MANAGING THE WATER RESOURCES IN CENTRAL ASIA: IS COOPERATION POSSIBLE?

Zainiddin KARAEV

PhD candidate
Central European University
Budapest
Email: pphkaz01@phd.ceu.hu

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Managing the water resources in Central Asia: is cooperation possible?

Water, undoubtedly, is one the most precious assets in Central Asia. Thus, the issue of management of water resources is on the top of the agenda for cooperation in region ever since the countries gained their independence from the Soviet Union. As early as 1992 the region’s countries, recognizing the importance of the issue, signed an agreement on joint management of the water resources of the region. It was agreed that the allocation principles and volumes set by the Soviet planners would be adhered to by all states.

However, there have also been a number of incidents that seriously undermined this agreement and led to subsequent case-by-case bilateral agreements. These incidents have also complicated relations between the countries concerned. As a result, the issue of regional security threat stemming from the water resources management problems has acquired a central position both in the regional politics as well as academic and policy discussions. Many authors stress the scarcity of water resources, growing population and increasing demand for water as immediate sources of conflict in the region. Fortunately, despite some predictions about possible conflicts and however complicated the relations between the region’s countries have been so far, they have managed to avoid any inter-state conflict.

This paper attempts to show that the cooperation between Central Asian countries over the water resources management is both feasible and possible. Moreover, cooperation is preferable over any dispute or conflict in the region, which has already witnessed numerous unrests in the recent decade. This paper seeks to explore the conflicts based on the disputes over joint utilisation of water resources in Central Asia and their implications for the cooperation between the region’s states. The analysis will cover four of the five countries of the region—Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. This does not mean, however, that
Turkmenistan is not affected by this conflict. It is also affected, albeit in less than Uzbekistan and Kazakhstan. However, there have been cases of minor inter-state disputes with Uzbekistan over the distribution of water. Turkmenistan, moreover, is much more focused on developing its gas sector and reducing its dependency on cotton and thus on the scarce water resources.

Cooperation, it will also be argued, requires political will from governments and leadership of both upstream and downstream countries. The region has sufficient water resources for the population, agriculture and industry use. Therefore, the real problem is not scarcity but that of lack of political commitment needed for cooperative management and inability of the region’s governments to find a new, viable, mutually acceptable and beneficial framework for cooperation. The political will is required to resolve a wide range of issues that, hopefully, will lead to the creation of a feasible regional approach for the management of water system to replace the existing one. Thus, it will be argued, the water problems in the region have their origin in the allocation often coloured with political ambitions.

The paper, therefore, treats political preconditions for a mutually beneficial cooperation between the region’s countries more important than other issues. Political elements of the analysis have an overarching importance since, as the paper shows, water disputes arise mostly from allocation problems between upstream and downstream countries or non-implementation of signed agreements. Abundance of water resources in upstream countries and energy resources in downstream countries should bring about mutually beneficial arrangements that foster regional growth and rational use of these resources.

The paper is organised in the following way: I will first provide a brief introduction to the geography, history and specific features of the region. Geographical location and historical developments of the region are important to understand the problems and sources of disputes.
Second, I will provide a brief analysis of the major developments in the first decade of post-communist transition, since 1991. This analysis will focus on the factors that have aggravated the relations between the countries of the region and led to conflicts among them. Water distribution problems as a major source of disputes and potential source of conflicts among these countries will be discussed in this part. While water is not the only source of conflict in the region, it has been used as leverage by the water-rich countries or a constraint on the water-scarce countries in almost any inter-state disputes. The third part of the paper will outline the two-level game approach with necessary modifications and apply it to the analysis of water related disputes. This will serve as the analytical framework for the discussion in the second sub-chapter, where I will discuss selected cases of conflict and their resolution. Special attention will be paid to the use of “win-sets” and “acceptability-sets” of each country. In the final part I will summarise the findings of the research.

I will employ Putnam’s two-level game approach to analyse the foreign policy behaviour of the countries involved in the conflict. As Putnam notes, it is only a metaphor, albeit a powerful one, which captures the essence of the international relations and domestic politics. Given specific features of the region, including geographic, geopolitical and geo-economic factors, modifications will be made to the two-level game approach where appropriate.

There are several limitations to this research. First of all, the data not only the water conflicts but on the region as a whole is scarce. This is the reason why most of the discussions will be based on the journalistic accounts and reports of the few international organisations that occasionally voice concern over the potential future conflicts in the region. The region and the issue have not been adequately researched and, as such, little scholarly works exists.
Finally a note on the terminology; for the reason of simplification, “Central Asia” will refer to the four countries that are analysed in this research\(^1\). “Conflict” in this paper is used not in the sense of armed conflict. There have been cases of armed conflicts in the region, however, some of which have been due to the water problem. However, conflict in this paper is used as a generic term for any tension that has arisen in one of the countries, or between two or more of these countries, because of or involving water management problems. “Water problems” or “water-management problems” are used interchangeably and both alike refer to the misuse of the water leverage by one country, which triggers the response of another country. “Upstream countries” refers to Kyrgyzstan and Tajikistan – the two water-rich countries; “downstream countries” refers to Kazakhstan and Uzbekistan – the two water-scarce countries.

Part I: Water management in Central Asia: past and present

Central Asia is a region that is rich in water resources. However, more than 90 percent of the water resources are concentrated in the mountains that are on the territories of two countries – Kyrgyzstan and Tajikistan. The region’s two main rivers – Syr Darya and Amu Darya originate in these two countries, while Uzbekistan, the single biggest consumer of water, Kazakhstan and Turkmenistan are located downstream of these rivers. As much as 40 percent of the region’s water resources are concentrated only in Kyrgyzstan\(^2\).

The Soviet experience brought a rapid development in Central Asia, most visibly in its agriculture. The region was and still is heavily specialised in the production of cotton. Massive irrigation facilities, roads and industries were built and the whole production network was geared

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\(^1\) Only Turkmenistan, which is also a part of Central Asia, is not under analysis here. Therefore, when the term “the whole Central Asia” is used it refers to all countries including Turkmenistan

towards increasing the production of cotton – widely referred to as the ‘white gold’ in the region. Extensive development of cotton industry had already by the 1970s brought enormous environmental damage, namely the tragedy of the Aral Sea. As a result of diversion of the water from Syr Darya and Amu Darya the sea level started to diminish. Once the fourth largest sea in the world, since 1960s the Aral Sea has lost more than one-third of its original size and half of its water volume\(^3\).

By the 1980s the region became the main producer of cotton. More and more new lands had been opened and, consequently, the demand for irrigation water rose dramatically. If water requirement for cultivated land was at the level of 64.7 km\(^3\) by 1980 this figure rose to 120.1 km\(^3\), that is, doubled. The level of discharge of water to the Aral Sea diminished significantly over the same period, from 43.3 km\(^3\) in 1960 to 16.7 km\(^3\) in 1970 and virtually ceased in 1980s\(^4\). The sea was divided into two parts by the end of 1980s: the smaller part in the north and the bigger part in the south-west. With the shrinking sea came numerous problems ranging from salinization of land to the deteriorating health conditions in the areas around it leading to a high mortality rate, especially that of children. The Aral Sea is not the only consequence of such an extensive development of agriculture. Construction of dams involved the relocation of entire villages with their population and flooding them.

A complex system of integrated water management was developed during the Soviet times. For this purpose large water reservoirs were constructed during the 1950-1970s: the Kairakkum and Chardara reservoirs on the Syr Darya river, the South Surkhan on the Surkhandarya river, and reservoirs on the Chu and Talas rivers. Also some unique dams at Nurek and Baipasa on the Vakhsh river, and Charvak on the Chirchik river were constructed. Water

\(^3\) Ibid.
\(^4\) Sarah L. O’Hara, “Environmanetal Politics in Central Asia”, working paper, University of Nottingham, 1999
resources were allocated based on annual plans developed by the Union Water Resources Ministry (Minvodkhoz) in consultation with the governments of the republics. However, in the early 1980s the need for a unified regional water management system was acutely felt, especially following the periods of serious water shortages in 1974-1976 and 1982. Thus two regional institutions were created: Basin Water Organisations (BWO) *Amu Darya*, based in Urgench (Uzbekistan) and *Syr Darya*, based in Tashkent. A state decree transferred the operation and maintenance of all water distribution and regulation facilities on all major rivers of the region with the discharge of more than 10 m$^3$/s to these BWOs$^5$.

At the end of the Soviet rule, plans were developed for the installation of new and modernization of existing water regulation and distribution equipment and facilities. In particular, the plan included installation of automatic water flow control systems on all main rivers. However, those plans were left either half-completed or not started at all. Their implementation would have left the now independent countries of Central Asia with fewer problems over water regulation and allocation.

When Central Asian countries gained their independence in 1991, one the first agreements signed between them was an agreement on joint management of water resources in Almaty on 18 February 1992$^6$. This reflects the significance that governments of the region attach to the issue of water resources management. It also reflects the fact that the Soviet experience of water management in the region had not been satisfactory to all countries of the region.

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$^6$ “Agreement about Collaboration in the Sphere of Joint Management of Water Resources from Inter-state Water Sources: Regulation, Use and Conservation”, signed on 18 February 1992, in Almaty; and subsequent decree signed by the Heads of States on March 23, 1993
This agreement created the *Inter-state Commission for Water Management* (ICWC) – a regional body responsible for the joint management of water resources. The ICWC has four executive bodies: the secretariat, two BWOs and the Scientific and Information Center (SIC). The objectives and tasks of the ICWC are essentially those previously performed by the Union *Minvodkhoz*, with some important changes. A brief look into how this regional coordination body functions and its coordination mechanisms is helpful at this stage. This will be followed by a critical analysis of institutional and other weaknesses the ICWC.

Founded on the basis of the mechanisms of water distribution developed during the Soviet era, the ICWC has been formed as a supraregional body to coordinate a wide range of activities related to the management of water resources in the region. It has also been tasked to develop policies for water management, rational use and conservation. The former Central Asian Research and Education Institute for Water Economy (SANIIRI) has come under the authority of the ICWC and was renamed as the Scientific and Information Centre (ICWC SIC) to act as a think-tank. Former BWOs also came under the authority of ICWS thus forming two of out of the four executive bodies along with the Secretariat and the ISC\(^7\).

A significant point that was agreed upon in the meeting of February 1992 was that the principles of water allocation and regulation developed and maintained during Soviet times would be retained and adhered to until new strategies for management of regional water resources are developed. Thus governments of all countries gave their commitment to keeping the old practices while recognizing the need for a new, viable regional water management system. However, the last decade after signing the agreement has shown that little has been

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achieved in this part. Worse, countries have failed on numerous occasions to adhere to old principles of water allocation.

Chapter II: Post-independence experience of Central Asia: conflicts in rise

These countries were least prepared for the independence from the Soviet Union as some scholars argue. With tightly integrated economies and dependence on the joint infrastructure and resources the countries have found it hard to come to terms to effectively and jointly use them. Moreover, the vacuum left by the collapse of the Soviet empire has attracted regional powers seeking to establish their presence in and dominance over the region.

The region is rich in oil, minerals and other natural resources. They have made it especially attractive in the wake of the Gulf War in the beginning of 1990s. Oil and gas rich countries of the region Turkmenistan and Kazakhstan have attracted foreign investments and giant multinational oil companies to their oil and gas industries. Other countries, such as Uzbekistan and Tajikistan capitalised on their cotton and mineral industries. Kyrgyzstan has sought to develop its gold industry and hydropower production. Recent events have once again increased the importance of the region, not only for its vast oil and mineral resources but also for its strategic geopolitical place in the world politics. It lies at the crossroads of the world’s rival nuclear powers – Russia, China, Pakistan, Iran and India. It serves as the buffer zone between China - the sleeping “Asian giant” and Russia and battleground for their dominance.

However, there are many more sources of potential conflicts inside the region. As mentioned earlier, disputed borders, rising poverty and resultant social discontent, power rivalries and emergence of militant groups who aim to overthrow the authoritarian and repressive

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regimes of the region’s countries could all potentially bring the region into the grip of widespread conflict. In the beginning of 1990s most of these countries experienced conflicts which originated either from the inter-ethnic tensions or power rivalries, such as in Uzbekistan and Tajikistan. It has become unstable when the civil war broke out in Tajikistan as a result of internal power strife and intervention of regional countries and one-sided support of Russia\textsuperscript{9}.

Water-management problems are one of such sources of conflict in the region. As I have outlined earlier, the interdependence of economies of these countries – a legacy of the Soviet economic policy, makes the region prone to conflicts. Two countries – Kyrgyzstan and Tajikistan possess over 90 percent of the water resources. In contrast Uzbekistan and Kazakhstan – the major water consumers can only supply 14 percent and 45 percent of their needs in water, respectively. Upstream countries usually tend to capitalize on their advantageous geographic location. Only Uzbekistan, however, consumes more than 50 percent of all water resources of the region. Water reservoirs for the supply of water Uzbekistan and Kazakhstan were built in Kyrgyzstan and Tajikistan\textsuperscript{10}.

Since the independence, both Kyrgyzstan and Tajikistan have declared water as a national tradable commodity and restricted its flow to downstream countries. Moreover, these countries are poorer in terms of the oil and mineral resources that their neighbours. Hydropower is important in both Kyrgyzstan and Tajikistan. The share the hydropower in the total energy production of both countries is more than 50%. Significance of hydropower is less important in

\textsuperscript{9} Barnet Rubin, “Russian Hegemony and State Breakdown in the Periphery: Causes and Consequences of the Civil War in Tajikistan”, paper prepared for Carnegie Project on Political Order, Conflict and Nationalism in the Former Soviet Union, 1995

Kazakhstan and Uzbekistan with a share less than 50 percent. Therefore, importance of hydropower production is closely connected to both countries’ decision to control over reservoirs on their own territory\(^{11}\).

Reactions to the moves of the upstream countries have been different. Uzbekistan has occasionally turned to the use of its two main leverages – gas supply and access to infrastructure (mainly roads). Several times high-level water diplomacy has been used as an instrument of the resolution of conflicts. However, it has only seasonal character. In other words, in the summer downstream countries, when they are dependent on water more than any other time during a year, use “softer” leverages, such as negotiations and other diplomatic mechanisms. In the winter, when the water consumption is low, the downstream countries tend to use “harder” leverages, such as cutting off coal and gas supplies or restricting transport roads\(^{12}\).

Each year, a number of agreements are signed between Kyrgyzstan and Uzbekistan or Kazakhstan on one side and between Tajikistan and Uzbekistan on the other. For instance, since 1997 more than ten bilateral agreements have been signed and many more meetings have been held between Kyrgyzstan and Uzbekistan. However, both sides continue to resort to their leverages for putting pressures on each other. Especially acute are tensions over the supply of gas to Kyrgyzstan and Tajikistan, which are dependent on it during cold winter. In the summer, however, Uzbek and Kazakh official resort to “water diplomacy” and promise to cooperate with their water-rich neighbours\(^{13}\).

\(^{11}\) Stefan Klötzli,  
Conflicts arise not only between the upstream and downstream countries but also between the downstream countries. Numerous times Uzbekistan cut the supply of water that it receives from the upstream countries to southern parts of Kazakhstan. These actions have triggered anger and protests on the part of Kazakh peasants as well as high-level political dispute between the two countries. A recent decision of the Turkmen government to build an artificial lake has caused a similar wave of anger and discontent among the Uzbek peasants as well as its government\textsuperscript{14}.

It should be noted at this point that the water conflicts are usually perpetuated and exacerbated by other tensions between these countries. Border disputes and the struggle to become the region’s power among these countries have also aggravated the situation. The struggle for the regional power has always been overshadowed by other “bigger” powers such as Russia and China and recently the United States of America. National frontiers between countries remain a point of bitter disputes among them often leading to clashes. This is especially evident in the case of Uzbekistan, which has border disputes with all countries of the region. The most acute tensions exist between Uzbekistan and Kyrgyzstan over two enclaves that belong to the latter and claimed by the former. Uzbekistan and Tajikistan have long been in dispute over the historically Tajik cities of Samarqand and Bukhara as well as mutual claims for parts of the border territories\textsuperscript{15}.

Thus with the independence from the former Soviet Union problems that were hidden during its rule have been uncovered. Already in the end of 1980s these problems, including water distribution and border disputes led to open confrontations among these countries. The “iron


\textsuperscript{15} International Crisis Group, “Central Asia:Border Disputes and Conflict Potential”, April 2002, Brussels
hand” of Moscow managed to suppress the conflicts at that time. However, when the countries found it difficult to cope with rising tensions, especially in the border regions. Numerous clashes have occurred on the Tajik-Uzbek and Kyrgyz- Uzbek borders, sometimes involving armed border forces. Increasing security threat led these countries to “seal off” their borders. Thus Uzbekistan unilaterally mines its border with Tajikistan and Kyrgyzstan. Mines occasionally kill local residents who “accidentally” step on them.16

Water conflicts, as noted earlier, usually involve high-level diplomatic actions between the countries concerned. However, these countries – previously Soviet republics – have had a difficult time to pursue beneficial cooperation between each other in their attempts to resolve water problems. Evidently lack of the experience in foreign policy making affects the fragile “water diplomacy.” Recently the countries’ political leaders have increasingly become involved in the process of inter-state negotiations and bargaining over the joint use of water. This marks a shift in the importance of this issue in their foreign policies. Next chapter will discuss the patterns of the countries’ foreign policies.

One of the first documents that was signed between these countries in the early 1990s was an agreement on the creation of the Interstate Commission for Water Coordination (ICWC) that was to be responsible for water allocation throughout Central Asia. However, efforts to coordinate and regulate the joint use of the water resources of Amu Darya and Syr Darya rivers. In 1994, the Interstate Council set up an International Fund for the Aral Sea (IFAS), in which each country was called upon to contribute 1 percent of its GNP. Throughout the 1990s numerous other agreements have been signed. With the three consecutive years of drought in the region water has become a highly political issue. It has dominated the foreign policies of all

16 Bruce Pannier, “Central Asia: Border Dispute Between Uzbekistan And Kyrgyzstan Risks Triggering Conflict” RFE/RL, 8 March 1999, available online at www.rferl.org
countries, especially those of the water-scarce countries. When the Soviet Union collapsed, water usage, which had previously been a domestic issue, suddenly became a subject of international mediation. A zero-sum game developed over water, and each of now sovereign countries enshrined the concept of "sovereignty over resources" in its national constitution.

Chapter III: Is “water diplomacy” a two-level game?

Previous discussion has shown that joint use of water resources in Central Asia is a source of conflicts among the countries of Central Asia. Indeed it has already caused serious disputes and sporadic conflicts. The stakes and tradeoffs are high; upstream countries wish to capitalise on their advantageous geographical position and develop hydropower production; downstream countries possess vast agricultural fields that are highly dependent on water that they do not possess and control. Pragmatic and economic interests of the upstream countries, however, offer a partial explanation of the existing tensions between them and downstream countries.

Since independence the water issue has become a critical international problem between the Central Asian countries. While other problems of the region, including the security threats and development of its vast oil fields increasingly attract international attention and interest, the water problem has effectively remained a regional issue. It requires coordination and regulation of joint and effective use of water resources by all countries concerned.

This chapter will analyse the interstate cooperation, and problems affecting it, between the four countries of the region – Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan in dealing with the water resources management. The timeframe covers the period from the beginning of independence in early 1990s. The first event in the foreign policy of all countries was the signing

of the agreement on the establishment of the Interstate Commission for Water Coordination in 1992. This marks the beginning of the ‘water diplomacy’ between the four countries. Since then numerous other negotiations and agreements have been held and signed. However, not every negotiation or agreement was implemented or endorsed by one or all countries.

However, that agreement has had at best a mixed success. What explains the mixed success of “water diplomacy”? Competing economic interests, undoubtedly, affect the countries’ defection of the implementation of agreement. Moreover, the bargaining leverage of some countries are higher that that of others. This also offers a partial explanation of the outcome of any agreement. Both factors – competing economic interests and bargaining leverages are clearly shaped by domestic and international politics. Domestically political leaders face pressure of interest groups to adopt favourable policies. They draw their political base from these groups. On the other hand, internationally each of the political leaders wishes to maximise the outcome of any negotiation and minimise its consequences.

Using Putnam’s two-level game approach I will analyse the interstate cooperation between these four countries over the water problem and its resolution. I will analyse a series of agreements, some of which have been implemented and while others have repeatedly been breached. Each time when defection of an agreement occurred, tensions have arisen in the countries. Increasing pressure of domestic groups leads the political leaders of countries concerned to turn to “water diplomacy”, a process involving bargaining and agreement. I will divide countries into two groups – water-rich or upstream countries (Kyrgyzstan and Tajikistan) and water-scarce or downstream countries (Kazakhstan and Uzbekistan).

It should be noted that water-triggered conflicts are not always one-sided, that is they do not arise solely from the unilateral decision of upstream countries to divert or limit water flows
to downstream countries. They have occurred increasingly from the actions of downstream countries to exert pressure on upstream countries using their leverages, such as energy supply and access to infrastructure. Often bargaining leverages of downstream countries seem to be higher than leverages of their upstream neighbours. It is the essence of at these aspects that make the water conflicts in the region unique and acute. These aspects can be analysed using the two-level game approach.

In what follows, I will outline the basic propositions of the two-level game approach and then apply it to the analysis of some agreements over the use of water between the countries. However, as Putnam notes, it is only a metaphor, not a full theory, which captures the essence of the international relations and domestic politics. In most of the cases, an agreement is reached and implemented initially. However, defection happens at any time, usually when domestic pressure increases or demands for additional gains are made. These and other specific features of the water conflict will be taken into account in the modified two-level game approach.

3.1 Two-level game: How to account for domestic and international politics?

The politics of international conflicts and cooperation is affected by both domestic and international factors. Domestic politics and international relations affect each other, Putnam argues. Any agreement that two or more countries reach or any negotiation they hold on the issues of bilateral or multilateral nature, would likely be affected by both domestic and international interests and forces. The essence of this type of negotiations or agreements can be conceived of as a two-level game. On the domestic or national level interest groups press governments to adopt favourable policies. On the international level government try to
“maximise their ability to satisfy domestic pressures” and adopt policies with minimal adverse consequences. This is the two-level game involving both domestic and international politics.\footnote{Robert D. Putnam, “Diplomacy and domestic politics: the logic of two-level games”, in Peter Evans et.al. (eds.) \emph{Double-Edged Diplomacy}, university of California Press, Berkley, Los Angeles and London, 1993, pp. 432-434}

Negotiations and agreements between the upstream and downstream countries over the joint use of water can usefully be analysed using the two-level game. However, the complex nature of water conflicts and the presence of other factors require that the two-level game needs to accommodate them and be modified accordingly. Such factors include an almost zero-sum outcome of any agreement and strong geopolitical and environmental pressures. Geopolitical pressures represent a picture full of contrasts. The upstream countries are allies of Russia while downstream countries pursue a policy of distancing themselves from Russia and its influence. Although the link between the geopolitical situation of one or more of the countries and water conflicts is not direct, Russian influence certainly gives an additional leverage to upstream countries.

Growing concerns over the shrinking level of water in the Aral Sea and its disastrous consequences have recently attracted increasing international interest. Some international agencies, such as the World Bank, the United Nations and the Organisation of Security and Cooperation in Europe have offered assistance to the countries. Together with the offer of assistance they try put a certain degree of pressure on the countries to regulate the water flows to prevent the Aral Sea from dying.\footnote{Roland Eggleston, “OSCE Seeks Agreement on Central Asian Water”, Eurasia News, June 2000; or, “Kazakhstan: World Bank Help for Aral Sea”, February 2002, Eurasia News, available online at \url{www.eurasinet.org}}. Domestic pressures stem from the farmers, or the whole rural population, in downstream countries and interests of urban residents and industrial groups combined with the governments’ desire to develop hydropower production in upstream
countries. International pressures include the need for regional cooperation (e.g. on security and trade), geopolitical factor, environmental concerns and growing demands from international organisations to regulate water flows and save the Aral Sea.

Thus an extremely complex situation and different domestic and international pressures exist around the water issue and conflicts it causes. Putnam argues that any international negotiation or agreement is decomposed into two stages: Level I – when negotiators reach a tentative agreement, and Level II – when this tentative agreement is discussed separately with domestic constituents and then ratified. Putnam, however, notes that this “sequential decomposition” is descriptively inaccurate\(^\text{20}\). Agreements reached on the water issue between the countries can hardly be decomposed into two stages. Usually negotiations and ratification occur at the same time. Moreover, even if ratification is a separate process, it is unlikely that governments in any of these countries fail to ratify an agreement. This also represents a modification to the approach used in this paper.

A brief excursion into the political base of the regimes in all four countries helps to understand the domestic pressure on the political leaders of each country. Leaders of countries usually draw their political base from one or several interest groups. This is especially true in all four countries under analysis in this paper. Any agreement, it will be argued further, is shaped by these domestic interests and pressures as well as international or geopolitical pressures the countries and their leaders face.

In the downstream countries of Kazakhstan and Uzbekistan, especially in the latter, the political leadership is heavily dependent on the cotton industry, which is the single biggest consumer of water and the backbone of the government. Kazakhstan is an exporter of wheat. Moreover, other pressures also exist in these countries. Widespread poverty in rural areas has

\(^{20}\) Putnam, pp. 435-437
been a target of militant and separatist groups. The famous Ferghana valley has seen a rising social discontent among the inhabitants over the 1990s. The biggest challenge to the authoritarian regime of Uzbekistan comes from this overpopulated and poverty-stricken, yet a vital cotton producing region. The valley is home for 20 percent of the entire population of the region and is stretched along three countries – Kyrgyzstan, Tajikistan and Uzbekistan. More than ten big clashes and many more minor clashes have occurred in the valley since 1989\textsuperscript{21}.

Upstream countries possess significant water resources and develop their hydropower industries. During the Soviet rule huge water reservoirs in Kyrgyzstan and Tajikistan were built primarily for the cotton production in Tajikistan and Uzbekistan. However, several hydropower stations were also built along the reservoirs. Power grids in the region were united into a single regional network. Through this network upstream countries exported electrical power to downstream countries during the winter and imported from them during the summer, when water was drawn to cotton fields. Coordination of the water flows to the cotton fields during the hot season was managed from Moscow by the ministry of irrigation\textsuperscript{22}.

With the independence the downstream countries have undertaken a policy of energy self-sufficiency and reducing their dependency on the imported hydropower from their neighbours. Upstream countries in turn have pursued a policy of developing and utilising their hydropower potential. This has significantly reduced the water flows to downstream countries. Urban population of upstream countries is to a large extent dependent on the gas and coal supply from downstream countries, especially during winter. This and with the interest in developing

\textsuperscript{21} for a comprehensive review of Ferghana valley problems see Nancy Lubin and Barnett Rubin, \textit{Calming the Ferghana Valley: development and dialogue in the heart of Central Asia}, New York, Century Foundation Press, 1999

the hydropower industry represent a powerful pressure on the upstream countries’ governments or political leaders during any negotiation over the water problems.

Thus the downstream and upstream countries face different domestic pressures. Their interests are often diametrically opposed to each other and offer little flexibility in negotiating the terms of joint use of water resources. Agriculture, which provides livelihood for the most part of the population in all countries, is the biggest consumer of water. Cotton revenue provides a significant share of foreign exchange and forms the backbone of the regime in Uzbekistan. This country has seen a resurgence of militants in light of rising poverty and social discontent especially in cotton growing areas. Its government is unwilling to restructure the agriculture and give away a vital source of revenue. The rural population in turn is totally dependent on the cotton production. Thus the government in Uzbekistan has to strike a difficult balance between the preservation of its political base and keeping the rising social discontent and resultant militant actions down.

Upstream countries are poorer, less powerful and have few resources to develop. Water represents one of those resources that the governments in both Kyrgyzstan and Tajikistan wish to capitalise on. On the whole, energy issues are acute in both upstream countries. Cutting off gas supplies usually raises discontent among the urban population in both countries and puts pressure on their governments. Therefore, this and the wish of the governments of upstream countries to develop hydropower production affect the outcome of any agreement or negotiation.

3.2 Two-level game applied

Previous chapter has set up the analytical framework for the two-level game analysis. This chapter attempts to use that analytical framework in an analysis of water conflicts and foreign
policy behaviour of each country involved. I will discuss a case study that involves negotiations and agreement between all four countries (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan).

There have been numerous multilateral and bilateral agreements between the four countries over the 1990s. Precisely, every year different bilateral and multilateral negotiations are held and new agreements are signed. This fact in itself represents extremely complex nature of water conflicts as well as difficulty in reaching a stable and more permanent agreement between these countries. This analysis will involve all specific factors that have been outlined in the previous chapter.

Water conflicts pose serious challenges to the cooperation between these countries. However, a lack of coherent foreign policy making is observed in all of them. This is how an expert describes the manner in which countries address water issues and conflicts:

“The conflict of interest over water resources between the upstream and the downstream states is now addressed in an ad hoc manner, through annual bilateral negotiations involving compensations of the upstream states, in the form of coal, natural gas or electricity supplies by the downstream states. However, the implementation of these bilateral agreements is difficult, if not impossible…”

An agreement on the joint use of water and energy resources was reached on 17 March 1998 in Bishkek between three countries – Kazakhstan, Kyrgyzstan and Uzbekistan. In June 1998 Tajikistan also joined the agreement. The agreement was primarily driven by the biggest consumer of water – Uzbekistan. Although Tajikistan controls a significant part of water resources, it was not invited to the negotiations and agreement. A brief discussion on the situation surrounding those negotiations and concluded agreement will shed the light on the nature of them as a two-level game.

In 1997 tensions between Kyrgyzstan and Uzbekistan escalated, involving unilateral military build-up by Uzbekistan along the water reservoir that is located close to its border on the territory of Kyrgyzstan. This move raised concerns and anger in Kyrgyzstan. The Kyrgyz government adopted a resolution declaring water as a tradable commodity and codifying its right to use it for profit. It threatened to sell water to China if Uzbekistan fails to pay for it\textsuperscript{24}.

Not long before the negotiations started, in February 1998 Uzbekistan cut off gas supplies to both water-rich countries - Kyrgyzstan and Tajikistan. This unilateral action of a water-scarce country caused much anger in both water-rich countries. Hard rhetoric was used in a statement made by the Kyrgyz government. The Uzbek side answered with a similar rhetoric citing the problems of debt for its gas supplies. Later, however, it became clear that the Uzbek government attempted to coerce the neighbouring government into settling a territorial dispute that it had raised before\textsuperscript{25}.

Not only rhetoric was hard but also threat of using water as a political tool to press on Uzbekistan was made. Thus Kyrgyzstan threatened to release more water from its Toktogul reservoir which would destroy large cotton fields. Both Kyrgyzstan and Tajikistan announced that they would raise the production of hydropower to reduce its import. Thus water games intensified already before the hot season\textsuperscript{26}.

Tense relations marked the beginning of negotiations. It should be noted here that since 1997 countries have more and more turned to the use of “water diplomacy” and unilateral defections

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\textsuperscript{24} Bea Hogan, “Central Asia States Wrangle over Water”, Eurasia News, April 2000, available online at \url{www.eurasinet.org}

\textsuperscript{25} Bea Hogan, “Decreased Water Flow Threatens Cotton Crop, Peace in Region” August 2000, Eurasia News, available online at \url{www.eurasinet.org};

\textsuperscript{26} Arslan Koichiev, “Water Games Could Leave Central Asia High and Dry This Summer”, March 2001, Eurasia News, available online at \url{www.eurasinet.org};
of agreements. Not incidentally that year was a turning point in the geopolitical situation in the region.\footnote{Russia and Iran managed to bring the warring fractions of Tajikistan’s civil war to the peace agreement. Thus the establishment of a pro-Russian government marked strengthening of Russia’s influence. Also Kyrgyzstan asked Russia’s military support to curb on militant groups. This made Uzbekistan nervous and led to its unilateral actions of using its leverages - gas and infrastructure.}

A question of special importance is why Tajikistan was absent from the negotiations and agreement when it controls a significant part of water resources. Two reasons have been cited: Uzbekistan was both upset by the changes in Tajikistan and sure that it would comply with all provisions of agreement they reach without its participation. This shows an effect of the geopolitical factor on the negotiation and agreement. However, later Tajikistan, now backed by Russia and wishing to develop its hydropower production, decreased the flow of water to Uzbekistan during hot season. This was already a hard-stance response to serious restrictions on the transport road and cuts in gas supply that were imposed by Uzbekistan. As a result it was invited in the summer of 1998 to join the agreement. To be sure defection occurred from all other parts to the agreement.

How can we explain this complex picture of tense relations leading to negotiations and reaching an agreement and later defecting it? As an important component of the two-level game –win-sets are useful in the analysis of this situation. What win-set(s) did the countries possess? How the win-sets affected each country’s bargaining leverages? How they affected the outcome of negotiations? Below a discussion on these questions with the use of two-level game approach will be offered.

Win-sets of upstream countries are much smaller than those of downstream countries. Therefore, their bargaining leverage is affected mostly by their control over water resources. Moreover, the use of this bargaining leverage is difficult and uncertain. While the desire for
developing hydropower production is great, it requires the construction of new stations to fully utilise the available water resources. Poorer upstream countries cannot afford this construction as they hope to fully utilise the capacity of existing stations to generate more revenue. This gives the downstream countries an additional leverage.

Win-sets of downstream countries are much larger. Their unilateral actions of defection of any agreement do not cause dissatisfaction among their domestic constituencies. Not only that regimes are coercive and collective actions possibility is low, but also gas cut-offs and restrictions on the transport road do not affect downstream countries’ constituents. Moreover, military potential of Uzbekistan and Kazakhstan is significantly higher that that of their upstream neighbours. This certainly makes their win-sets larger and puts more pressure on upstream countries.

Another important insight and modification to the standard two-level game approach is the seasonal variations of win-sets and, consequently, bargaining leverages of both sides of the conflicts. Downstream countries have larger win-sets and bigger leverages during the winter, when their upstream neighbours are dependent on them for energy supplies and roads. Upstream countries in turn have larger win-sets during the hot season when crops in their downstream neighbours demand more water. In addition, in the summer, the problems of energy supply and access to roads through downstream countries are less acute.

Thus, the agreement was reached when downstream countries perceived that win-sets of Tajikistan were small or insignificant. The perceived win-sets of Kyrgyzstan in contrast were higher. Therefore, downstream countries offered more flexibility in their negotiations with Kyrgyzstan. They promised Kyrgyzstan their financial contribution toward maintaining water facilities and delivery of gas and coal without delay and cut-offs.
Putnam argues that win-sets are determined by the following factors: distribution of power and coalitions within a government, political institutions or state strength and state autonomy, and, strategies of negotiators\textsuperscript{28}. However, win-sets in each of the countries in this analysis depend also on other factors. Economic interests, geopolitical situation of a country and pressure from the international organisations also affect the win-sets of each country. Being an ally of Russia certainly gives each of upstream countries an additional leverage in negotiations and putting pressure on downstream countries. Pressure from international organisations on all countries to save the Aral Sea, in turn, gives additional leverage to downstream countries. International organisations provide financial assistance to these countries to develop the production of other crops that demand less water and press the upstream countries to discharge more water to ensure the sufficient level of water in the sea.

To summarise, a look back at the process of negotiations and agreement is necessary. Negotiations started only when downstream countries realised that their leverages were no longer bigger than those of upstream countries. Hard rhetoric and threat to use water as a leverage was used by upstream countries. Growing Russian influence enabled upstream countries to “act more bravely.” On the other hand, win-sets of both sides, water-rich and water-scarce overlapped. The agreement is possible, Putnam argues, only when win-sets of the parties to any agreement overlap. Energy supplies and access to infrastructure – leverages of downstream countries overlapped with the use of water as a political tool and changing geopolitical balance in favour of upstream countries.

However, although agreement was reached, its defection came already in the summer. Before, Tajikistan was invited to join the agreement it restricted the water flows to Uzbekistan, damaging more than 100,000 hectares of cotton. This time downstream countries used high-level

\textsuperscript{28} Putnam, pp. 442-452
water diplomacy instead of rhetoric and threat. A change in the perceived win-sets of Tajikistan occurred.

This brief analysis of water diplomacy using the two-level game approach has shown that countries – parties to the agreement usually turn to defection of the agreement. Discussion on the voluntary or involuntary nature of defections is beyond the purpose of this paper. However, it seems that defections are of involuntary nature. Agreement in favour of one side (water-rich or water-scarce) would bring an almost zero-sum outcome for the other side.

**Conclusion**

This paper has shown that cooperation between the countries of the region over the water management is both possible and feasible. However, due to lack of political will and incompatible agendas water management has been used by the region’s governments as a tool to pressure on their neighbours. Tensions have been especially high over the last years when the region has experienced worse drought for over hundred years. Instead of cooperation, therefore, political games, unilateral bellicose actions by downstream countries and “retaliations” by upstream countries have been observed in recent decade.

On the other hand, agreements have been reached, usually under heavy pressure of domestic and international factors, including geo-economic and geopolitical factors. In the downstream countries governments and political leaders draw their political base from water-dependent interest groups. Therefore, they usually put harder pressure on their water-rich but economically weaker neighbours to allocate more water. During the hot season, however, upstream countries have clearly larger win-sets and bargaining leverages. Seasonal variation and
disproportionate nature of win-sets and bargaining leverage of sides usually led to defections, voluntary and involuntary.

Analyses suggest and observations prove that effective exchange of the energy resources, such as coal and gas, which are available in the downstream countries, with water, which is abound in upstream countries, is the only way that is mutually acceptable and beneficial for these countries. What is required is building trust between the countries that they do not recourse to bellicose actions when their win-sets are higher than those of their neighbours. Defections can be minimised or mitigated when the governments of the region realise that benefits of the joint cooperation and utilisation of water and energy resources are much higher than unilateral decisions to breach agreements.
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