

Cooperation and Conflict: the dynamics of water and electricity in Central Asia

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Abstract

This article analyzes some paradigmatic cases of tension between conflict and cooperation, limited cooperation and difficulties in initiating processes of cooperation in Central Asia, particularly in terms of water and electricity, often generating rivalries that prevent significant advances in regional integration.

Keywords: Water; Electricity; Central Asia; Cooperation; conflict.

"The water issue [in Central Asia] is like a bomb: if you touch it, we cannot survive"
(Christian Mellis, personal interview).

Introduction

This article analyses paradigmatic cases of tension between conflict and cooperation, limited cooperation and difficulties in initiating cooperation processes in Central Asia, particularly in terms of water and electricity. The central argument is that hydroelectric resources often create rivalries that prevent significant advances in Central Asian regional integration. As it will be explained further on, Central Asian countries are interdependent in terms of infrastructure from the Soviet era, hence any conflict or rivalry between neighbouring States over hydroelectric resources generates consequences on regional integration. It should be noted that whoever controls water resources has capacity for hydroelectric production: this is another source of friction par excellence in the region, which has been witnessing electricity 'misappropriation' and theft because power grids are interdependent, which has caused serious problems at the level of electric supply.

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The practices of international security have underlying games of cooperation and conflict; in other words, there are competitive games and cooperative games. Welch and Wilkinson (1999) state that conflict and cooperation coexist in situations of interdependence; hence, it is important to understand why conflicts develop. Being alive is "being in conflict" (Tjosvold and Johnson, 1989, p.1). Conflicts are "natural situations in any kind of relationship" (Tjosvold and Johnson, 1989, p.1). More broadly defined, the term 'conflict' denotes "incompatibility of ideas" (Diez et al, 2006, p.565). This definition leaves open the exact nature of these incompatibilities, i.e., "to what extent they occur between individuals, groups or social positions"; to what extent they reside in "different interests and beliefs"; and to what extent they have "a material existence" or "earn existence only through speech" (Pia e Diez, 2007, p.2). Deutsch (1973) presents some variables that affect the course of conflict, including the characteristics of the parties involved and the history of their relationship and the nature of the matter giving rise to the conflict. Another feature of conflict lies in the fact that it generates change. The system's stability is placed under turbulence, which continues until a new equilibrium is reached (Stern and Gorman, 1969).

States and individuals do not have necessarily to pursue logic of conflict, as they can opt for cooperation. By cooperation, we mean any form of social interaction between actors that allows them to reach, on a voluntary basis, a set of common goals by sharing certain resources (Herbert, 1996). But, although cooperation is "a concept endowed with a positive charge", it does not necessarily presume a "harmonious relationship devoid of conflicts" (Siitonen, 1990, p.7). Rather, cooperation may involve hidden power struggles between partners and / or a mode of domination of one actor over another. This is related to "the social context of cooperation", and therefore to "our ideas of social systems as contexts of cooperation and conflict" (Siitonen, 1990, p.7). What, then, characterizes international cooperation? International cooperation means "all projects that allow international actors to achieve goals set together by sharing resources" (Touscoz, 1981, p.17). Less than integration but more than common

sporadic efforts, "international cooperation aims to establish relationships between sovereign actors willing to share some values" (Siitonen, 1990, p.7).

Instead of participant and non-participant observation techniques, difficult to apply to this object of study, we resorted to semi structured interviews. As a matter of fact, "the interviewer knows all the topics on which he needs to get reactions from the respondent, but the order and how he will introduce such topics are left to his criteria" (Ghiglione, 2001, p.64). However, some interviewees in Central Asia requested anonymity or, in some cases, asked to be referred to as local experts. They will be named throughout this article as Expert I¹ and Expert II², both connected to American diplomacy in Kazakhstan, Kyrgyzstan. The field research was done through interviews conducted not only in Portugal, but also, and predominantly, in Central Asia to key individuals related to the issues studied, and the others by face-to-face interview both in Portugal and within the two journeys to Central Asia, one from 3rd to 11th September, 2011, to Kazakhstan, at the invitation of the Director of the Suleimenov Institute, in Almaty; and the second journey from 28th September to 18th October, 2012, to two other countries, besides Kazakhstan: Kyrgyzstan and Tajikistan (among the main cities visited, we highlight Almaty, Bishkek, Naryn, Osh, Dushanbe). The planning of the two journeys to Central Asia involved a thorough and time-consuming research on universities, experts, diplomats, professors, Non-Governmental Organisations, having the Aga Khan Network, among many other actors, provided considerable support, not only in terms of the selection of local experts, but also in enabling interviews at a distance, by telephone, as well as in the visit to various poles of the University of Central Asia (in Kazakhstan, Kyrgyzstan and Tajikistan)³.

We believe that the semi-structured interview is the best suited method for the research problem, since it privileges local knowledge, i.e., knowledge based on experience in the field, by individuals residing in the area or areas over which this research focuses. We opted for using experts from non-governmental organizations working on the field, as well as the staff of embassies in Central Asian republics, among

¹ The expert in question carries out functions in the context of American diplomacy in Kazakhstan.

² Expert connected to the Embassy of the United States in Kyrgyzstan

³ See details at <http://www.ucentralasia.org/>

others. In other cases, the interviewees were from the Central Asian republic in question. We think this variety of interviewees is capable of offering a diverse point of view on the subject to examine. Moreover, the contrast between questioning employees of embassies vs questioning locals provides, on the one hand, an outside perspective, that is of people external to the region, about the latter, along with a perspective from Central Asian themselves on the geographical, cultural, economic, political and social reality in which they live.

Often used as a symbol to promote national identity, or for ideological, social and political ends, water is a key resource in Central Asia, referred to in the Greek classics as Transoxiana, which literally means "the land on the other side of the River Oxus" (now called the Amu Darya) (Dickens, 1990, p.2). Water issues have directed the gaze of the international community to the region shortly after the declaration of independence of the five Central Asian republics (Rudaz, 2013). Central Asia would become an important center for cotton production (Khan, 2009). Irrigated agriculture still has "a dominant role in the economies in most of the downstream countries" (Allouche, 2007, p.45). Turkmenistan and, in particular, Uzbekistan are highly dependent on cotton production (MacDonald, 2012).

As Anar Khamzayeva mentions, "water management in Central Asia, has proved to be a substantial source of enmity between the states of the region, in particular between Kyrgyzstan and Tajikistan on the one hand, and Uzbekistan, on the other" (2009, p.10). This is a complex situation, battered by intra and inter-state tensions around the water distribution system. It is also plagued by a huge increase in water use, as well as in its waste, low water levels at hydropower plants, and a water ecosystem in deterioration (Muckenhuber, 2013). Going back to Khamzayeva, "the question at issue is how to solve the complex problems of collective management" (challenges related to the environment and the agricultural sector), while developing "national water policies" (2009, p.10). To date, the regional states have managed to avoid military hostilities, although relations remain strained. An effective regional management of water resources requires a substantial commitment by the Central

Asian republics, aiming to establish a coherent, open pact able to govern the use of such resources (Sandford, 2012).

According to Beatrice Mosello, "cooperation has been hampered by the perception regional states have of the water resources as a zero-sum game", in which "the gain of a few is achieved at the expense of the loss of many" (2008, p.156). This dynamic is determined by three main factors, namely: "the political context (independence of the five Central Asian republics and their fragile leadership at governmental level), the social context (tensions between different ethnic groups); and the economic context (political economy oriented towards self-sufficiency, and tensions between the agricultural and energy sectors in the region)" (Mosello, 2008, p.156). Therefore, states have shown a propensity to 'securitize' themes related to water, turning them into national security issues (Buzan, 1998; Chellaney, 2011).

The end of the Soviet Union in 1991, "brought the collapse of collective water management and of Soviet identity, creating a gap in the conceptualization of cultural community and heritage" (Tskhay and White, 2012, p.1). Moreover, "the dissolution of the Soviet Union and of [its] administrative system triggered several disputes regarding water control among Central Asian republics" (Tskhay and White, 2012, p.5). Indeed, it is important to recall that at the time of the independence of Central Asian republics, the link between regional systems of water management was so intense that new borders and political realities did not seem to be able to overcome the bonds of the past (Weinthal, 2006; Granit *et al*, 2010). According to Christian Mellis (2012), an expert from the Organization for Security and Cooperation in Europe in energy and water issues in the region, "the upstream states (Kyrgyzstan and Tajikistan) released water on "agricultural template", i.e., "during the summer, the water was drained for agricultural purposes in the downstream states"; while in winter, in turn, it was time to "refill the reservoirs". Conversely, "downstream countries supplied electricity and oil to upstream countries", so that there was a "mutual exchange" where "the needs [of all] were met" (Mellis, 2012). However, with the collapse of the Soviet Union, the *modus operandi* has been changed. As a matter of fact, today the "energetic template" has been overlapping the previous "agricultural template", which implies "releasing water

during the winter, for the production of electricity, and refilling [dams] during summer" (Mellis, 2012).

At the same time, the economic development of the Soviet Union created a profound environmental degradation, a phenomenon commonly known as the "Syndrome of the Aral Sea" (Klötzli, 1997). The severe reduction of area and volume of the Aral Sea is in fact the most obvious symbol of Soviet neglect regarding the management of water resources in the region, although several Soviet experts considered the Aral Sea "an error of Nature" (Shenker, 2010; Ataniyazova, 2003). In practice, "since the 60s" - when the Soviet Union decided to divert [much of the stream] of the region's two major rivers, the Amu Darya and the Syr Darya, for irrigation purposes - "the Aral Sea has been losing volume" (Gray, 2012, p.3). The Aral Sea is "an example of a very unsuccessful management [of water resources]" (Granit *et al*, 2010, p.6). The Soviet period, marked by intense cotton production, had indeed been careless with the environment, leading to a significant reduction in sea volume (Rekacewicz, 2000). In this regard, in 2007, experts like Philip Micklin have mentioned "a drop of 23 meters on the Aral Sea level" and a "74% reduction" in its area (2007, p.47). Also, its salinity has increased "10g / l to more than 100g / l", triggering extremely negative ecological changes, such as "the decimation of marine species", the beginning of "salt and dust storms" and "a climate change around the old coast" (Micklin, 2007, p.47). The use of large quantities of pesticides for agricultural purposes contaminated the Aral Sea (Granit *et al*, 2010). As noted by Jeremy Allouche, "this disaster is actually considered one of the greatest ecological disasters of the past century, having led writers like Tulepbergen Kaibergenov to compare it to the Chernobyl tragedy" (2005, p.143). Oleg Egorov⁴ (2011), a Kazakh expert, stresses the relevance of the environmental issue, stating that "the region has been undermined by sloppiness of various energy companies operating in Central Asia", which "completely ignore local laws, seriously polluting the area".

⁴ Oleg Egorov is an expert at the *Institute of Economy*, a division of the Ministry of Education and Science in Kazakhstan.

However, the water problem in Central Asia is not limited to the condition of the Aral Sea, but it also concerns the management of the entire basin (Peachey, 2004). While in the case of Kazakhstan, for example, the government strives to "solve" or at least "mitigate the environmental problem", in practice, Oleg Egorov (2011) considers that "there has been no significant changes" to this respect. The expert explains that although the Kazakh government seeks to create some taxes to prevent energy companies from harming the environment, "the problem is that [for these companies] is more advantageous from an economic stand point to continue polluting". Moreover, it must be noted that "these companies do not recycle their waste" (Egorov, 2011).

According to Jeremy Allouche, the water crisis in Central Asia is due to, "the way it has been allocated and managed", as "it is not a crisis of quantity but of distribution" (2007, p.45). As a matter of fact, in broad terms, the region is endowed with a vast potential of water resources. As reported by Erik Sievers, "Kazakhstan, for example, claims to have more than 85 000 rivers and streams", with 56% of the flow of these originating in Kazakh territory" (2002, p.363).

The problem, as mentioned above, resides in the underlying imbalance of water distribution. When independence took place, downstream states have captured 82% of the water (Uzbekistan withdrew 52%, Turkmenistan 20% and Kazakhstan 10%) (Allouche, 2007). Instead, the total water withdrawal by upstream states (Afghanistan, Kyrgyzstan and Tajikistan) was only 17% (Allouche, 2007). Although Central Asian republics have signed, along with other countries, "the 1992 Almaty Agreement" (now out of date and therefore "endowed with limited effectiveness"), and decided to "keep the quota allocation of water from the Soviet era" (to safeguard the production of cotton in downstream states), in practice, countries in this region each have "their own water policies" (Izquierdo *et al*, 2010, p.7). As stated by Chait (2010), "the divergence of national interests has faded political will to prioritize regional objectives", and "the lack of consensus on a mutually beneficial agreement has prevented effective cooperation". Downstream countries are favourable to maintaining the former Soviet quotas water allocation, while Kyrgyzstan and Tajikistan claim payment for providing water to downstream states.

Soviet water management and post-Soviet transition

As a local expert who requested anonymity notes, "energy policy in Central Asia is interesting from an internal, external, and also historical point of view", as once the planned economy enabled "the coexistence of a water and electricity interconnected cycle" (Expert II, 2012). Indeed, as emphasized by Anar Khamzayeva, "the Soviet system of water management kept Central Asian republics deeply integrated", by establishing a "regional balance", by connecting the glaciers of Tajikistan and Kyrgyzstan to the arid lands of Kazakhstan, Uzbekistan and Turkmenistan, rich in natural gas, oil and coal (2009, p.11). Also according Khamzayeva, "Soviet experts have built 33 000 km of canals, 45 dams and 80 reservoirs over the region", with elaborate engineering (2009, p.11). As Wines regards (2002), the land of sand and dust was gradually transformed into one of the biggest cotton producing regions in the world. The reservoirs of the two major rivers - the Syr-Darya and the Amu-Darya - were filled in the fall and winter so there was a sufficient amount of water available for irrigation in downstream states during spring and summer (Karaev, 2005).

According to Granit *et al*, during the Soviet era, "water resources were the exclusive property of the state, and, therefore, available for free" (2010, p.10). During the Soviet period, downstream states paid upstream states – so they would release, in summer, the water stored during winter - with natural gas and coal, so they would produce electricity during the cold winter months (Hodgson, 2010). Under the Soviet rule, "nature was perceived as being directed by the elaborate engineering", and "Central Asia was treated as an economic area and its development planned accordingly" (International Crisis Group, 2002, p.6). In turn, "water management was focused on achieving the overall production objectives contained in the regional economic development plan" (Hodgson, 2010, p.2). Moscow had spent billions of roubles in the "construction of dams, reservoirs, canals and other water structures" throughout Central Asia, to increase the area of irrigated land, but without worrying (too much) with the resulting environmental damage (Hodgson, 2010, p.2).

Nevertheless, despite the disregard for the environment, "the system worked within its own logic" (Mosello, 2008, p.156). The quota allocation of water - defined and supervised by Moscow - favoured the cotton producing downstream states (Turkmenistan, Kazakhstan and Uzbekistan) to the detriment of the least developed countries (Tajikistan and Kyrgyzstan), which had limited coal reserves and had a higher propensity to develop its hydroelectric potential (Votrin, 2003).

The water issue has increasingly been perceived by the countries of the region as "a zero-sum game" (Karaev, 2005, p.65). It should be added that regional states are divided as to whether the water is regarded as a 'public good' or a 'commodity' (d'Almeida, 2004; Global Water Forum, 2010). Within this debate, upstream states have argued that "water should be treated as a commodity, and paid by downstream states (at least regarding the maintenance and operation costs of dams and turbines)" (Linn, 2008). In turn, "downstream states have argued that international rivers must be regarded as a common good shared by all countries in the region" (Izquierdo *et al*, 2010, p.11). We will now continue with a brief description of the region's hydrologic characteristics.

The interests of the states in the region compared to hydroelectric resources

"A drop of water is a grain of gold"
Turkmen proverb

Kyrgyzstan's interests

As one local expert mentions, "the grid, in Kyrgyzstan, was not designed to be an independent power grid" (Expert II, 2012). Roman Mogilevski⁵ (2012) adds that although the country produces "a lot of electricity", the Soviet system presumed that it was transported "through Uzbekistan and Kazakhstan to the north of Kyrgyzstan". In Bishkek, there is a small power station that helps to mitigate, although partially, the dependence of Kyrgyzstan regarding the electric grid of the neighbouring states,

⁵ Roman Mogilevski is Executive Director at CASE -Kyrgyzstan and Consultant (World Bank, Asian Development Bank, EC, UNDP, USAID projects).

although there are other regions of Kyrgyzstan depending on electricity produced in the south of the country (Sultanov, 2012). In this respect, Kenneth Sturrock (2012) explains that currently "the Kyrgyz government has sought to achieve energy independence", and even make the country "an energy exporter", even though many of its projects are "difficult to achieve". For example, even with the building of Kambarata-1, the expert does not believe "this will help the Kyrgyz domestically, because they need electricity in winter" (Sturrock, 2012). Even Roman Mogilevski (2012) fully recognizes that "Kyrgyzstan is very dependent on electricity as the main source of heating and provision of energy needs of consumers, including businesses".

For the time being, the big energy/logistic problem Kyrgyzstan faces regards "the transmission and distribution of electricity in the country," and the fact that "its ability to produce electricity does not meet domestic demand" (Sturrock, 2012). Moreover, it must be noted that "although the maintenance of dams and hydropower plants does not constitute any source of considerable burden, existing infrastructures remain in practice hostage to poor management" (Sturrock, 2012). Moreover, "the energy system is not even likely to control the produced electricity", with Kenneth Sturrock (2012) estimating that "one in two kilowatt produced is 'stolen'". Joellyn Murphy⁶ (2012), in turn, states that due "to several corruption schemes" in the country, the electricity sector has experienced "losses of 40%", estimating that, to date, "at least 100 million dollars "have been diverted to "personal benefit of a few". However, the expert states there has been "a manipulation of the figures", so that such losses go "relatively unnoticed" (Murphy, 2012). Companies responsible for domestic electricity transmission lack "modern systems of measurement and accounting", a result from the "legacy of the Soviet era", where there was no "collection practices and habits" since "electricity was regarded as a public good" (Sturrock, 2012). According to Kenneth Sturrock (2012), "the word 'stolen' must be understood in *latu sensu*, as a part of the electricity is stolen, another is lost, another is diverted". In this expert's opinion, those who, should be concerned with these issues,

⁶ Joellyn Murphy is an American expert on energy issues in Central Asia.

are not (Sturrock, 2012). And then, according Joellyn Murphy (2012), "everything and everyone is interconnected", in such a way "it is impossible touch one 'domino piece without disturbing the rest", i.e., "if, for example, Kazakhstan withdraws from the grid due Uzbekistan not paying the electricity 'stolen' from Kazakhstan, Kyrgyzstan will suffer, because it cannot export all the electricity it produces". It is quite complex to gather all stakeholders to take comprehensive measures. Actually, there is not a common wish... (Gulette⁷, 2012).

There are also controversies regarding costs. About half the electricity is not paid, and even the part of it that is paid is highly subsidized, and Kyrgyz politicians have proved to be quite reluctant to raise its price (Sturrock, 2012). As one local expert mentions, "'blackouts' are a big problem during winter" (Expert II, 2012). In the summer, "production of electricity is abundant, due to the melting of the glaciers" (Expert II, 2012). Dams reach maximum capacity (Expert II, 2012). In winter, however, electricity is scarce. Such has been the case in the last 12 years. Although 'blackouts' are "a problem for the population", they "are not, however, strong enough to overthrow the government. They are only a cause for protests and frustration" (Expert II, 2012). On the other hand, electricity shortage drives food prices steeply upwards. All over the country, electrical lines are rusting, the infrastructure is decaying. According to Joellyn Murphy (2012), "Central Asian republics are now faced with all these problems because they did not pay attention to reforms that should have been made (and are still on paper), they did not invest the kind of resources that would have allowed them to avoid these drawbacks". Electricity is an extraordinary source of revenue.

In 2008, there were massive blackouts in Kyrgyzstan, with electricity failing in Bishkek 12 hours per day (Freedom House, 2009). The reason for this was that Uzbekistan and Kazakhstan needed extra electricity to meet their energy needs, and therefore offered to buy electricity from Kyrgyzstan at market prices. The Kyrgyz were not paying market rates for consumed electricity, so the Kyrgyz President (who was Bakiyev in 2008) decided to sell electricity to neighbouring countries, based on a

⁷ David Gulette is a researcher at University of Central Asia, Bishkek.

reasoning that Kenneth Sturrock (2012) suggests to have been of the sort: "I can lay hold of some of this money, and the rest goes to the system, which is always more interesting than selling [electricity] to the Kyrgyz people [who cannot pay as much as neighbouring countries]". Therefore, Bakiyev had a choice between "keeping the 'lights on' in the country", or "exporting electricity, generating considerable profits", opting for exporting this in detriment, of the greater good of the Kyrgyz population (Sturrock⁸, 2012). Adding to this difficult situation, it must be mentioned that in 2008 there has been "a smaller ice melt in Kyrgyzstan", so that "dams did not have much water, unlike previous years", and therefore "the electricity produced was also lower than usual" (Sturrock, 2012).

Kenneth Sturrock draws attention to the fact that, currently, Uzbekistan is faces a similar situation to the one occurred in 2008 in Kyrgyzstan. In this regard, the expert explained that the United States are paying electricity "at market prices" - hence at a higher price than that Uzbek citizens pay - to "keep the 'lights on'" in Kabul (Sturrock, 2012). A portion of all electricity consumed in this city is locally generated and the remainder comes from Uzbekistan, which provides, in effect, enough electricity to Afghanistan. That said, Uzbekistan is exporting its electricity to Afghanistan, causing energy shortages for the Uzbeks. Uzbekistan imports electricity, through the old Soviet power grid, from Kazakhstan (Howe, 2009). However, the Kazakhs are aware that "a part of the electricity is diverted by the Uzbeks, but do not know exactly how much, or through what channels, since the system for controlling electricity flow is not effective" (Sturrock, 2012). Therefore, if the Kazakhs decide to abandon the old Soviet power grid, something that they can do as they have sufficient domestic production based on oil and natural gas, then Kyrgyzstan would be adversely affected as the country depends on electricity coming from the exterior because it does not have enough electricity during the winter Kyrgyzstan also depends on the Uzbek grid for transporting electricity from one part to another of the Kyrgyz territory (Sultanov, 2012).

⁸ Kenneth Sturrock is a USAID representative in Bishkek.

Joellyn Murphy (2012) estimates that "nine million dollars, a pure extortion", is the amount paid by the Kyrgyz to Uzbekistan annually, in order to transport electricity from one part to another of Kyrgyzstan, using the Uzbek high voltage lines. Therefore, Bishkek shows "great interest in building power lines capable of providing electricity to the whole country, although it has no financial capital to do so" (Sturrock, 2012). Therefore, some years ago, the Kyrgyz asked the United States to carry a study specifying "where those power lines should be built, and which technical characteristics" (Sturrock, 2012). The United States agreed to undertake such a study, through the U.S. Trade Development Agency. However, once done the research that planned the future power grid to Kyrgyzstan, the Kyrgyz decided to seek support from Chinese investors for this project. Recently, Beijing agreed to finance and build a high voltage line, Datka-Kemin, which will constitute "an important step to help Kyrgyz to achieve energetic autonomy, instead of resorting to neighbouring countries' grids" (Sturrock, 2012).

In order to strengthen its ability to transmit electricity, Kyrgyzstan has been quite interested in the U.S. program CASA-1000. This is a program capable of diverting excess electricity produced in Kyrgyzstan and Tajikistan through Afghan power lines in order to sell it to Pakistan (Murphy, 2012). According to Fabio Indeo, "the embodiment of the CASA- 1000 program will allow countries energetically dependent ", as is the case of Kyrgyzstan and Tajikistan, to "expand its electricity exports to Afghanistan and Southern Asia", by "building and strengthening hydropower plants", thus giving them "energy autonomy" (2011, p.6). In turn, "Uzbekistan, Kazakhstan and Turkmenistan worry that building hydropower plants [in the region] would reduce the water flow and negatively affect the production of cotton, one of the most important exports for these countries" (Indeo, 2011, p.6) .

However, experts such as Roman Mogilevski (2012) doubt that such a project could be achievable, as "Pakistan, Kyrgyzstan's main buyer, is unpredictable, does not pay ...". Moreover, according to this expert, "Afghanistan still has a long way to go in order to achieve a stable and reliable transmission capacity" (Mogilevski, 2012). Going back to Kenneth Sturrock (2012), the CASA-1000 program is nothing more than "one of the integration strategies initially outlined by the United States regarding Central Asia".

In practice, it aims to "connect the countries between themselves, through the energy market" (Sturrock, 2012). However, no matter how appealing this idea may be, the reality is that "neither Kyrgyzstan nor Tajikistan produce surplus electricity", even in summer (Sturrock, 2012). Moreover, as Joellyn Murphy (2012) notes, "in winter virtually all of these countries operate in emergency mode". It must be noted that "neither Kyrgyzstan nor Tajikistan have a domestic power grid capable of transmitting electricity to their respective borders" (Murphy, 2012). In turn, "the United States also lacks an electrical grid capable of running across Afghanistan", and finally, "the Pakistanis do not have enough money to pay for foreign electricity" (in this case, Central Asia), an opinion shared by Roman Mogilevski (Murphy, 2012).

In the opinion of K. Sturrock (2012), "Kyrgyzstan needs a lot of coal-fired or natural gas power stations in order to increase its power generating capacity", with "coal showing to be an important resource as it exists in abundance in the country". However, "no foreign investor would fund the construction of a coal-fired plant, as it is not an ecological project" (Sturrock, 2012).

Tajikistan's interests

The Tajik government has two major goals. First, like most Central Asian republics, "Tajikistan would like to increase the area of irrigated land on its territory, possibly through water abstraction from the river Zeravshan" (Granit *et al*, 2010, p.19). However, downstream states (mainly Uzbekistan) are more concerned with the second goal of Tajikistan - "to strengthen its hydroelectric capacity" (Granit *et al*, 2010, p.19). Regarding this goal, "Uzbek vice Prime Minister Akil Azimov reiterated its concern about Tajikistan's plans of to build large hydro projects on the river Amu Darya" (Ryskeldi Satke, 2012: para. 3). Tajikistan has extraordinary potential in terms of hydropower production - the country produces about 16 GWh of electricity annually, through the use of hydroelectric plants - but until now, the exploitation of this potential is "only 8%", which leaves "a vast potential that can be exploited" (Mellis, 2012). C. Mellis (2012) reports there are hydropower plants at Nurek (each with more

than 200 MW capacity), in the same river where Rogun is expected to be built, i.e. the Vakhsh River. In this river, there are also other plants with about 30-50 MW capacity (Mellis, 2012).

According to the World Bank, "the construction of the Rogun hydroelectric plant was started during the Soviet era, in the 80s, although it was discontinued in the 1990s due to the collapse of the Soviet Union and the Tajik Civil War" (2011, p.14). In 1993, a massive flood destroyed most of what had been built (Allouche, 2007). Currently, the Government is looking for a strategic foreign partner for this project (Garibov, 2013). In the scope for the possible revival of Rogun by Tajikistan, the World Bank is responsible for carrying out two self-financed assessments: "one focusing on technical and economic features and the other focusing on environmental and social aspects regarding the impact of the dam construction" (Keene, 2013: para. 13). There are several rumors about this project's feasibility: one that this is possible, other stating the World Bank suggests that, instead of a single dam, 'several hydroelectric plants' should be built, with 'lower costs and in a shorter time', but, for now, these are 'just rumors', given that it is necessary to wait for the results from the assessments.

Tajikistan and Uzbekistan show two radically opposed positions towards Rogun: the first is favourable to it, while the other is against. According to Makhmedov *et al*, "in order to prevent the construction of the giant hydroelectric plant in the neighbouring country, Tashkent has used all possible means of pressure, including: obstructing Turkmen electricity exportation to Tajikistan via Uzbek territory; reducing natural gas delivery to Tajikistan; and increasing its price; blocking the freight wagons traffic to the country; and organizing protests in border areas against environmental pollution caused by TALCO (Tajik Aluminium Factory), one of the few profitable companies in Tajikistan" (2012, p.7). Uzbekistan's concern over the construction of Rogun is that Tajikistan will be in full control of the main tributaries of the Amu Darya River, and on the other hand, "Uzbekistan is worried regarding the irrigation of millions of acres used to grow cotton" (Makhmedov *et al*, 2012, p.7) .

The other 'trump card' Tashkent has been playing in this game - because it is a game - is related to the risk of seismic activity in the region. Indeed, Uzbekistan claims the construction of the dam in an area of severe seismic activity, can put people's lives

at risk (Jalilov, 2010). Moreover, Uzbeks are apprehensive towards "possible water shortages during initial periods, in order to fill the reservoir", and also in long term, because "Rogun was designed to produce electricity" (Mellis, 2012).

Tashkent has placed several obstacles to the supply of electricity to upstream states: Tajikistan has been "subjected to considerable energy poverty (affecting about 70% of the population)" during winter, due to the power cut carried out by neighbouring Uzbekistan" (Mellis, 2012). Fields et al estimate that this is responsible for "economic losses of over 200 million dollars a year" to Tajikistan and "the Tajik population is suffering with domestic air pollution, resulting from burning wood and coal indoors" (2012, p.1). In this sense, "President Emomali Rahmon has placed a great deal of hope on Rogun for the future of his country", believing that "this project will be the key to solving energy problems" for Tajikistan and it might even turn this country into a major electricity exporter" (EurasiaNet, 2013).

While this article was being written, potential investors were still waiting for the results from the World Bank assessments regarding the feasibility of this project. According to Eli Keene, "it is estimated that final reports will be published as soon as 2013, although preliminary documents are available on the World Bank website" (2013: para. 13). Although these do not provide feasibility assessments, they do provide the most detailed analysis to date on technical obstacles faced by this project. But if officially, Rogun's construction works have been "put on hold by the Tajik Government", as the agreement with the World Bank states that until the publication of the final results the country must stop its construction, Uzbekistan argues that Tajikistan is secretly still building the dam, in order to reach a 'point of no return' (Kosolapova 2012: para.1). However, these can be only rumors, as Christian Mellis (2012) warns.

In the Soviet era, Moscow had promised "\$ 200 million for the construction of Rogun", money that was not used to this purpose, as a result of the Soviet Union's collapse (Mellis, 2012). To date, there has been no (significant) interest from potential investors in the Rogun hydropower plant, so project is faced with "a profound need for

funding". As such, "the government has been inciting the population to contribute, as much as it can, to complete the work", and to "help overcome the severe electricity shortage" (Boboev, 2010: para. 2). In this sense, the Tajik government has asked local people to buy "some shares for Rogun", while weighing on the possibility of using a large amount of the total state budget for Rogun's build (Report of the Working Party on the Accession of the Republic of Tajikistan, 2012, p.8).

If Rogun truly gets to be built, Tajikistan may have to face many obstacles selling the electricity it might produce, since the current power grid in the region is centered in Uzbekistan, which is against this project (Estrada and Eritja, 2012). According to Struan Stevenson, "most of the north-western region of Tajikistan depends currently on electricity from Uzbekistan, due to how the grid is configured" (2011: para. 12). In the early 2000s, electricity trade has become even more disadvantageous to Tajikistan, which has imported 64979,339 GWh and exported 113163,057 GWh. But with the completion of the Rogun dam, Tajik leaders are confident that they will be able not only to meet all of their electricity needs but also be able to export electricity to its neighbours, such as China, Afghanistan, Pakistan, Iran and perhaps even India (BBC News, 2010).

Uzbekistan's interests

Uzbekistan has consistently reiterated its opposition against the construction of the Rogun dam, considering that this is likely to provide Tajikistan with the control of the water flow to the Uzbek provinces of Surxondaryo (Surkhandarya) and Qashqadaryo (Kashkadarya) (Tolipov, 2012). Regarding Rogun, the main issue at stake is that, from a strategic point of view, Uzbeks do not tolerate the idea of Tajiks having a sufficient water reserve capacity to enable them to meet their own needs, and to even hold water destined to supply the needs of others (Murphy, 2012). This could "change the 'game'", i.e., "the fact that Tajiks are capable of storing large amounts of water increases their influence in relation to Karimov" (Murphy, 2012). Therefore, the Uzbek President has "even threatened to use military force" to prevent the construction of

Rogun (EurasiaNet, 2013, p.4). For Joellyn Murphy (2012), as well as for Chinara Esengul⁹ (2012), this is the most likely scenario.

In terms of literature, the hypothesis of water wars has been gaining increasing attention from various experts. Westing (1986), for example, suggests that competition for water resources is likely to lead to serious political tensions and even to war. Trollidalen (1992) believes that the competition for the quantity and quality of collective water resources at the local level leads often to international conflicts. Experts in strategy, such as George William Sherk (1999), even go so far as to consider that wars over water are inevitable. This type of literature emphasizes, moreover, that these conflicts will certainly intensify in the near future. Butts suggests that "history is not short on examples of violent conflict over water" (1997, p.72), and Homer-Dixon, citing disputes over the river Jordan and others, concludes that "the renewable most likely to trigger an interstate conflict over resources is river water" (1994, p.19). Going from the broader perspective of the above mentioned literature advocating for the possibility of conflict over water to the more specific case of Central Asia, Christian Mellis (2012), expert on water issues and energy of the Organization for Security and Cooperation in Europe (OSCE) doesn't pay much attention to this hypothesis, considering "implausible the idea of a conflict over water resources in the region". The OSCE has monitored the tension level in this region, using some units for conflict prevention in the field (Mellis, 2012). While admitting that tension over water resources has been increasing, in practice this remains fundamentally a "verbal dispute" (Mellis, 2012). However, the risk of war is taken into consideration, albeit not being particularly high, according to Christian Mellis. But this does not prevent from in the future, according to this expert, the issue of water and management of natural resources tending to represent "a potential cause of war" (Mellis, 2012). For the time being, as also underlines Roman Mogilevski (2012), "people do not take seriously the threat of use of force by President Karimov".

⁹ Chinara Esengul is a Kyrgyz expert researching on issues related to integration and cooperation in Central Asia.

Karimov has reiterated the idea that water is not a product or commodity and that water allocation should be based on the agricultural needs and on population levels. According to François Renaud, "the marketing [of water] could set a precedent in Central Asia, with the risk of getting into deep collision with the beliefs of Muslim populations in the region" (2009, p.5). In fact, "Islam has a clear position" on this subject: "water is the property of God (Allah for Muslims), who in his great indulgence has given it as a gift to the faithful" (François, 2009, p.5). It seems therefore "difficult to combine the values of economic liberalism, governing trade between Central Asian republics, with traditional and religious practices" (François, 2009, p.5).

Regarding the issue of electricity, Joellyn Murphy (2012) states that "Uzbekistan is selling electricity to Afghanistan, which, in fact, the Uzbeks do not produce, but which comes from Russia". If Uzbekistan starts exporting large quantities of electricity which it effectively does not have, "because it did not build enough nuclear plants in recent years", then "it will tend to affect the electricity supply to domestic consumers [to their own people], because the government will always want to sell electricity to customers who pay with hard currency, rather than to its domestic consumers, who are receiving electricity at subsidized prices" (Murphy, 2012).

The main objective of Uzbekistan regarding water management is to maintain the status it enjoyed during the Soviet era, when it was "awarded [by Moscow] with increasing water allocations" (Allouche, 2007, p.51). Since the country has achieved "a level of stability in terms of food security", its priority is now focused on expanding irrigated areas, with the goal of producing a food surplus likely to be exported to neighbouring countries (United Nations Development Programme, 2010, p.7). For a local expert (who requested anonymity), "there are undeniably many tensions around Uzbekistan, but this is unavoidable" (Expert II, 2012). Kyrgyz electricity travels first through Uzbekistan to get to Bishkek. The only Tajik train to access the outside world must pass through Uzbekistan (Expert II, 2012). Geographically, "Uzbekistan occupies a central position in the region", and "any disturbance factor in the country and/or in its foreign policy ends up having an impact on the entire region" (Expert II, 2012). For now, Uzbekistan is a "hassle to all Central Asian republics", since it holds "a unique and independent position in whatever matter" (Saifutdinov, 2012). Tajikistan has been

greatly hampered by the Uzbeks lack of cooperation, as according to Sergei Medrea, "the country depends largely on its neighbours, and, in particular, on Uzbek roads and railways, in terms of transportation infrastructure" (2012: para. 3). On the other hand, Tajikistan also depends on Uzbekistan regarding natural gas supply and transit of goods.

Other states' interests

Regarding the interests of Russia in Central Asian water resources, one must highlight "the shortage of electricity in the country and the prospects of creating a common market for electricity in Eurasia" (Zulharneev, 2012: para. 32). On the other hand, Russia intends to ensure energy and water security in the region, in any scenario of political developments in Central Asia and Afghanistan (Zulharneev, 2012). By developing effective water geopolitics, Russia may be able to achieve two strategic goals: to strengthen its ties with Central Asian republics and to weaken Islamic radicalism, which is taking advantage of the desertification in the region to recruit farmers victims of soil impoverishment.

According to Elmurad Kasym, "Russia has sought to strengthen its presence in the region", and "President Putin seems determined to 'win' Central Asia gradually once again" (2012: para. 9). As a result from the "withdrawal of NATO troops", as well as the "Beijing's non-interference policy" and the "need that regional states have for external aid", Russia has "every reason to fully reassert its dominance in the region" (Kasym, 2012: para 9). Now, "water seems to be a very strong and solid platform to do so" (Kasym, 2012: para. 9). According to Farkhod Tolipov, in a setting where "Kyrgyzstan is eager to build Kambarata I and Tajikistan intends to build the Rogun hydroelectric power station "Putin has declared that "the participation of Moscow in such projects was not directed against any country and that Russia is interested in such interactions over the control and distribution of the water resources" (2012: para. 3). Tolipov therefore considers that "Russia is interested in a new balance between water and energy in the region", in which "Kyrgyzstan and Tajikistan - the weakest states in

the region - need to maintain Russian support in the water disputes against Uzbekistan and Kazakhstan", providing Moscow with "a lever of important influence in the region" (2012: para. 3). According to Zulkharneev, "it was with Russian funding that the major projects in the sector were implemented: the construction of the hydroelectric plant Sangtudinskaya-1 (670 mW, Tajikistan), the first unit of Kambaratinskaya-2 hydroelectric power station (120 mW, in Kyrgyzstan)" (2012: para. 42). Also according to Zulkharneev, if "Russia has the power to influence, as well as investment opportunities", it also "lacks more delicate instruments" (2012: para. 55). Although "Russia still enjoys a dominant energy presence in Central Asia and in Southern Caucasus", the most important regional states - Kazakhstan and Uzbekistan - have been setting new energy partnerships with neighbouring China (Nixey, 2012, p.12).

When asked on the possibility of a 'New Great Game' regarding electricity, in addition to that concerning oil and natural gas, Joellyn Murphy (2012) states that this is connected, among other aspects, "to the attempt to control water resources in Central Asia". According to this U.S. energy expert, "the Russians are interested in entering the CASA program", something the United States has sought to promote in the region (Murphy, 2012). As the Russians have such a big interest in participating in the construction of Rogun, if they come to control the high voltage lines where Rogun produced electricity will circulate, they will also control Tajik water resources, enabling them to have influence over Uzbekistan, given the interdependence of water and energy resources and the other players involved (Murphy, 2012).

China, in turn, is an increasingly important actor regarding the management of water resources in Central Asia. According to Martin Spechler, "China controls the headwaters of the Ili and Irtysh rivers, which flow into Kazakhstan" (2009, p.12). As Spechler notes, "the Chinese plans to explore the potential of these rivers", in order to "satisfy civilian needs, oil extraction, electricity, and irrigation" has the underlying possibility of conflict with Kazakhstan", although the current situation is not, however, "critical" (2009, p.12).

In addition to Central Asian oil and natural gas, Sébastien Peyrouse explains that "Beijing is also interested in the hydroelectric sector in Central Asia", understanding the region as "a potential source for cheaper electricity", likely to

"compensate for electricity shortages in Xinjiang" (2009, p.8). China's interest in Central Asian hydropower sector creates a growing concern on the part of regional states, even though Chinese investment and its expertise can be important regarding the construction of high voltage lines, essential to Central Asian republics (Shustov, 2012). This ambivalence where, on the one hand, the region "needs the Chinese", while simultaneously "does not want to rely too much on them", is underlined, among others, by Joellyn Murphy (2012). As this expert notes, what has been happening with Chinese operated high voltage lines in Tajikistan, is that "[they] use and even provide Tajiks with their own equipment, although it does not function with local equipment" (Murphy, 2012).

It is interesting to note that instruction manuals written in Chinese, accompanying Chinese equipment, have been 'translated' into what the Tajiks call "Chirussian", i.e., "a sort of incomprehensible mix between Chinese and Russian" (Murphy, 2012). It is therefore a natural assumption that Kyrgyz and Tajiks do not want to become hostage to Chinese expertise, tools and workers currently operating their domestic high voltage lines (Murphy, 2012). In fact, "monopolization of technique and instruments in the hands of the Chinese helps to cement local fear that if they want electricity to flow in one direction, then it is very likely that this will happen" to the detriment of Central Asian republics, subjected to such a dependent relationship (Murphy, 2012).

Conclusion

Regarding the water issue, cooperation has been hampered by the perception regional states have of water resources as a zero-sum game, in which the gain of some is achieved at the expense of the loss of others. Although the region is endowed with a vast hydro potential, the different perceptions of regional leaders on water (some seeing it as a collective good, others as a commodity that must be paid) constitute the essential factor of divergence. Hence the controversy around Rogun, which mirrors

tensions and perceptions between upstream and downstream states regarding the paradigm of water management. If the project goes forward, the friction will tend inevitably to increase, albeit not being totally secure that this may trigger military conflict. Indeed, the management of water resources in Central Asia, but also in the Middle East, helps to remember the importance of oil and gas can be relative (at least for part of mankind), when access to another basic feature is jeopardized (whose media visibility is not always the greatest), as it happens with water. Although it is futile any search for evidence of the deeper integration that would suggest that the Central Asian countries are set on the path towards an eventual security community, they have made however some efforts to form a common regional platform to address security concerns, in which the water issue is included.

A result from the interdependence of structures and regional actors, the water issue in Central Asia directly influences the fate of another issue: electricity. Therefore, the New Great Game in Central Asia is not concerned solely with access to oil and gas by powers external to this region. As a matter of fact, if the regional states themselves are both hosts and functional powers - regarding oil and gas - they are also players in the challenge for controlling water resources and electricity production.

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Article's processing in the journal

Submitted: 03/02/2014

Accepted: 26/05/2014