territory of a neighboring state. However, the upstream Tajikistan with lack of suitable land for agriculture was instead interested in using its hydro-energy potential by constructing the tallest dam in the world. The result was the energy verses agriculture dispute between the two countries that has continued for more than 15 years. The leadership

of both of the riparian states believed that their position was right, but this in return almost led to escalation of a regional conflict over water resources. However, in the last two years' period the relations remarkably improved. Nevertheless, cotton production still plays a vital role in economy of Uzbekistan while Tajikistan did not get rid of its ambitions to construct the Roghun Dam. At the same time need to remember that there are additional factors that may further worsen the situations if proper measures are not taken and those will be discussed in the following chapter.

Chapter IV: Factors that may worsen the situation

4.1 Afghanistan the Future Player.

Afghanistan is a country with which both Tajikistan and Uzbekistan share a mutual border which goes through the Amu river. There is no an up-to-date information regarding the actual volume of the water which is formed in Afghanistan since no measurement of the tributaries has been conducted. But different literature suggests that roughly 17 cubic km of the Amu river's water is formed in Afghanistan (Ahmad & Wasiq, 2003). Moreover, 40% of the Afghan territory and 33% of its population is based in the Aral Sea basin (Coskun,2004). However, due to political unrest and wars which have been going on for more than 30 years in the country the issue of water allocation with the Afghan side has been mostly ignored or did not receive any serious attention from CA countries. However, that did not result from the disability of the independent CA countries to cooperate but the problem had old historical root. For example: between the Soviet Union and Afghanistan there have not been signed an agreement over water allocation apart from those which related to the borderline. Amu River passed through the borderline between Afghanistan and former Soviet Union and therefore there were reached agreements between first the Russian empire and Afghanistan in 1873, and later between the Soviet Union and Afghanistan in 1946 (Horsman, 2008. P.65). Moreover, Horsman (2008, p.66) argues that in 1956 there was signed a treaty which stated that in using the transboundary water resources interests of both countries should be considered and exchange of information regarding the water level and diversion of water from the river should be done between two parties. Following this treaty in 1961 there was made an agreement that stated that any construction activities in Amu and Pandzh rivers should be banned without the mutual consent of the two parties. However, since then countries did not return to the issue of transboundary river allocation. Scholars believe that Afghanistan's usage of the Amu water was not remarkably high and therefore the Soviet authorities saw no

need for signing new agreements with the neighboring country or involve it to the existing ones (Ahmad & Wasiq, 2004). But at the same time literature states that "Before the Soviet invasion, Afghanistan had sent a delegation to Tashkent to prepare a water-sharing agreement. However, no agreement was reached" (Naimi quoted in Horsman, 2008. P.66). As a result, further on there were no signed agreements between the two countries.

In 1987 when the Soviet authorities introduced a new quota for water sharing in CA Afghanistan was not involved or consulted over this matter at all. Therefore, after the collapse of the Soviet Union, the newly independent Central Asian countries in signing 1992 Almaty agreement did not involve Afghanistan again (Wegerich, 2008). Later on, the Taliban government came to power in Afghanistan with which the CA countries did not want to have any contacts due to not recognizing the regime. However, the same pattern has been seen after the election of Karzai following the US invasion of Afghanistan in 2001 (Horsman, 2008). Even though Afghanistan contributes a large volume of the river's water its share has always been the same in the agreements signed by the CA countries. For instance, out of 61.5 cubic km of water, 2.1 cubic km are considered to be given to/used by Afghanistan (SIC ICWC, 2018). Moreover, Afghanistan is not represented in IFAS or ICWC neither as a member nor as an observer. Therefore, these organizations do not consider or protect the interests of Afghanistan. For the decade of their activities, ICWC and IFAS considered Afghanistan only as a future water problem but not as a partner (Horsman, 2008). An example for it can be the report made by SIC ICWC (2018) where Afghanistan is pointed out as a potential future water user in the region which will make the issue of water sharing more problematic. Need to mention that with the stabilization of the situation in Afghanistan the country may intend to use its hydro-energy and agricultural potential. The northern part of Afghanistan is agriculturally the most productive and as a result more than half of the irrigated land (1.16 million ha) lies in the Amu river delta (Ahmad & Wasiq, 2004). O'Hara (2000) states that

following the political unrest the Afghan authorities would be interested in using its tributary rivers for extending own agricultural sector. Moreover, Horsman (2008, p.5) states that until 1979 (Soviet invasion to Afghanistan) the country has used only 10% of its hydro-energy potential while the remaining part can be utilized after reaching stability. Additionally, the 1961 agreement for not constructing any dams on the Amu river or its tributaries has been signed between the Soviet Union which does not exist anymore and the Kingdom of Afghanistan which also is not in place any longer. Therefore, the Afghan side may easily construct dams simply by notifying other riparian countries. As a result, the volume of the Amu river will potentially decrease bringing more tensions among the countries unless the problem is solved in diplomatic way. In the meantime, as an upstream country which is not obliged by binding agreements, Afghanistan may easily start utilizing their water resources without consulting with anyone (Horsman, 2008). Country may refer to Harmon doctrine in using the water which is originating in its sovereign territory. It is estimated that Afghanistan's agricultural withdrawal including urban and industrial development may reach 16.5 cubic km (Wegerich, 2008). In contrast, Ahmad and Wasiq (2004) state that CA countries are not rushing to include Afghanistan into the water agreement because they believe that even with the development of the agricultural fields in the north which they point out will take next two decades the withdrawal will not be notably high. Relying on the recent report of SIC ICWC (2018) Afghanistan’s water withdrawal will reach 6 cubic km only by 2035-2045. However, Horsman (2008) states that Afghanistan may be interested in using its hydraulic potential by constructing dams that may divert large amount of water from the Amu river. Interesting to note that so far Tajikistan has been the only ICWC member which has conducted negotiations over water allocation and hydropower stations with Afghanistan (Horsman,2008). However, other riparian states consider that an additional unwelcomed player in water sharing can only bring negative consequences and the interstate water

management organizations are one of those who are responsible for such conclusion. Nonetheless, Afghanistan is not the only issues that may destabilize the situation.

4.2 The Impact of Climate Change and Population Growth.

The issue of climate change adds more zest into the problem of water allocation between Uzbekistan and Tajikistan. Due to its geographical location and having vast deserts and semi-deserts CA countries are vulnerable to temperature change. At the meantime, countries are not resistant to the climate change due to having weak economy which is based on cotton and wheat monoculture and in the event of stress response may not be efficient enough. The estimates that are collected during the Soviet Union show a steady growth of annual and winter temperature (Lioubimtseva & Henebry, 2009. Online). According to Chen (2017) the average temperature in the region starting from 1960 was rising for 0.3-degrees C per decade. The problem lies in the glaciers where most of the regional water is formed. Due to temperature rise the glaciers will start melting more rapidly than as usual. As a result, for couple of years or decades the water level in tributaries of the Amu river will go up. However, in the long term perspective the size of the glaciers will demolish leaving behind the issue of water scarcity. Perelet (2007) provides the following numbers relating to the glaciers "From the 1950s to the 1990s, the Pamir-Alai glaciers lost 19 per cent of their ice, with the process now gaining in intensity. For several decades, the area of glaciers in different regions of Tien Shan, Gissaro-Alai, Pamirs and Dzhungarskiy and Zailiyskiy Alatau has decreased at the average rate of about 1 percent per year" (2007, p.10). The outcome of these changes have already been seen. According to SIC ICWC (2018) report for the last 15 years there were observed decrease in the volume of the Amu river. Moreover, the probability of the dry years has increased for 1.3 times. Additionally, the developed scenario for the Amu river has shown 15 to 35 % decrease in the river volume in summer months by 2050 (SICS ICWC.

2018, p.7) This numbers become more dangerous when considering the fact that the population of Uzbekistan and Tajikistan is rapidly growing and most of those people are heavily dependent on surface water resources for irrigation.

Having many children in a family is a usual phenomenon in both Tajikistan and Uzbekistan. But this can be a reason for additional pressure on the available water resources. People of Uzbekistan and Tajikistan are not famous by their water user behavior. Both of the countries ranked at 5th and 7th places among the worst water users in the world. In both of the countries the annual per capita consumption is close to 2.000 cubic meters (Euroasianet, 2014). At the meantime, according to the FAO 2007 estimate in Israel per capita consumption was 281 cubic m annually. There can be arguments that in Israel people have access to technologies that can help them to save water resources. But the problem does not lie within the availability of the high-tech because regarding the same report in Egypt and Pakistan which are also huge water users the annual per capita water usage varied between 950-1000 cubic meters per year. Such difference in water spending is taking place due to water being a cheap resource which has always been subsidized first by the Soviet authorities and later by the independent Uzbekistan. As a result, people had and still have no incentive to improve their irrigation methods or invest into water saving technologies. But the paradox is that in the state run TV channels there are numerous social ads that inform people about an issue of water scarcity and therefore ask them not to waste water in their daily usage. However, at the meantime agriculture consumes 92% of Uzbekistan's annual water resources and only 8% is spent on household and industries (Dukhovny & Sokolov, 2002). As a result, unless farmers are thought to save water then there may be seen some advances in water conservation. Furthermore, in the future when the issue of water scarcity becomes real people without water saving culture will have difficulties in coping with the arising problem. Already under the Soviet rule in the Fergana valley where Uzbekistan, Tajikistan and Kyrgyzstan share mutual

borders and have high population density in 1990 disagreements over water issues lead to ethnic clashes between Uzbeks and Kyrgyz where hundreds were killed (Wines, 2002). Furthermore, after independence conflicts between the villages located in borderline over scarce water resources which resulted from disputed water allocation agreements were observed in several occasions (ICG, 2002). Dixon (1999) provides the following explanation for such case "Marginal groups that are highly dependent on increasingly scarce resources find themselves trapped in a vise between rising scarcity on one side and institutional and policy failures on the other". Even during the Soviet period, the water issues in Fergana valley have been solved not by introducing fair water allocation quotas but by bringing additional water resources to the region (Pak et al, 2013). Dixon (1999) considers rapid population growth will increase demand for a scarce natural resource which in return will lead to violence between communities or states. However, at present it is not possible to bring extra amount of water but the needs of people should be met. Moreover, slowing down the glacier reduction or population growth may be problematic, but the water issues can be solved by improving the management and strengthening cooperation between Uzbekistan and Tajikistan by the help of the intergovernmental organization.

4.3 The Intergovernmental institutions and their loopholes

The regulation of water sharing regimes on transboundary rivers are carried in two ways. The first one is the social planner approach which involves the supranational body which deals with the water issues between the riparian states. The second approach is based on the market rules. It means that each riparian country depending on its individual gain bargains with others (Kasymov, 2009). The CA countries in allocation of their water resources in 1992 preferred to refer to the social planner approach.

Due to deindustrialization and economic crisis resulted because of the abolition of the Soviet Union the CA countries more heavily become dependent on agriculture for sustaining themselves and immediately transboundary water management become a pivotal issue. After the collapse of the Soviet Union, the centralized water management mechanism and institution (Minvodhoz) has gone to the history and CA republics felt a need to establish a new institution for coordinating water issues in the region. In managing transboundary rivers, the role of institutions considered to be important.

> No matter how imperfect water institutions and treaties can be, they nevertheless help routinize issues, lower the risks of crises, facilitate issue-linkages, and provide platforms for reducing differences, thus helping promote stability at both river basin and regional levels. (Ho, 2017)

Therefore, within the 1992 Almaty meeting, the ministers of Water Resources of the five CA countries have signed an agreement over joint management, protection and use of interstate water resources. That was an important step in the creation of an independent water management organization in CA. On 26th March 1993 leaders of the CA countries confirmed the earlier reached agreement on the creation of the Interstate Coordination Water Commission (ICWC). Furthermore, the ICWC was included in the International Fund for saving the Aral Sea (IFAS) in 1993 by a joint consensus (ICWC, online). All of these institutions work closely with the ministries of the member countries which deal with water issues (ICG, 2002). The organization is responsible for the management of the basin water resources. The following are the main tasks that are carried out by ICWC given in the official web-page of the organization:

1. River basin management;
2. Non-conflict water allocation;
3. Organization of water conservation on transboundary watercourses;

4. Interaction with hydrometeorological services of the countries on flow forecast and account;
5. Introduction of automation into head structures;
6. Regular work on ICWC and its bodies activity advancement;
7. Interstate Agreements preparation;
8. International relations;
9. Scientific researches;
10. Training.

The representatives of ICWC meet four times in a year in order to approve annual limits for water withdrawals (O'Hara, 2000). Moreover, ICWC also deals with the controlling of the interstate reservoirs' operation regimes. Needless to mention that the decisions made by the ICWC are obligatory for the member countries. Further on, within the ICWC there is Basin Water Organization (BWO) which monitors and controls the withdrawal limits by the countries. Most importantly there is the Scientific Information Center (SIC ICWC) which has branches in each member countries. The main idea of SIC ICWC is analyzing the water situation in CA and based on the data develop programs by which water management could be improved in the region. They also deal with the training of water specialists in the region and also publish academic reports (ICWC website). From the first glance, it may seem that there should not occur any issues in water coordination as there is a well-established institution that can neutralize water disputes. However, from the analyzed literature it has been revealed that in practice things are more different.

The Interstate Commission for Water Coordination (ICWC) and International Fund for Saving the Aral (IFAS) have been created with the good intention to solve the existing and potential water issues in the region. However, their activities are not bringing the expected results. The following issues are given in the literature as the reasons for the failure of these

two organization in solving water coordination issues. According to Masello (2008), ICWC and IFAS suffer from a limited mandate, weak institutional capacity, insufficient financing and lack of enforcement. It means that ICWC lacks mandate in influencing other sectors apart from water allocation while the biggest water consuming sectors are agriculture and energy. Moreover, local experts lack technical and executive experience which do not let them solve arising issues, there is also a lack of financial support from the member countries for the projects. At the same time, money coming from international donors are directed in recovering the Aral Sea while the river basin management issues are neglected. Finally, the organizations cannot enforce the norms of the 1992 agreement even though the decision of ICWC is obligatory for all of the participating parties. An example of the ICWC inability to enforce the regulations can be Turkmenistan's Golden Age lake which is currently under construction. The lake is believed to have a negative impact on water availability in downstream areas of Amu river to where water will not reach due to being diverted into the Golden Age Dam (Baizakova, online). ICWC has been opposing this project. However, regardless of this the Turkmen government easily ignores the regulations of ICWC which are unable to do anything in this case. The last issue is monitoring whether countries are really getting water within the established limits or diverting more. However, that is not done due to absence of the surprise inspections are not conducted as in some member countries (Uzbekistan and Tajikistan until April 2018 had visa regime) they require visas from senior officials which takes a long time to obtain (Masello, 2008). Water specialists may enter the country for inspection after receiving visa but further on a new issue arises with the availability and modernity of available equipment lack of which disables conducting a reliable monitoring (ICG, 2002, p.6).

Additionally, there is an issue of bias, Wegerich (2005) claims that due to being located in Uzbekistan in most of the cases ICWC supports the position of Uzbekistan. All of the

important bodies of ICWC as Amu river BWO and SIC are located in Uzbekistan while the weaker secretariat of the institution is based in Tajikistan. Even the headquarter of IFAS is located in Tashkent (ICG, 2002, p.7). However, it is interesting to note that even though both IFAS and ICWC are located in Uzbekistan the disputes within the provinces of the country is not an unseen problem.

As has been mentioned already Afghanistan as a potential water user is not involved in water allocation process and its share is fixed to 2.1 cubic km. Horsman (2008) states the following about this issue "Inclusion of Afghanistan in IFAS may raise uncomfortable questions about the organization's working practices and commitment to cooperative goals and adherence to allocation quotas". Another issue is the efficiency of the river basin authority (BWO) which actually deals with the water allocation under the supervision of ICWC. It is believed that BWO has a huge potential in efficiently managing water allocation, but it is not taking place due to lack of finances and cooperation. As a result, this organization does not work in its full capacity (Bedford, 1996 quoted in O'Hara 2000). However, others suggest not to rush to blame ICWC and IFAS for all of the water management problems since these institutions can be as strong as governments let them be, while without cooperation the existing institutions are obviously weakened (Dr. Thevs personal interview, 2017). Uzbekistan and Tajikistan may keep the 1992 water agreement and be attached to the "business as usual model" or work over a new water sharing mechanism that could be used for preventing disputes that may arise during dry seasons. Regardless of all of the mentioned problems one of the main issues is the creation of the transboundary water regime between the countries that will contain certain treaties, agreements that will empower the existing institution to easily serve as a dispute resolution mechanism.

Conclusion of the Chapter IV

There are several issues ignoring which may lead to unpredictable consequences. There is Afghanistan which can legally demand its share of Amu river that has not been used over many decades and according to international conventions Uzbekistan and Tajikistan cannot refuse this right of Afghanistan. This in return will add more pressure on Amu river countries that are already in confrontation over proper allocation quotas. Additionally, there is an issue of global warming that leads to rapid glacier melting and therefore in the long term a water scarcity. An additional factor is the rapid population growth that may further add fuel into the fire of water mismanagement. The issue might find its solution by involving military force but war may not be cost effective solution and cheaper alternative can be negotiations. To coordinate and solve all of these issues the existing institutions should be either improved or more adaptive transboundary regime system introduced. However, the institution in place is not capable of taking under control the water issues due to lack of finances, mandate, limits of information exchange, and most importantly absence of trust. Therefore, there is a need for coordinal changes in the established institutions and agreements that are supposed to empower it. Those issues will be discussed and possible recommendation given in the following chapter by analyzing the conducted interviews.

Chapter V Findings and Discussions

5.1 Uzbekistan and Tajikistan: Water Dispute

An important issue to be answered is whether conflict over water is possible between Uzbekistan and Tajikistan. In this point of relations according to respondent #1 (political scholar), all of the scenarios are possible. That derives from the issue of national interests and states as rational actors try to defend their interests. Moreover, respondent #2 (political scholar) claims that low-level conflicts have already been going on between two countries over these years but as respondent #2 claims "It is the institutional legacy of resolving conflicts. The countries have been depending on each other for a long time and sanction type of actions have been carried between them". Furthermore, the possibility of a conflict eruption is rejected by respondent #3 (water expert) who believes that CA countries due to sharing the same history and being traditionally similar will not start military actions against each other. Therefore, comparing the Uzbek – Tajik relations with the Egyptian and Ethiopian GERD conflict is not correct according to the respondent #3. However, respondent #1 does not leave the option that the relations may get cold again. The same pattern has been observed after the collapse of the Soviet Union. The countries have had good relations but over the years that have changed to the negative side. One of the reasons that particularly pointed out is the lack of trust between the two countries that may lead to a worsening of relations. According to Raadgever et al (2008), one of the essential elements of successful cooperation is the presence of trust between the parties. By building trust countries will not be afraid of cooperating with each other as it has been observed for the last 15 years. There are special methods of building trust and respondent #1 states the following about this:

> "I think that the room here is so much, there are so many things that are relatively easy and obvious things countries can do because until president Mirziyoyev came to office the relations were so bad that they can start on

anything. And the emergence of trust will depend on how consistent this goes. If anything goes down trust will be sacrificed" (Respondent #1, 2018)

According to the respondent #2 trust must be achieved with small victories and there should be some changes taking place at least every 6 months. It means that by improving trade relations and transportation networks between Uzbekistan and Tajikistan, over some period of time it will be possible to increase the trust between the two. By achieving a certain level of trust it will be further easier to solve disturbing issues like water. Ho (2017) states that if there are more linkages beyond the river issues between disputing states then it is easier to come to an agreement over water problems as well. The case of water sharing between Kazakhstan and China can be an example of this. China has water issues with most of its neighbors but with Kazakhstan, those problems are institutionally solved due to cooperation beyond the river system (Ho, 2017). It means that by conflicting over water China and Kazakhstan may also disturb trade relations that may cost a lot to both of the neighboring countries. However, respondent #2 believes that trust building in authoritarian Uzbekistan and Tajikistan does not depend on economic or social cooperation but very much based on the mutual relations of two leaders. The strained relations between president Karimov and Rahmon can be an example of that (Stronski, 2016). Karimov and Rahmon openly hated each other and in one of the meetings with the journalists in 2009 the Tajik president confessed that twice the "war of words" over water resources between the two leaders transferred into physical fights (Mavloniy, 2009). In contrast to Karimov president Mirziyoyev seems to be more friendly towards Rahmon. The result of the good relations was the abolition of the visa regime which has been imposed by Uzbekistan in 2001. Moreover, most of the border-crossing points that were previously closed currently are open again. Most importantly the railway connection between two countries have recently been established making flow of foreign products to Tajik market simpler.

However, there are also some minor issues that may have a negative impact on the improving relations. The respondent #1 provides an example of the dispute over flights between Tashkent and Dushanbe. In May 2017 there was made a first commercial flight between Uzbekistan and Tajikistan for the last 25 years. Nevertheless, there were some debates over which airlines can fly on the route and Tajik plane belonging to the Tajik airlines conducted a flight to Tashkent but was not allowed to lend in and had to return back. Immediately the case was followed with the exchange of protest notes between the two sides. According to the respondent # 1this seemingly small issue may have negative impact on the fragile trust that has been achieved. Therefore, avoiding and solving minor issues without using negative rhetoric towards each other can play a great role in achieving a durable trust between the two nations.

5.2 Agreements and Regime Creation

Coming back to the water issue Chasek et al (2006) states that non-binding agreements between countries may also serve a great role in regime creation. As has been previously mentioned the agreement achieved between Uzbekistan and Tajikistan during Mirziyoyev's state visit to Dushanbe was not an official but "gentlemanly agreement" in its nature. However, the respondent #1 provides an explanation for such outcome

> "That was long coming and very long in waiting and in that understanding if the two sides decided that it would be the first based on the gentlemanly agreement then I think that is as far as they could go for now. So we need to understand that how quickly two previously very strongly disagreeing sides come to some terms. I think if both accepted that as a good starting point, I think that is as good as anything." (Respondent #1, 2018)

In the case of Uzbekistan and Tajikistan cooperation is considered to be better than finger-pointing at each other as it has been going on for the last 15 years. However, both respondent #1 and respondent #2 believe that in the long term perspective the agreement should be fixed

in a treaty and in written form of some principles that will not solely base on the "goodwill" of leaders. The signed agreement should clearly define what kind of resource water is and how it should be allocated. As a result, the respondent # 1 believes that the upstream Tajikistan would not feel that it is losing something because of sharing its water while downstream Uzbekistan would not feel cheated due to paying for it. Overall it has been concluded that Uzbekistan and Tajikistan are in the right direction and water problem will find its proper solution if things develop in this way. But, as respondent #2 states if due to climate change [The topic which is not popular in CA republics] 50% of glaciers meltdown over a year then there will be a problem. Fortunately, this process is going slow for now. However, transboundary water treaties ignore extreme events and as a result of institutional resilience to cope with the changes decrease as well (Green et al, 2013). This issue is related to the water quotas and therefore supposed to be addressed in the 1992 Almaty agreement.

So far the 1992 water agreement has been criticized due to being unable to prevent continuous disputes between Uzbekistan and Tajikistan over water allocation and dam construction. The ICG (2002) report states that the inability to solve the tensions is the failure of the water management system based on the 1992 water agreement. However, interviewed water experts both in Uzbekistan and Tajikistan had a more positive attitude towards the agreement. According to the respondent #5 who is a member of ICWC, the Almaty agreement has been successful in meeting the foremost goal that was in front of it. The expert states that there is nowhere in the world such an agreement that is written within four months' period and accepted by 5 countries who were expected to go for a conflict over water allocation. The main goal of this agreement was avoiding a conflict eruption in the first days of independence between the countries:

> "Of course this agreement is not ideal, if you look at it from a lawyer perspective the agreement does not meet the requirements of the common norms how it should be. But at the same time, we should understand that particularly this document has

> brought peace and stability to the region. There were many incidents when countries could start arguing endlessly and conflict could erupt. But due to the agreement, it was possible to keep the peace and sustain normal relations between ministries of the countries". (Respondent #5, 2018)

The respondent #4, #3 and Tajik water specialists have also claimed that regardless of all of the weaknesses of the 1992 agreement it has been remarkably successful in keeping the peace and due to this deal, there is still water allocation going on. However, the agreement which is still in act was based on the former Soviet Agreement and therefore due to many new factors, it should be upgraded. As has been revealed during the interviews the inability of the water institutions to coordinate water problems derive from the 1992 water agreement and its improper application in large extent.

The first issue arising from the existing agreement is that the water resource between Uzbekistan and Tajikistan as respondent #3 (2018) points out based on the volumetric quantity allocation. This method is considered to be efficient when there is a need for an immediate response that should be made to meet people/countries water demand. That was the case in CA when countries become independent and vital water resources supposed to be urgently allocated to avoid any disputes. The goal was achieved but this system has its own problems "the volumetric strategy can fall short because it assumes normal water supply conditions will hold from year to year and disregards natural fluctuation in river flow as well as the unpredictable effects of climate change. In the case of droughts, a country that has agreed to deliver a volumetric amount to another country could be unable to do so" (Abukhater, 2013 quoted in Terrascore, online). The same can be seen between Uzbekistan and Tajikistan, due to drought or dam construction Tajikistan would not be able to deliver enough amount of water to Uzbekistan then it will be a reason for a dispute if the existing agreements do not consider such situation. That is the issue with the allocation method itself, but there are many additional loopholes as well.

The respondent #5 points out that one of the essential problems of the 1992 agreement lies on the procedural rules. In the agreement, there are no any articles relating to procedures that should be followed in a certain situation. For instance, Tajikistan can inform Uzbekistan about dam construction but the dates for the response are not fixed. At the same time, Tajikistan cannot start the construction activities without the consent of Uzbekistan in order to avoid dispute eruption. However, so far this sort of protocol does not exist and as a result, countries keep repeatedly arguing between each other. Another major issue that is considered to be decisive in creating durable water regime is enforceability of the existing agreements. The possibility to enforce helps to decrease the level of complaints between countries (Dinar et al 2010 quoted in Green 2013). However, in the 1992 agreement, there is no a mechanism for enforcement. The respondent #4 states that in several situation sides sign an agreement according to which the upstream should provide the downstream with a certain amount of water. But, if they do not meet the requirements there is no a written punishment to follow. Following argument is given about this situation

> One of the major problems with the agreement is that they do not contain any written sanctions on them. If someone is not willing to meet the requirements of the agreements nothing will happen to him. So people can easily cheat on each other and you will not be able to do anything with that. I guess that is also not right and there should also be some mechanism of control and responsibility (Respondent #4, 2018)

Nevertheless, the respondent #5 argues that sanctions in international law are not considered to be successful. According to the responded #5 sides have agreed to come up with a treaty by 1995 which supposed to oblige the parties to pay financial compensation for not meeting the norms. However, that treaty has never been introduced. Moreover, the respondent #5 states that even economic sanctions that may be imposed cannot be effective unless there will be some mechanism for pressure. The only thing Uzbekistan can do is to refer to the international court. However, Green et al (2013) suggest that by increasing cooperation there

will be more space for pressure. For this, the agreement should connect several benefits that would be lost due to defection. That means that with an intent to benefit from one defection a country may lose a greater good in long term perspective. As a result, there will be less probability for defection while the incentive for cooperation will go up. Moreover, the same literature states that "Enforcement makes the agreement more robust and stable but must be coupled with monitoring to be effective" (Green et al, 2013). This issue in return is connected to information sharing and monitoring of the water resources.

According to the respondent #3 currently, Uzbekistan and Tajikistan would not have such disputes over water allocation if there were proper information. For governing a dynamic resource as water having continuous monitoring and data sharing is important. At the time when there are proper data, parties will not spend time on arguing which information to use but instead will immediately direct their attention towards the problem. This makes resource managers flexible and responsive (Green et al, 2013). In 1992 agreement there is the article 5 which states that between the parties there should be made wide information exchange and monitoring of the river systems (ICWC, 1992). However, Green et al (2013) claim that regardless of the fact that most of the several treaties include joint monitoring and information sharing provisions, in reality, data exchange is not too high. That is the case in CA as well. The respondent #3 believes that in CA "transaction costs" in information sharing is too high. "But for any institution to function well, there should be low transaction costs which can be achieved only by increasing information exchange and decreasing time spent on collecting the data" (Respondent #4). In contrast, the Tajik experts argue that there are no more issues in sharing information between two countries as it has been a case two years ago. Sharing information is likely to increase transparency. Raadgever et al (2008) argue the data exchange enables cooperation due to trust building "Cooperation in information management, e.g., joint monitoring, is often an effective way to start developing trust between riparian countries. Free

access to information is an essential precondition for this". Beginning to share information freely can be an important step between Uzbekistan and Tajikistan. However, the respondent #3 believes that is possible that there are no longer political barriers in data sharing, but there is a new issue in the accuracy and reliability of the provided data.

> "Nowadays receiving information is not a huge problem anymore. If you go to Tajikistan they can easily present you what kind of changes are going on in the water of the Amu river. But now the problem lies in the accuracy of the information. If there are no hydro-posts then it is difficult to say that the presented data is correct. The presented information may derive from the data which has been collected many years ago. Therefore, I believe in order to start information sharing we at least need four to five years" (Respondent #3, 2018)

Most of the hydro-posts which were constructed during the Soviet era were abandoned or damaged over the years of independence and therefore they cannot be utilized.

The Tajik experts claim that they are not able to get accurate data due to lack of financial means, while donors are not interested in investing in them. Instead, Tajik experts state that international organizations and donors provide money only for conducting trainings for farmers. However, respondent #4 argues that three years ago German and Swiss NGOs offered 1.5 million USD for modernizing the existing hydro-posts in the river system. All of the ICWC members have agreed to participate in this project except Tajikistan. "The Tajik side stated that it will not let anyone to its territory and will not share any information" (Respondent #4). As a result, the project has been halted and CA countries lost 1.5 USD for modernizing their technologies. Moreover, according to the respondent #4 starting from 2005 to 2012 ICWC organized a “capacity building" trainings which gathered 5 water specialists from every member states each month in Tashkent. The organized seminars were dedicated to water issues which were jointly discussed by the participants. Those seminars encouraged the representatives to better understand each other and come to a compromise. The respondent #4

believes that arguments happen between two sides because they do not understand each other. Therefore, the seminars encouraged participants to look at problems from different angles and try to come to a common understanding. Unfortunately, the project has been closed due to lack of financial means. However, respondent #4 argues that currently, donors are ready to invest in the project. But, Tajikistan is opposing the rebirth of the system. Tajikistan has a veto power according to the 1992 agreement that can be used to stop all of the projects that are considered to be harmful to national interests. According to Chasek et al (2006) including veto power can make small countries prone to opposition making the creation of effective regime complicated. Pursuing individual interests in the basin system in the long-term perspective may have a negative impact. However, the same Chasek et al (2006) suggest that hegemon power may be used in regime formation. In the case of Amu river Uzbekistan can become a hegemon state which can dominate the weaker Tajikistan and pursue it to regime creation. It means that under the pressure coming from Uzbekistan Tajikistan supposed to be forced to cooperate and sign the treaties. However, as it has been previously mentioned that the case of the Amu river is a complicated one.

According to the respondent #1, the Uzbek leader has been doing a great diplomatic job to avoid being hegemonic in solving the existing issues. There is a solid reason for that. As soon as Tajikistan feels that Uzbekistan is trying to set the terms of cooperation through imposing a pressure then immediately the trust will be heavily damaged. Therefore, the respondent #2 states that so far Uzbekistan has been trying to be a nice player than upstream Tajikistan. By being a benevolent hegemon rather than a tough one Uzbekistan opens more space for itself for negotiations. The respondent #1 gives the following argument:

> "of course all countries understand that Uzbekistan is the biggest country, economically it is much bigger, richer with resources and in so many other ways it is much more important, stronger and I do not think that Kyrgyzstan and Tajikistan

> can resist that. Now, it is the responsibility of the stronger side Uzbekistan not to make that the playing card". (Respondent #1, 2018)

There are reasons for Uzbekistan to avoid being a hegemonic player in solving the water issue. In a recent speech in Dushanbe, the Tajik president Rahmon stated that "in the current complicated situation we should cooperate rather than compete and intend to become a hegemon." (Avesta.tj, 2018). The respondent #1 states that Rahmon also claimed that Tajikistan will not tolerate and accept anyone who is trying to play a hegemon and instead there should be cooperation on equal footing. Intolerance of Tajikistan towards hegemony has been already proven over these 15 years. The pressure mechanism that has been used under the former leadership in Uzbekistan has brought more antagonism between the two countries rather than cooperation. Therefore, it is important to keep in mind previous mistakes in order to avoid making the new ones. Moreover, the respondent #1 believes that if Uzbekistan tries to play hegemonic towards Tajikistan there may arise tensions with other neighbors as well. There may occur even a negative competition between Uzbekistan and Kazakhstan which is also a strong player in the region.

Another issue is involving the third party which will help Tajikistan and Uzbekistan to coordinate the water dispute. However, both respondent #1 and #2 firmly stated that the two countries want to solve both border and water issues themselves without involving any third parties. Even if Uzbekistan and Tajikistan will feel a need to involve a mediator then it will be overwhelmingly difficult to do so as most of the countries are not either trusted or have their own interests. Therefore, according to all the respondents in case Uzbekistan and Tajikistan will not be able to independently settle the water dispute then some independent international organization like UN which has a neutral position can be asked to help. However, sometimes even international organization fail to coordinate transboundary issues and their help may create tensions rather than the solution and Rogun is an example for that.

The environmental and social impact assessment of the Rogun dam has been carried out by the WB. As has already been mentioned that has led to the dispute eruption between Uzbekistan and Tajikistan. The respondent #5 described the situation in the following way:

> "Think it is connected to the incorrect organization of the process. The world bank, for example, could be cleverer in this direction. I guess from the beginning, not a correct approach of assessing the dam has been chosen. If they have offered Uzbekistan to create a joint commission, at least a commission where experts from Uzbekistan would be involved then the situation would be less tense" (Respondent #5, 2018)

But instead during the assessment none of the representatives from Uzbekistan were involved. Moreover, the respondent #5 states that the most important question that has been bothering Uzbekistan "the regime of work of the Rogun cascade" has not been answered in the assessment leaving the country suspicious. Therefore, the help of the international organization is considered to be destructive in this particular case. However, with the arrival of the new leadership in Uzbekistan, there was organized a joint working group involving two country representatives. Recently the head of the Uzbek [4]State Security System visited the Rogun construction site and stated that Uzbekistan is willing to invest into the construction of the Rogun Dam (Asia-Plus, 2018). The respondent #4 claims that the regardless of how hard Uzbekistan has been trying to oppose the construction Tajikistan did not stop it. Therefore, the respondent #4 and #2 believe that if Uzbekistan becomes an investor into the Rogun construction then it will be easier to control and get needed information as:

> "everything will be done in front of our eyes and somehow we will be able to influence it. At least our interests will be considered during the exploitation of the dam and our involvement will help us to find some compromises for the win-win outcome" (Respondent #4, 2018).

[4] Служба государственной безопасности e.g Davlat Xafsizlik Xizmati

Recently, Tajikistan has refused a loan from the WB. So far the country could obtain 500 million Eurobond for construction of the dam (Reuters, 2018). However, as has been mentioned the overall cost of the project is 3.9 billion USD and investment of Uzbekistan into the construction will give a "win-win" outcome for both countries. That will happen due to Tajikistan will be able to finish its long dreamed dam while Uzbekistan will have an opportunity to obtain a mean of control the dam and water release regime. Furthermore, the joint management is likely to result in transparency and strengthen the trust between two countries.

For improving the cooperation, the respondent #4 states that applying the right terminology is vital. According to the respondent #4 Uzbekistan considers the Amu river as transboundary river while Tajikistan claims that they do not like the word "transboundary" and instead prefer to refer to it as "river of common usage". The terminology may be the same but can be understood by the parties differently and therefore arguments erupts due to a used term. As a result, it is important to agree on terminology before making an agreement or offered treaty should clarify the terminology based on which further decisions making will take place.

In the creation of a resistant regime, the role of stable financing is important and absence of it may lead to failure in the long run (Raadgever et al, 2008). According to ICWC reports currently Uzbekistan, Turkmenistan and as respondent #5 states Kazakhstan are the only ICWC member countries which regularly finance the water management activities carried by ICWC. However, other bodies do not provide any amount of money underlining their difficult financial situation (Masello, 2009). The respondent #5 states that currently projects are financed mostly by international donors and the recent Amudarya research project has been supported by USAID. Moreover, according to the respondent #3 there are two types of financing coming from donors. The first one is the grants and the other is credits.

> The ones who give grants as Swiss initiative and GIZ provide money for soft components as capacity building, introduction to river basin management trainings. The World Bank, the Islamic Bank and Asian Development Banks mostly provide credits for developing agriculture and irrigation and also for improving the pumps. (Respondent #3, 2018)

However, the problem does not depend on the investments but on water policies in the countries as well. The respondent #3 states that in Tajikistan farmers cover 80% of the cost for water delivery while the government covers only 20% of it. According to the Tajik experts their agricultural fields are located higher than the water body and therefore they need to exploit electric pumps for bringing water up. That is an additional reason for constructing the Rogun dam as due to lack of electricity water is not pumped and crop in fields are lost and in order to avoid such consequences farmers themselves take the responsibility to bring water to their own fields. However, in Uzbekistan the situation is completely opposite. The respondent #3 claims that in Qarshi desert during the Soviet period cotton fields were created by pumping water up from the Amu river "by using 7 pumps water has been lifted for 150 meters to the Tolimarzhon water reservoir". The trend is still continued after collapse of the union. However, in contrast to Tajikistan in Uzbekistan more than 80% of the cost for water delivery is covered by the government. Therefore, farmers pay very low price for water and there is no need for saving this resource. At the same time, the respondent #3 argues that due to wasting the pumped water a huge amount of electricity spent on pumping is lost as well. As a result, country is losing money due to wasting water and therefore energy. The main reason for this as the respondent #3 claims is the fixed quota for cotton production in Uzbekistan. In Tajikistan farmers are not obliged to produce cotton and grain that is later sold only to the government. But in Uzbekistan the country is the main customer for the raw cotton that has until recently been purchased for a low price. According to Bologov (2017) in 2013 cotton costed 7 cents USD per kilogram, while in international market that cotton was sold for 2 -2.5

USD per kg. However, the new Uzbek president Mirziyoyev promised to deal with this issue. That is an additional reason for diversifying the cotton monoculture. (Bologov, 2017). In order to compensate this the Uzbek government heavily subsidizes the water delivery. That can be economically profitable now but in the long term perspective it will have negative consequences.

5.3 Afghanistan: The Future

The next issue that has been ignored by the 1992 water agreement is Afghanistan. The respondent #1 states that more time passes more stable Afghanistan will get and more actual the issue of agricultural development becomes "Afghanistan is not going to be easy to come to some mutually agreeable terms with all countries". However, other respondents argue that there were real reasons for not involving Afghanistan in the 1992 agreement and aftermath

> In 1992 there was made a decision that we would keep the schemes and principles of water management that were agreed during the Soviet Union. Moreover, in the Soviet period there was not a mechanism of agreements between the Soviet Union and Afghanistan and therefore there was not an agreement over water as well. There were attempts to involve Afghanistan, but at that period Afghanistan has not been ready (Respondent #5, 2018).

Later on when Afghanistan has been ready to cooperate the CA countries due to mutual disputes were not willing to add Afghanistan to this as well. The respondent #4 states that the president Karimov claimed that "until the situation in Afghanistan will not stabilize we will not involve it in order to avoid unnecessary negative influence of its participation". However, Afghanistan has huge a agricultural and hydrological potential that is waiting for to be exploited. So far Tajikistan has been the only CA country that has signed two memorandums of understanding with Afghanistan (Zhupankhan et al, 2017). However, no more steps durther were not taken. The consequences of ignoring Afghanistan as respondent #5 states can create

a problem of lack of information regarding the hydrological development in the country that may have negative impact on downstream countries. The information which is currently available is based on the old soviet data and assumptions. “Therefore, there is a need to go and find some mechanisms by which countries can come to an agreement so there will be a space to involve Afghanistan as well” (Respondent #5, 2018). During the presidency of Mirziyoyev relations between two countries have improved and Afghanistan become more active over different issues. As respondent #3 states that in the recent Water Forum that has been organized by WB in Almaty there were delegations from Afghanistan and that leaves us with a hope that there will be an agreement reached as well. Furthermore, there are the issues of climate change and population growth that may have additional negative impact on water relation between Uzbekistan and Tajikistan.

5.4 Climate Change and Population Growth

Each of the respondents have stated that the climate change would have a colossal impact on CA countries. The respondent #4 states that in CA climate change goes twice faster than the median global level and Uzbekistan is in the center of it. Moreover, according to the respondent #3 in Uzbekistan precipitation is three times lower than evaporation.

> “In Tajikistan the mean annual precipitation is 650, in Uzbekistan in mountainous regions It may reach 550-600 mm but in slopes the numbers are twice lower. However, the evaporation may reach 1500 mms. See what a huge difference between the two. But at the same time if you do not irrigate then what will happen to the crop” (Respondent #3, 2018).

Logically thinking if precipitation goes down and glaciers keep rapidly shrinking then in the near future there will occur water scarcity. However, respondent #4 calls not to be so pessimistic. The respondent #4 does not refuse the fact that precipitation level is dropping but

there are some positive changes as well. For instance, there is humidity transformation going on in the region. It means that there are more heavy rains during the summer period that have not been observed 30-40 years ago. At the meantime winters are becoming warmer. As a result, the respondent #4 suggests that "by changing the cotton monoculture to vegetables and grapes it will be possible to exploit more advanced irrigation technologies that cannot be applied in cotton production. If proper procedures are followed, then coping with the climate change will not be an issue". Water scarcity resulted by climate change will leave no other choice for Uzbekistan and Tajikistan rather than reconsidering their water exploitation methods and sectors in order to sustain themselves. Further on, absence of democracy mixed with water scarcity may create a tense situation in both of the counties.

Lack of democracy in Uzbekistan and Tajikistan can be considered as the main reasons for the dispute over water for not being solved over these years. Dinar et al (2016) states that "democratic countries sharing a river should be more peaceful in their hydro political relations in comparison to non-democratic countries". This liberal constructivist view is not applicable in the case of Uzbekistan and Tajikistan which as non-democratic countries created more space for conflict rather than cooperation during the solution process. However, the research has revealed that currently democracy is not playing a huge role in dispute management between two countries. As the respondent #1 argues that the negotiations over water issues that are taking place "is the willingness of two governments which are not at the moment democratic in any ways really. The governments had to start something rather quickly with rather concrete questions without paying much attention towards democracy". It shows that it is possible to solve the transboundary water management problem without involvement of democracy. However, the respondent #1 believes that democracy may play a role in the long term perspective by increasing awareness of the local community about water issues by increasing public participation. When people truly understand what they are losing

due to absence of good relations then there will be more friendly climate for cooperation. Additionally, with the presence of democracy people will have a chance to influence the governmental decisions and even pressure the government to cooperate. As has been mentioned earlier the public participation plays a vital role in creation of water management regime. Therefore, there is a need to know what steps are taken in two countries over these years for increasing public participation in water management.

According to Green et al (2013) local capacity building by involving citizens will help to address accountability concerns. Moreover, the horizontal and vertical information exchange without involving local knowledge is considered to be incomplete (Green et al, 2013). The same literature states that through capacity building it is possible to prepare users [farmers] to extreme events as droughts making them less vulnerable and sensitive to changes in the level of water in rivers and canals. That in return may help to avoid unemployment that may result due to sudden water stress and Uzbekistan so much concerned about. However, the respondent #4 states that currently public participation in water management and decision making in Uzbekistan and Tajikistan is almost equal to zero:

> Officially for now there is no a factual public participation. The only thing that was done was that Uzbekistan became more open, now more information became accessible for people and specialists are willing to give interviews. The idea of involving public participation is done in order to develop conscience of people according to which people will change their attitude towards water. (Respondent #4, 2018)

There is an organization of water users in both of the countries, but they are not effective due to lack of specialists and finance. Nevertheless, with the transformation of the existing institution the respondent #5 believes there may be more possibility for direct involvement of public into the decision making process. Important to remember that regardless of the fact that

Uzbekistan and gradually Tajikistan are moving from Integrated Water Resource Management (IWRM) to Basin Level Management still one of the main principles of these two is involving the public in management of water resources. That is done in order to achieve horizontal and vertical exchange of information between citizens and the government. The issues of public participation in water management becomes more important in the time of rapid population growth that is currently observed in the region.

As has already been mentioned the population of Uzbekistan and Tajikistan is rapidly growing and there is a need to supply them with water. The Tajik experts believe that with the population growth and decrease in water level overtime people will be encouraged to save water resources. However, at the same time people instead of saving water may prefer to go out demanding water and creating social unrest. Several respondents claim that with the absence of the water saving culture people do not and will not have incentives to save water.

> "There was made researches about the impact of demography on the Amu river, but I can say that now in Uzbekistan for one citizen water consumption is 1.500 cubic meters per year. This will go down for sure till 1000 which is the borderline of water stress. The absence of changes in the culture of water exploitation is one of the existing problems in the region" (Respondent #5, 2018).

Furthermore, the respondent #3 states that if water level goes down in Amu river it will not be possible to pump water up to Qarshi dearest where within the territory of 335 000 ha 2 million people currently live. That may trigger internal migration and unemployment that will have an impact on the overall security and economy of Uzbekistan. The same person states that in Kashqadarya province of Uzbekistan farmers complain that they are facing the problem of scarcity of the water resources. But, the respondent #3 states that annually new water depressions are formed by drainage water from the cotton fields. The farmers pay 50.000 Uzbek soms (equal to 5.52 Euros in the time of writing) for irrigating 1 ha of land. That is overwhelmingly cheap price and farmers can use as much water as they want. Under such

conditions people simply do not see the reason to save the water. As a result, huge depressions are created by return water but they cannot be used due to heavy toxic pollution coming from fertilizers and pesticides. The issues of return water exist in Tajikistan as well according to the respondent. That once again shows that in CA there is no water scarcity but there is a scarcity of appropriate management of the existing water resources.

To solve all these issues, the respondent #5 suggests to sign agreements regarding the issues of dispute management, extreme event prevention, water quality and quantity control. Furthermore, all of these treaties should be combined under one regime. According to Green et al (2013) "A regime may be described as strong when its rules are dense, specific, and cover a broad range of activities". Moreover, other respondents state that there should be made more cooperation that will bring transparency and trust between Uzbekistan and Tajikistan. It is believed that if sides see the economic losses arising from disagreements over water allocation then there will be more incentive to cooperate. The respondent #3 states that currently the losses of none-cooperation between CA countries over water is equal to 4 billion USD. All of these could be changes with the "good-will" of cooperation and using the existing mechanisms in an appropriate way that will not or leave a minimal space for a conflict.

Chapter VI: Conclusion and Recommendations

6.1 Conclusion

Both Uzbekistan and Tajikistan are heavily dependent on water resources and therefore on each other for development and security. Countries tried to solve the problem in a hostile way but were not able to get a promising result. The thesis has depicted that currently the possibility of conflict erupting between Uzbekistan and Tajikistan after the improvement of bilateral relations is low but it still exists. To further decrease the possibility of a conflict, it is recommended to improve cooperation and increase the level of trust and dialogue between the two countries absence of which played a decisive role in worsening of the situation. This can specifically be achieved by improving trade and transportation networks as well as facilitating information sharing concerning mutual water resources and its exploitation. Lack of information over these years has decreased the effectiveness of BWO and created issues over water allocation limits and also the unwillingness to share the available information resulted in suspicion and distrust between two countries.

Additionally, there is a huge issue relating to the absence of Afghanistan in the current decision-making process, making the issues at hand more difficult to resolve. Afghanistan, in order to decrease the unemployment rate and improve its economy, may be interested in developing its agricultural sector that can be water intensive. That in return may demand a withdrawal of a large quantity of water from the Amu. According to the international agreements the country has a right to use the water which is originating in its territory and both Uzbekistan and Tajikistan cannot refuse that. In the long-term perspective, this may add additional pressure on the water availability in CA countries. Additionally, both Uzbekistan and Tajikistan are facing the issue of climate change and rapid population growth. The water level in the river is going down but at the same time, the population with the lack of a water saving culture is quickly going up. This trend is not promising anything good. However, these

issues can be solved by starting a dialogue with a view towards reaching agreements concerning proper water management. The cooperation should further result in a water management regime that will gather all of the institutions, agreements, and treaties together and coordinate any arising dispute. Trust making can be a difficult task to achieve, but over these years' relations were stopped and relaunching them in equal terms is supposed to bring trust. The issue of water sharing was the main reason for distrust and conflict between two countries for a long time, but now it should be a point where cooperation between two countries should start. Overall, it is evident that both of the countries have been losing due to the dispute over the issue of water allocation and the Rogun dam. This is at the crux of bilateral tensions and in the joint interests for both Tajikistan and Uzbekistan to resolve. By analyzing the overall thesis and looking at international experience the following recommendations are given by the author by which the problem can find its solution.

6.2 Recommendations

1) The best conflict resolution instrument would be to instigate a dialogue between Uzbekistan and Tajikistan. Blaming each other and continuing "war of words" did not give any positive results so far. Historically, distrust growth between countries where there is an unwillingness to enter negotiations. Therefore, goodwill cooperation can be the most optimal way for both of the countries to avoid further disputes. Moreover, there is an urgent need to upgrade the 1992 agreement by considering all of the environmental and social changes that took place during the last 27 years. However, the respondent #5 argued that for the last 25 years no alternative has been suggested that could replace the 1992 agreement. If the 1992 agreement cannot be replaced, then it should be modernized by bringing in additional principles and norms that would prevent dispute eruption between the republics. To make the agreement more effective enforcement mechanisms as economic punishment for violating a

norm should be introduced. Moreover, there must be a movement from the rhetoric of information sharing to its practice. This in return requires improvement of the technical cooperation between concerned nations.

2) It has also been proven that the general regional norms and rules cannot always apply in bilateral relations. Therefore, based on the 1992 agreement bilateral agreements should be developed concerning the Amu river by considering the interests of both countries. That would help to resolve other disputes between Uzbekistan and Tajikistan, as well as Uzbekistan and Afghanistan in the long-term perspective. Furthermore, there is a need for water policy changes to encourage farmers who use 90% of regional water to save this resource. That can be achieved by pricing the water and decreasing the state sponsorship of water supply. Moreover, gradually eliminating cotton quotas imposed on farmers will help to decrease water use for cotton production in fields that are not suitable for this crop and farmers will have an opportunity to replace it with less water-intensive cultures. Most importantly the problem of human rights violation can be avoided in this way.

3) Investment into the Rogun dam will bring a "shared benefit" for two countries. Uzbekistan will be able to influence the water release regime and control the use of the dam, while Tajikistan will get the key investor it needs to finance the project. During the interviews it was stated that 2018 is a dry year and therefore water levels in the Amudarya will be lower for 20% than it is expected to be. This will check the durability of the "gentleman's agreement" between Mirziyoyev and Rahmon and show how agricultural sectors are prepared to handle the issues given this added pressure.

4) The importance of Afghanistan should be acknowledged for effective management of water resources. To this end, it will be critical to ensure Afghanistan in party to any future agreements in order to avoid possible future tensions.

5) The structure of ICWC should be changed in order to improve its reputation as a biased organization. Moreover, with the development of trust in the institution there will be more commitment from member countries to finance its projects. That is achieved by recruiting specialists from each republic to the institution and increasing the number of "capacity building" activities. Moreover, apart from policy changes, increasing public participation in water management will help to reach transparency and will raise the general knowledge of farmers about appropriate water usage. If there is a lack finance, then internet platforms can be used where people can have a chance to discuss and give their view over water issues and projects. That will help to develop a water-saving culture in people and increase their resistance to water stress that may result due to climate change and population growth. By combining all of the above mentioned steps there should be created water management regime that will deal with all of the nuances of water sharing.

6) There is a need for further research in the field of transboundary water management in overall CA. The thesis has studied the problem of Uzbekistan and Tajikistan without including Turkmenistan and Kyrgyzstan with which Uzbekistan has issues over water allocation as well. Therefore, there is a need for a research that will identify the ways by which transboundary regime can be created between these neighboring countries that have hostile attitude towards each other especially when the issue concerns the water allocation. With the new leadership in Uzbekistan the situation in CA is changing. But still the demand for water is growing, glaciers are rapidly melting while cotton monoculture is kept. Analyzing the consequences of such rapid and negative changes can be a topic for further studies.

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