A source of regional tension in Central Asia: The case of water

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Introduction

This article is divided into three parts. The first part will explain the current water crisis in the region highlighting hydrological and historical factors. Our second part will focus on the debate as to whether water can be seen as a case of conflict or regional cooperation. Finally, our last part will look at how the situation is likely to evolve.

I. Water resources in Central Asia.

1.1. Water in Central Asia: The background.

Central Asia is a region which had been ignored by the international community (i.e.: international organisations, development agencies, international press and civil society) for a long time before being rediscovered in the early nineties. Quite paradoxically, the Central Asian republics were brought back to the international scene not by their independence but rather by the fate of the Aral Sea. This disaster is actually considered as one of the biggest ecological catastrophes of the past century and led writers like Tulepbergen Kaibergenov to compare it with the Chernobyl tragedy.

The following figures illustrate the magnitude of this catastrophe. In 1987, the Sea was divided into two parts, the 'Bolshoi Aral' in the south and the 'Malgi Aral' in the north. Once fourth largest lake of our planet, the Aral Sea has been drying up for four decades. By 1995, the Sea had lost three-quarters of its water volume, its surface area had shrunk by half, and water levels by 19 meters (Micklin, 1988; Létolle & Mainguet, 1993). One can therefore see why water became a major issue after the independence of these countries.

In fact, water has always been an element tied to Central Asian identity. This is true in geographic terminology for instance. One of the first terms used to identify the region was the Greek term, Transoxiania. Basically, it refers to the territories situated behind the Oxus river (river which is now called the Amu Darya). In the seventh century, Arab geographers used another term, *'Mawarah-al-nahr'* which means 'what lies behind the river' (Djalili & Kellner, 2003: 21). Water is also very much

linked to Central Asian identity since inhabitants from this region were among the first civilisations to develop quite extensively irrigated agriculture. For certain specialists, agriculture in this area dates back to the Bronze Age (Francfort & Lecomte, 2002: 628).

1.2. The hydrological characteristics

Let us then examine what the main hydrological characteristics of the region are. The five Central Asian republics share basins of the two principal rivers of the region: the Amu Darya and Syr Darya. Both rivers are chiefly fed by glaciers and snowmelt.

Map 1: The Aral Sea Basin. (Lasserre & Descroix, 2002: 296)

The Amu Darya is 1,415 km long, and has the highest water bearing capacity of the region. It originates I the confluence of the Piandj and Vakhsh rivers. The Piandj rises in the Pamir Mountains and constitutes nearly the entire border between Tajikistan and Afghanistan. The Vaksh is a product of the concourse of several rivers flowing from Kirghizstan and Tajikistan. The Amu Darya flows west, forming the border between Afghanistan and Uzbekistan, and turns northwest, cutting through the Sundukli and Karakum deserts of Turkmenistan. Finally, the river crosses the Karakalpia region of Uzbekistan and reaches the southern shore of the Aral Sea. During this journey, the river, or its major tributaries, flows along the borders of and across four states - Tajikistan, Afghanistan, Turkmenistan and Uzbekistan - entering, leaving, and re-entering the last two states several times. Tajikistan contributes 80 percent of flow generated in the Amu Darya river basin, followed by Afghanistan (8%), Uzbekistan (6%),

Kirghizstan (3%), Kirghizstan (3%) and Turkmenistan and Iran together around 3 per cent (most of which is formed in Iran) (Micklin, 2000: 7).

The Syr Darya is the longest river in Central Asia (2,212 km) but it carries less water than the Amu Darya. The Syr Darya flows from the Tyan Shan mountains, located to the north of the Pamirs. Its basin includes the rivers of the Ferghana Valley in Uzbekistan and the Naryn and Kara Darya rivers, which flow from Kirghizstan. After the confluence of the Naryn and Kar Darya, the Syr Darya flows west, crossing Tajikistan and Uzbek territory, and then turns northwest through Kazakhstan to the Aral Sea. Basically, during this journey, flows along the borders of and across four states - Kirghizstan, Uzbekistan, Tajikistan and Kazakhstan. Kirghizstan contributes 74 per cent of the river flow, Uzbekistan 11 per cent, Kazakhstan 12 per cent and Tajikistan 3 per cent (Micklin, 2000: 7).

Both river basins have an extended network of dams, reservoirs and irrigation- canals forming one of the most complex basins in the world. The largest canal is the Karakum Canal in Turkmenistan, which is 1,100 km long. The purpose of this canal is to transfer water to the south-western part of Turkmenistan.

Table 1: Geographic and demographic characteristics of the Aral Sea basin and riparian countries (Compiled from Micklin, 2000: 4).

State	% of total area of country within Aral Sea Basin	% of Aral Sea basin	% of total population of country Aral Sea Basin	% of Aral Sea basin population
Uzbekistan	98	25	99	50
Turkmenistan	77	21	99	9
Kazakhstan	13	21	15	5
Tadjikistan	100	8	100	13
Kyrghizstan	72	8	52	5
Afghanistan	40	15	33	17
Iran	2	2	NA	NA
Total all countries	28	100	31	100

This table and the major hydrological characteristics described above enables us to identify who are the major actors in the basin. Firstly, one can see that Tajikistan is the most upstream country for the Amu Darya (if one excludes Afghanistan) and has consequently a very important strategic position. Furthermore, all of its territory is located within the basin.

Kirghizstan is another major actor since it controls the flow of the Syr Darya. The third major role is taken by Uzbekistan. Most of its territory (98%) is located in the Aral Sea basin and is the biggest territory in terms of basin coverage (25%). Moreover, half of the population in the Aral Sea basin lives in Uzbekistan. These three countries are therefore the major players in strategic terms and affect considerably the way in which water resources are managed in the region.

Turkmenistan is also very much dependent on the Aral Sea for its agricultural development but is not in a strong strategic position. This is also the case for Kazakhstan although this country is clearly concerned with water resources management policies since the Aral Sea is located in its territory. Afghanistan was not until recently an important actor in the Basin due to internal politics but the recent developments as we will see more fully in our third part could well change this situation. Lastly, Iran has certainly the least important part to play in this basin.

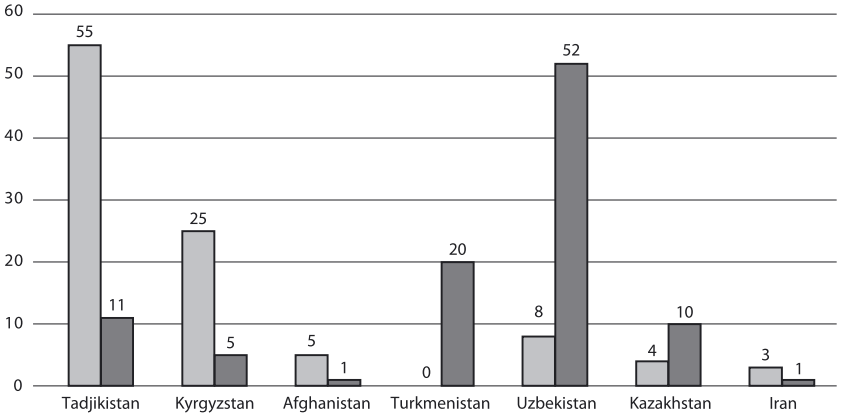
1.3. Explaining the current water crisis

With the Aral Sea ecological disaster, many people would assume that this region is water scarce. But quite paradoxically, Central Asia is really a region with a lot of water. Basically, a country becomes a highly water scarce country when annual water supplies drop below 1,000 cubic meters per person. Of course, for downstream states, the situation is quite critical. It has been evaluated that annual water supplies in 1998 were of 704 cubic meters per person for Uzbekistan and 232 for Turkmenistan. On the other hand, the figures were of 4,484 for Kazakhstan, 11,171 for Tajikistan and 10,394 for Kirghizstan (World Resources Institute, 1998: 305). Overall, Central Asia is therefore a region rich in water.

In fact, the water crisis in Central Asia is not a crisis of quantity but of distribution. Although Afghanistan, Tajikistan and Kirghizstan are the most upstream countries in the Aral Sea basin, water withdrawals for these three countries totals 17%. The picture for downstream states (Uzbekistan, Kazakhstan and Turkmenistan) is exactly the opposite. Uzbekistan withdraws 52% of the total water, followed by Turkmenistan (20%) and Kazakhstan (10%).

This situation is quite unique with the exception of the Nile. Indeed, it is usually the upstream states which are in a predominant position. This is the case for instance with Turkey in the Euphrates or India on the Ganges. The particular situation of Central Asia can mainly be explained through historical reasons. Firstly, it is really from the time of Russian

Figure 1: Average annual flow generation vs 1995 withdrawals for the Aral Sea basin states (%).



colonisation that agriculture became much more developed. Actually, some specialists have argued that one of the motives for the Russians to invade Central Asia was due to the enormous potential of this region for supplying cotton (Joffe, 1995; Lipovsky, 1995). In the middle of the nineteenth century, the biggest cotton producers were the United States and the United Kingdom. The Russians wanted to be less dependent on these two rival countries and the failure to get cotton supplied during the American civil war (1861-1865) was certainly a main trigger in Russian strategic thinking. Of course, the other main reason why the Russians got involved in Central Asia was the Anglo Russian rivalry over the Sub-Indian continent. If one therefore accepts this hypothesis, one can easily understand why cotton production was highly accelerated after the Russian arrival. The following quotation by the Russian minister of agriculture, M. Krivoschein, during an official visit in the former Turkestan in 1912 clearly illustrates this state of mind:

> *The present development of cotton plantations can and should be intensified still further by means of further reduction in the quantity of grain crops planted on irrigated land… Every extra pod of Turkestan wheat means extra-competition for Siberian and Cuban wheat, every pod of Turkestan cotton means competition for American cotton. Therefore, it is better to give the territory imported wheat -even at extra cost - but to make irrigate land available for cotton growing. (Lipovsky, 1995: 530)*

As a consequence, every crop- of land suitable for irrigated agriculture was developed irrespective of the countries concerned. In 1983, the cotton production in Uzbekistan reached the same rate as its American counterpart. One could argue that the Russians conceived Central Asia as a single agricultural entity despite the national borders. Therefore, there was no interest in balancing the needs for each republic. The more they could produce, the better it was.

The current consumption pattern therefore can be explained not simply by historical reasons with the Russians' desire to fully develop cotton production in Central Asia, but also by geological reasons. Uzbekistan consumes much more water compared to the other republics since its land is best suited for cotton growing. Indeed, cotton cannot be cultivated over 1200 meters above sea level. This therefore clearly excludes Tajikistan and Kirghizstan that are both characterised by high mountainous regions. Cotton production is not highly developed in Turkmenistan either since it is a very arid country and the weather conditions in Kazakhstan are too cold for cotton growing.

The current water crisis can be explained through two main reasons. The first one is that there is a clear imbalance in water consumption. Of course, this situation is far from unique and one can see the same problems in other rivers around the world. Moreover, it is difficult to define in terms of water consumption what could correspond in statistical terms to the prevailing legal doctrine of equitable utilization as defined in the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses. Nonetheless, the Central Asian case shows considerable differences in water consumption and we are clearly not in a situation of equitable utilization. As seen throughout this first part, the Russian, and then Soviet, policy in Central Asia in developing cotton production can explain this imbalance. At the time of independence, the situation became different and upstream countries (Tajikistan, Kirghizstan) are now calling into question the current water allocation quotas between the five republics. The second major reason why there is an important water crisis in Central Asia lies in the fact that the five Central Asian republics have been consuming water at an unsustainable rate for decades and that since independence in 1991 water use has soared yet higher. Both of these factors have led most water specialists to consider that this region is clearly in a situation of severe crisis and some even suggest that this could lead to harsh conflicts between the five riparians. David Smith, a leading water specialist of this region, even declared that:

Nowhere in the world is the potential for conflict over the use of natural resources as strong as in Central Asia. (Smith, 1995: 351)

II. Conflict or co-operation in Central Asia

One could really build different evil scenarios of how the situation could evolve but how does water really interfere in the relations of the five republics?

Basically, water has never been a cause of armed conflict between two or several states. The following table indicates all the major water-related conflicts in the region.

Table 1: Water-related conflicts in the Aral Sea basin (Klotzli, 1994: 43)

Hydrological system	Control of sources	Main user(s)	Type of dispute	Related ethno-territorial or sub-national conflcits	Severity of conflict
Naryn and Toktogul resv.	Kyrgyzstan	Kyrgyzstan Uzbekistan	Up-down stream	Ethnic tensions between Uzbek and Kirgyz population in the Fergana Valley	High
Kayrakum resv.	Tadjikistan	Uzbekistan Tadjikistan	Up-down Stream	Transfer of the Tajik section of the Fergana Valley to Uzbekistan	Medium
Tributaries to Fergana Valley	Kyrkystan	Uzbekistan Tadjikistan	Shared irrigation system	Ethnic tensions between Uzbek and Tadjik population	High
Chardara resv.	Kazakhstan	Kazakhstan Uzbek minority	Up-down stream ; shared irrigation system	Transfer of lands between the Syr Darya and the Arys rivers (province of Chimket) from Kazakhstan to Uzbekistan	Low
Vakhsh/ Pyandsh	Tadjikistan	Tadjikistan	Up-down stream (potential)	Factional divides long the course of the Amu Darya between Gorno Badakhstan and the region of Kurgan Tyube	High
Zeravshan	Tadjikistan	Uzbekistan	Shared irrigation system; up-down stream	Ethnic tensions between Uzbek and Tadjik population ; transfer of the upper reaches of the Zeravshan to Uzbekistan	Medium
Lower Amu Darya	Turkmenistan Uzbekistan	Turkmenistan Uzbekistan	Shared irrigation system; up-down stream	Territorial claims concerning parts of the Tazhaus Oasis, the Khorezm province, and Cardzhou at the middle Amu Darya	Medium
Kara Kum canal	Turkmenistan	Turkmenistan	Transbasin	Interrepublican significance, repercussions fro downstream users	Medium
Aral Sea	Kazakhstan Uzbkistan	Karakalpakia, Turkmenistan, Kazakhstan, international	Regional, common/ sacrifice area	Low potential for a secession of Karakalpia from Uzbekistan ; over-regional conflict	Low

From the following table, one can identify three main regions where there are regularly incidents over water use: the Zeravchan valley, the Amu Darya delta and the Ferghana valley. Moreover, all these conflicts have been up to now been very local and have all an ethnic and a territorial dimension. This can largely be explained again by Soviet intervention when during the

mid-1920s, Stalin developed his policy to divide and rule the region. This was done for ethnic/linguistic groups but also for water resources with the water flowing from one country to another before re-entering into the same country. Moreover, on a larger scale, the divide and rule policy was also developed. The Soviets in fact created two small republics, Tajikistan and Kirghizstan, endowed with enormous water resources, although little in the way of agricultural land, and three large republics, Turkmenistan, Uzbekistan and Kazakhstan, with huge agricultural potential but virtually no indigenous water supply. As rightly emphasized by Sara O'Hara,

> *In effect, the Soviet administration created a situation which would ensure competition between water-surplus and water-deficit republics. This situation worked to Moscow's advantage in two ways. First, disputes over water reinforced the national distinctiveness of the republics, thus limiting the potential for regional co-operation which would threaten soviet control. Second, as competition for water increased the Republics were forced to ask Moscow to intervene, a role it was more than willing to undertake. In short, water policy was central to Moscow's efforts to divide and rule the region. (O'Hara, 2000: 430)*

Before, Moscow pressured Kirghizstan and Tajikistan to empty their reservoirs during the summer months so that the cotton fields in downstream states could be irrigated. The situation is now different. Both of these states have clearly now an interest of storing the water during the summer and releasing it during the winter for hydroelectric purposes. Actually, there have already been a number of incidents on water use since independence. In 1993, in 1998 and in 2001, Kyrghizstan was blamed for releasing too much water from the Toktogul dam down to the Syr Darya during the winter and not enough during the summer. The result was that a lot of cotton fields were flooded in Uzbekistan and in Kazakhstan. The same kind of problem- is also occurring in the Amu Darya river basin.

Despite these incidents and tensions, co-operation over water allocation in the basin has emerged very rapidly within the Aral Sea Basin. Indeed, and contrary to expectations, the five ministers of water management signed a first agreement only three months after independence on February 19, 1992 on "Cooperation in the Management, Utilization, and Protection of Water Resources of Interstate Sources" wherein the water resources of the region were defined as 'common' and 'integral' (Article 1). According to the Agreement, the Central Asian states "*commit themselves to refrain from any activities within their respective territories which, entailing a deviation from the agreed water shares*

or bringing about water pollution, are likely to affect the interest of, and cause damage to the co-basin states" (Article 3). This agreement set up the Interstate Water Management Coordinating Commission (IWMCC - later referred to as the Interstate Commission for Water Coordination or ICWC). The IWMCC is composed of the five ministers of water management who meet on a quarterly basis to define water management policy in the region and work out and approve water consumption limits for each of the Republics and for the whole region. During the first year of independence, co-operation simply entailed the perpetuation of past practices of water management, codified into a new agreement. The "Agreement on Joint Activities for Addressing the Crisis of the Aral Sea and the Zone around the Sea, Improving the Environment and Ensuring the Social and Economic Development of the Aral Sea Region" signed by the five Republics on 26 March, confirmed the willingness of these states to co-operate in the management of the basin's water resources and, in particular, to undertake joint activities in order to arrive at a solution for the 'crisis'. On the basis of this agreement, four new institutions were created, most notably the Interstate Council on the Aral Sea Basin Problems (ICAS). In doing this, the five Central Asian republics have established a relatively comprehensive framework. They now need to show political commitment to effectively implement this endeavour, a commitment which, for the time being, is rather evanescent to say the least.

III. New factors that could disrupt the silent peace in Central Asia.

It is always difficult to say how the situation is likely to evolve but there are three crucial points in the current situation that could aggravate the tensions over water issues in this region:

- The Rogun and Sangtuda hydroplants.
- The Golden Century Lake.
- The new role of Afghanistan

The Rogun and Sangtuda hydroplants are based in Tajikistan. The Rogun plant was begun in the 1980s but the project was stopped when the Tajik civil war began. A massive flood in 1993 destroyed most of what had already been built but the Tajik would like to redevelop this project. If the Tajik manage to attract enough foreign investment, this dam would be the highest in the world (335 meter) and would produce 3600 MW of energy. Its cconstruction was estimated at about $3 billion. Work has been suspended due to a lack of financing and the Tajik government is seeking a foreign strategic partner for the project. Completion of the plant

will cost an estimated $2.3 billion (Times of Central Asia, 2003). Besides this, Tajikistan is also planning to build a hydropower station -Sangtuda - below Nurek, with a capacity of 670 MW. Uzbekistan is worried about these developments and has already objected to the construction of the Rogun dam. If these projects become reality, it would give Tajikistan almost complete control over the Amu Darya. However, the international donor community is currently quite reluctant to fund such a project.

The second main project is the Golden Century Lake. In fact, this project started in October 2000 and its purpose is the construction of a huge artificial lake in the Karakum desert. The scheme, to be completed in 2010, is meant to guarantee water security and create some 4,000 square kilometers of farmland. However, scientists fear that this large-scale project will wreck the already fragile ecosystem and that water will simply evaporate in the desert. Of course, this artificial lake has raised concerns in Uzbekistan that water will be drained from the Amu Darya to maintain its level. Beside the fear that this will create another Aral Sea, this project could well become a source of conflict with Turkmenistan. According to the International Crisis Group,

> *There is also an ethnic dimension to the project - an estimated one million ethnics Uzbek living in the Dashkhovuz Province of Turkmenistan are to be resettled to the Karakum Desert once the lake has been completed. (ICG, 2002: 26)*

The third major point which could spark off new tensions is the new policy Afghanistan could develop with regards to the Amu Darya river water resources. Although 12.5 % of the Aral Sea Basin water resources originate from this country; only a fraction is used for irrigation. However, the situation is now different and it would be naïve to think that Afghanistan will rehabilitate its agriculture without increasing its intake from the Amu Darya. Actually, the Ministry of Irrigation, Water Resources and Environment is developing a long term undertaking entitled the 'Good Hill' project which would pump water from the Amu Darya River into a canal to be transported to Mazar-I-Sharif. Solutions to maximise efficiency and minimise any additional intake are therefore needed to lessen the negative impact on downstream countries and prevent tensions between Central Asian states and Afghanistan. It is nonetheless clear that future water management initiatives will have to take into account Afghanistan's possible demands.

Conclusion

There is undoubtedly a water crisis in Central Asia which is in large part-due to the Soviet policy. At the time of independence, one can see that the five republics managed very quickly to find new ways to co-operate. However, upon closer scrutiny, one realises that each republic is pursuing its own 'aggressive' national water policy by further developing irrigation in their country despite the current water crisis. One of course wonders how long this situation can be sustained, whether in ecological or in political terms. Nonetheless, as a concluding remark, it should be made clear that the likelihood of a conflict in Central Asia cannot be explained if one just looks at water-related problems. However, water issues should not be separated from other important security issues in Central Asia (i.e.: nationalism, ethnic tensions, territorial delimitation or even political Islam). In this context, water might well be used as a tool for other purposes and then the possibility of a so-called water war may emerge.

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Map 4. Water management in Central Asia