Hydro-hegemony in the Amu Darya Basin

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Abstract

The water allocations in the Amu Darya Basin reflect the colonial legacy of the Soviet Union: the downstream riparian states, Turkmenistan and Uzbekistan, were utilized to produce cotton while upstream Tajikistan used water for energy production and it was anticipated to increase its reservoir capacity further to provide water storage and facilitate agricultural production downstream, Afghanistan and Kyrgyzstan were considered simple producers of water without having a real claim to it. Independence manifested inequitable water allocations, giving rise to the perception that especially Uzbekistan is the hydro-hegemon in the Amu Darya Basin. But the post-Soviet basin may be, in fact, without a hydro-hegemon. Data presented in this paper suggest that the riparian states are currently engaged in strategies of resource capture, by increasing their water demand without renegotiating agreements. In addition, while during the Soviet hegemony the increase of reservoir capacity upstream was perceived as ‘integration’ into the larger framework, today the re-emergence of these plans are perceived as a threat. The analysis of different aspects of hydro-hegemony, such as control over data, current discourses and control over provision infrastructure, demonstrates that Uzbekistan’s control over the flows is hardly consolidated.

Keywords: Amu Darya Basin; Central Asia; Hydro-hegemony

1. Introduction

The phrase ‘upstreamers use water to get more power, downstreamers use power to get more water’ (Warner, 1992, 2004) is given a twist in the Amu Darya Basin.

The colonial history of the Soviet Union left a set of water allocations in Central Asia which favoured the downstream riparian states Turkmenistan and Uzbekistan, ignored upstream Afghanistan and started to utilise Tajikistan as a water regulator, primarily through the construction of dams. When administrational boundaries became national boundaries in 1991 the Central Asian states were left with inequitable water allocation limits and a high level of water provision structures interdependences. While downstream Uzbekistan on the surface appears to be the hydro-hegemon, the uncertainties of upstream
states’ agricultural developments and upstream and downstream provision infrastructures might render Uzbekistan, the most populated and strongest military power in Central Asia, in a weak position.

Analysis of the case provides insights on different aspects of hegemony. The first aspect is the monopoly on data and the power of data in influencing or even defining hegemonic discourses. The case study also shows different layers of discourses which arise because of the monopolies on data and the subjectivity of data. The second aspect is the linkage between water-supply infrastructure, such as large pumping stations and dams, and water control. The leverage over such provision structures may mean that a subtle shift, which can be convincingly reasoned in terms of administrative or technical necessity, may have a huge influence on water utilisation. The third aspect is that hydro-hegemony in the region is not only about water allocations, but also about hydropower. The highlighted aspects are not specific only to the Amu Darya Basin.

The structure of this paper builds on the work of Ostrom et al. (1994) and their distinction of two types of common pool resources problems: appropriation and provision. When common pool resources are debated, the cases discussed refer to surface water in irrigation systems, groundwater, forests and fisheries, but rarely river basins. However, the appropriation and the provision question are important also for river basins, particularly in the case of Central Asia. The appropriation problem is related to the subtractability of the benefits consumed by one riparian from those available to others. During the era of the Soviet Union the increasing appropriation of water resources in the Amu Darya Basin by the different riparian republics led to the establishment of set water limits (water allocations) for the different riparian states. A River Basin Organization (Basseynoe Vodnoe Ob’edinenie, BVO) was established to determine and to enforce annual allocations for the riparian republics. These limits favoured the downstream Turkmen Soviet Socialist Republic (SSR) and Uzbek SSR, which concentrated on cotton production. Provision problems are related to the operation and maintenance (O&M) of the resource delivery and control system. During the era of the Soviet Union the middle and lower Amu Darya were within the borders of a single political unit. The upper Amu Darya and its tributary, the Pyanj, formed the border between Afghanistan and the Soviet Union. A second tributary—the Vakhsh—was completely within the boundaries of the Soviet Union (the Tajik SSR and the Kyrgyz SSR). Water delivery and control infrastructure was constructed during this period in the lower and middle Amu Darya which crossed internal administrative boundaries, from the Turkmen SSR to the Uzbek SSR. Furthermore, the Soviet Union anticipated to increase its control capacity on the Vakhsh with the construction of additional dams, such as Rogun. Independence changed the status of the resource delivery and control systems in the middle and lower Amu Darya from being transboundary within one political unit to transboundary between different political units (Turkmenistan and Uzbekistan). Independence furthermore resulted in modification to the plan of constructing a dam in the upper basin for more control in support of downstream agriculture, to a plan which could be interpreted today as a national strategy for Tajikistan to strengthen its control over the flows for national gains. The additional dam would give Tajikistan the potential to produce more hydropower and to press downstream riparian states to pay for water releases supporting agricultural production downstream. Considering its control over infrastructure in the lower and middle Amu Darya, Turkmenistan may be conceived of as a hydro-hegemon relative to Uzbekistan, while Tajikistan may be considered to establish some form of hydro-hegemony with its plan to construct the Rogun Dam.

The following section of this paper will give a short introduction about the geographical background of the Amu Darya Basin. This is followed by a discussion on the colonial legacy of the Soviet Union insofar as it relates to hydro-hegemony. The next section of the paper examines aspects of hydro-hegemony in the post-Soviet era, through four subsections. The first subsection focuses on water
allocation limits and the control over water data. This subsection is followed by an analysis according to the framework of hydro-hegemony, a focus on the water provision structures, concluded through a summary analysis. The paper concludes that the Soviet policy of integration and interdependence has so far prevented the emergence of a hydro-hegemon in the Amu Darya Basin.

2. Geographical background

The Amu Darya is the largest river in Central Asia. Its length is 2,540 km and the catchment area comprises 309,000 km² (see Figure 1) (Sokolov, unpublished). The Amu Darya Basin is shared by Afghanistan, Iran¹ and four Central Asia Republics: Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The basin can be described as a large drainage system which terminates in the Aral Sea. The Amu Darya originates in Afghanistan on the glacier in the Vakhdjir Pass, close to the border of Pakistan’s Northern Territories. Up to the confluence with the Vakhsh (from Tajikistan) the Amu Darya is called the Pyanj. After the confluence of the Vakhsh and Pyanj, the Amu Darya is joined by four further tributaries, the Kunduz (from Afghanistan), the Kafirnigan (from Tajikistan), the Sherabad and the Surkhandarya (from Uzbekistan) (Sokolov, unpublished).

On the other hand Ahmad & Wasiq (2004) note that the Wakhan, Pamir, Badkhshan, Kokcha and Kunduz flow to the Amu Darya, and the Khulm, Balkh, Sar-e-Pul and Sherintang are mostly consumed locally and reach the Amu Darya only rarely. According to the data of the Basin Organisation only the Kunduz reaches the Amu Darya. There are no other tributaries reaching the Amu Darya further downstream from Afghanistan. On the way to the Aral Sea the river upstream is the boundary between Aghanistan and Tajikistan and between Afghanistan and Uzbekistan, but also crosses international boundaries mid- and downstream between Turkmenistan and Uzbekistan.

3. Soviet hydro-hegemony

Prior to the Russian conquest of Central Asia, agricultural production of cotton was already established in the Central Asian region and was used for trade with the Russian state (Lipovsky, 1995). Following assumption of Russian control over territories in the region in the mid-19th century, agricultural policies that encouraged the production of cotton were implemented. The establishment of Soviet power after 1917 did not bring a change in the economic specialization of the region. In 1953 Soviet leader Nikita Khrushchev initiated the ‘virgin-land’ policy, which was intended to increase agricultural productivity. As part of the ‘virgin-land’ project Khrushchev promoted the idea of expanding the irrigated areas in Central Asia (Rumer, 1989, pp. 88–89). The total irrigated area in Central Asia increased from 4.5 million ha in 1965 to 7 million ha in 1991. The virgin-land policy was facilitated by large infrastructure projects in the Amu Darya Basin such as the construction of the Nurek Dam (storage capacity of 10.5 km³) and the Rogun Dam² (anticipated storage capacity 13.3 km³) regulating the Vakhsh River in the Tajik SSR, the construction of large pump stations located in the

¹ Iran’s contribution to the flows in the basin is entirely in streams that end in the Kara Kum Desert, and cannot actually reach the Aral Sea.
² Even though construction started in 1976, the Rogun Dam was not finished during the time of the Soviet Union.
Fig. 1. The Amu Darya Basin (Source: PA Consortium Group and PA Consulting, 2002).
Fig. 2. Control structures and tributaries in the Amu Darya Basin (Source: PA Consortium Group and PA Consulting, 2002).
Turkmen SSR bringing water to Kashkardarya (discharge: 350 m³/s, elevation: 170 m) and Bukhara (discharge: 270 m³/s, elevation: 57 m) provinces in the Uzbek SSR and the Kara-Kum canal in the Turkmen SSR (length: 1,400 km, intake: 10–12 km³) (O’Hara, 1997; Bucknall et al., 2001; Orlovsky & Orlovsky, 2002) (see Figure 2).

During the Soviet era the Ministry of Land Reclamation and Water Resources of the USSR controlled the Central Asian Water Authorities. The Central Asian republican ministries, water organisations and interests in resource utilization were subordinated to the central authority in Moscow, and to the greater interest of the USSR.

O’Hara (2000) interprets the building of dams and reservoirs upstream as political strategy. She reasoned that the location had two advantages for Moscow and furthered its strategy of ‘divide and rule’. First, ‘disputes over water reinforced the national distinctiveness of the republics, thus limiting the potential for regional cooperation 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’ (O’Hara, 2000, p. 430). Referring to the Syr Darya Basin, Lange (2001, p. 1) explains the sectoral subordination in a non-political manner, stating ‘the water management infrastructure was designed for a unified purpose and placed where it made sense geologically’. Wegerich et al. (2007) show that neither argument can be applied to the Nurek Dam in Tajikistan. Froebich et al. (2006) argues that, because of the non-operational dead level volume (4 km³), the Nurek reservoir has only limited influence on supporting agriculture downstream during the summer period. It would have been different if the construction of the Rogun Dam would have been completed. However, one could explain the construction of the large-scale pump stations in the Amu Darya Basin within the political reasoning of O’Hara (2000).

Whether the subordination was politically or economically motivated, its consequence was that the utilization of the Amu Darya did not correspond to the administrative boundaries and the interests of the administrative zones of the Soviet Central Asian republics. Equitable water distribution between the riparian administrative units was therefore not considered. In September 1987 the Scientific-Technical Council of the Soviet Ministry of Land Reclamation and Water Management decided on annual water-distribution limits for the Union Republics of the Amu Darya Basin and at the same time created River Basin Organizations (Basseynoe Vodnoe Ob’edinenie, BVOs), which were responsible for managing the water according to set limits.

There is also evidence of the effects of the situation of hydro-hegemony maintained by the Soviet Union on the Amu Darya towards its weaker neighbour, Afghanistan. Afghanistan did not participate in the 1987 meeting that determined allocations to the four Soviet Republics in the basin. The agreements between Afghanistan and the Soviet Union from 1921, 1946 and 1958 focused on boundary issues,

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3 Having said this, the construction of large hydraulic infrastructure in Central Asia might have had different political strategies, in terms of settling and providing labour to the rural population and expanding the agricultural frontiers. In addition, Thurman points to the rent-seeking behaviour of the Ministry of Water Management, which was more interested in initiating large scale projects than running them efficiently.

4 The limits were set and ‘the BVOs were introduced because of the growing mistrust over water allocation and management between the Central Asian states’ (Personal communication, D. J. W. Berkhoff, 27 June 2003).

5 The meeting of the Scientific and Technical Council of the Ministry of Water Resources of the USSR (12/03/1987) determined allocations to the four Soviet Republics in the basin, which were formally endorsed by the four Soviet Republics in Moscow as Protocol 566 (10/09/1987).
navigation and water quality. However, in 1977 Afghanistan sent a delegation to Tashkent (capital of Uzbekistan) to prepare a water-sharing agreement. The delegation wanted to claim an equal share of the river flow, but no agreement on water allocation was reached (Qaseem Naimi, 2005). Hence, the limits set in 1987 ignored the claims by Afghanistan and simply assumed a utilization of 2.1 km³, which was lower than what was already used in 1965, namely 3.85 km³ (Qaseem Naimi, 2005).

In the Soviet system there were some disputes between upstream and downstream interests within the Central Asia republics. However, upstream and downstream riparian units benefited through the regional approach, using water, energy and food as common pool resources. Owing to the imposed focus on irrigation, the upstream water management constructions, such as dams and reservoirs, released water during the summer when the downstream riparian administrative units needed water for agriculture. Because all the republics were unified in one country, energy was provided during the winter from the downstream republics, which are rich in oil and gas.

4. Hydro-hegemony after independence?

With independence and the shift from a single administrative unit to independent states, the regional approach to water management that had hitherto existed was at risk. Nevertheless, soon after independence in 1991, the governments of the newly independent Central Asian states (again excluding Afghanistan) agreed to continue with the principles of water allocation that had prevailed in the USSR. The Almaty Agreement, signed in February 1992 by representatives of the former Central Asian Soviet Republics in the Syr Darya and Amu Darya basins, acknowledged joint management of water resources.

‘Under the agreement the states retained their Soviet-period water allocations, refrained from project infringements on other states and promised an open exchange of information’ (O’Hara, quoted in Horsman (2001, p. 73)).

Despite the 1992 agreement, the international community saw the potential for water conflicts. Smith (1995, p. 351) stated that ‘nowhere in the world is the potential for conflict over the resources as strong as in Central Asia’. The statement was influenced primarily by concerns about the question of the allocation of water resources, specifically with regard to the differences in allocation between upstream and downstream states. The focus on conflict based on water allocation between the riparian states is dominant until today. The conflict has become more prominent since the end of the Taliban government and the international reinvestment in the agricultural sector in Afghanistan. Attention in the Syr Darya Basin shifted more to the conflicting uses of water upstream and downstream and the interdependence between energy and water (Weinthal, 2001; Chait, undated), as well to a debate on cost sharing of the

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6 The ICG report claims that, in the agreement between the Soviet Union and Afghanistan of 1946 ‘Afghanistan is entitled to use nine cubic kilometers (50 per cent) of the Panj River’ (p. 12, footnote 63). However, no other source has so far confirmed this statement: therefore, it is even quite strange that this very important information is only mentioned in a footnote.

7 The construction of the dams were opposed in the Tajik SSR, villages had to be resettled and concerns were raised about potential flooding and the issue of pollution.

8 Kemelova & Zhalkubaev (2003, p. 480) argue for the Syr Darya Basin that, as compensation ‘Kazakhstan and Uzbekistan supplied Kyrgyzstan with a billion cubic meters of natural gas. Moreover, the USSR budget contributed roughly $600 million to Kyrgyzstan’s budget annually’. According to them, the energy deliveries were for free. It is not evident how this was regulated for the Tajik SSR. However, even during the era of the Soviet Union, the Tajik SSR had insufficient access to imported oil and natural gas, the problem becoming more acute after 1991.
operation and maintenance of the dams in upstream Kyrgyzstan (Wegerich, 2004). The same issues appear to have been dealt with at a much slower pace in the Amu Darya Basin. Despite the international focus on potential conflicts and actual disputes, the Director and the Deputy Director of the Scientific Information Centre (SIC) located in Uzbekistan of the Interstate Coordination Water Commission (ICWC) in Central Asia state ‘Conflicts in water management and operation, and water allocation between the countries of the region have been avoided […] the volume of water used in the region has been reduced’ (Dukhovny & Sokolov, 2003, p. 31).

Interactions between the basin states after independence have been, and continue to be, uneasy. Contrary to what may be expected, a clearly superior power has not emerged, and each state is actively and passively engaged in competition over use of the flows. Data of increases of utilisation and shifts in utilisation of the transboundary flows in the transition period is patchy and difficult to identify. The following subsection explores such use and attempts to identify trends.

4.1. Recent trends of water utilisation in the Amu Darya Basin

Dukhovny & Sokolov (no date, p. 10) state that the Government of Turkmenistan planned to reduce the country’s water demand for irrigated agriculture by 19.5%. Nevertheless, ‘there has been a sharp increase in the amount of land irrigated, with an additional 420,000 hectares of land developed between 1991 and 1996’ (O’Hara & Hannan, 1999, p. 33). In addition, construction on the artificial ‘Golden Century Lake’ has started in Turkmenistan. Even though Turkmenistan is claiming that the lake will be fed only by drainage water, and therefore will not increase the amount it currently uses, it is anticipated that ‘the lake will help to create 4,000 square kilometres [400,000 ha] of new farmland’ (Pannier, 2004). According to the International Crisis Group (ICG, 2002, p. 2), Turkmenistan intends to increase its irrigated area by 450,000 ha in the coming years. In the case Turkmenistan is using drainage water for the lake or would implement water conservation strategies to ‘free’ water, then the agreed allocation within the basin would not be infringed and it would be an internal matter how Turkmenistan is using its allocated share. Similarly, Sokolov (1999, p. 109) argues for Uzbekistan that ‘approximately 634,400 additional ha are suitable for new irrigation developments, and water conservation would allow a limited expansion of irrigated area, total irrigation potential can be estimated as 4.9 m. ha’9. The national food self-sufficiency strategies in Uzbekistan and Turkmenistan, which reallocated some irrigated areas from cotton to wheat production could have led to water savings. However, the potential savings were annulled by an increased water demand for leaching and the deterioration of the irrigations systems (Spoor & Krutov, 2003).

Tajikistan argues that the development of their irrigation farming was restricted in the past. Consequently, it intends to insist on higher water quotas for internal water use (UN SPECA, 2003). Without reaching agreement on higher limits, Tajikistan had already increased its irrigated area by 200,000 ha by 1999 (Spoor & Krutov, 2003) and intended to increase the irrigated area even further by 500,000 ha by 2005 (ICG, 2002). In addition, Tajikistan increased its water demand by decreasing livestock production and by increasing the land allocated to wheat and rice production (FAO data).

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9 According to the official data presented in Table 1, Uzbekistan has already ‘freed’ water and would therefore be able to expand the irrigated area.
The reduction of funding for the operation and maintenance of the irrigation infrastructure in all Central Asian states has led to a deterioration of the infrastructure and to a decrease of the management control (SIC ICWC, 1999). This would suggest that, overall, more water is used in agriculture. Nevertheless, according to official data, Tajikistan and Uzbekistan do not utilise the limits set in the protocol of 1987. However, unofficial data presented by Wegerich (2005) indicate that Uzbekistan utilised much more water (42.8 km³) than the limits set by the 1987 protocol (29.6 km³), which were reconfirmed after independence in 1992, and nearly double the amount which is officially claimed (21.6 km³)\(^{10}\).

Neither the official nor the unofficial data show that Tajikistan and Turkmenistan increased their water utilization. In the case of Tajikistan one could reason that at least the unofficial data only refers to water intakes utilizing pumps. However, there is no evident explanation why the official or unofficial data does not show an increase for Turkmenistan. In addition, it is questionable whether water is still reaching the Aral Sea. While official figures state that, on average, 6.1 km³ annually reached the Aral Sea between 1993–1999, unofficial data suggests that in fact no water reached the lake (Wegerich, 2005).

During an interview with the author in the BVO of Amu Darya it was stated that Turkmenistan controls data collection at the point of diversion of the Kara-Kum Canal and only the aggregated data is given to the main BVO in Urgench. If Turkmenistan is in control of the data, this could explain why neither the official nor the unofficial data reflects the large increase of irrigated area. This would further put into question whether any future diversions for the ‘Golden Century Lake’ will officially appear. Uzbekistan accuses Turkmenistan of exceeding its share. According to the ICG (2002, p. 21) report ‘Turkmenistan is thought to use as much as 30 km³’. However, it seems strange that the supposedly neutral BVO has two different datasets and that a senior official of the SIC informally admitted to the author that Uzbekistan is using more water. Could it be that Uzbekistan has an influence on the produced and publicised (and therefore hegemonic) data? While the official line of the BVO and the SIC in their publications (for example, Dukhovny & SIC (1999)) is that water is reaching the Aral Sea, and everybody is either reducing or keeping to the set limits, a less dominant hegemonic discourse blames Turkmenistan for using more water. This discourse is reoccurring, especially in context of the ‘Golden Century Lake’, and slowly accepted internationally. In addition, according to the ICG report (2002, p. 21) Uzbekistan argues that to share the water resources according to the current agreement with Turkmenistan is unfair, ‘since fourteen million depend on it in their country compared to four million in Turkmenistan. Besides that Uzbekistan has more land and water has to be transported over longer distances [in Turkmenistan]’. However, it is questionable whether Uzbekistan would use the same reasoning for giving up water to Afghanistan, and whether Uzbekistan would question the efficiency and economical viability of the pumping stations pumping water to Bukhara and Kashkadarya province\(^{11}\). One has to agree with the conclusion of the ICG report (2002, p. 21) that ‘it seems likely that Uzbek–Turkmen relations over water can only worsen’. However, the reasons for agreeing might be different.

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\(^{10}\) It is not claimed that either the official or the unofficial data is correct.

\(^{11}\) Bucknell et al. (2001) argued that in Kashkadarya province irrigated agriculture would have negative gross margins of 64% if the economic costs for energy would be applied. However, if energy costs for irrigation ceases to be subsidised a population of over 1 million in Kashkadarya province will be negatively affected.
In northern Afghanistan there are currently only 385,000 ha under irrigation (Qaseem Naimi, 2005). There are different estimates on the potential total area suitable for irrigation in northern Afghanistan: the estimates vary between 443,000 and 1,580,000 ha (Zonn, 2002; Ahmad & Wasiq, 2004). Zonn (2002) estimates that in Northern Afghanistan the annual water intake for agricultural needs could be as high as 15 km³; adding the needs of urban and industrial use it could even be 16.5 km³. On the other hand, Ahmad & Wasiq (2004) argue that there will be only a total water diversion of about 5.8 km³ or at most 6 km³. However, Ahmad & Wasiq (2004) argue that this level of diversion may be achieved by Afghanistan by the year 2024. According to them (2004, p. 3), ‘the impact is conceivable to Turkmenistan and Uzbekistan in dry years, but if the present practice of passing on the deficit (to the extent possible) to the Aral Sea continues, then the Sea would be impacted, rather than the irrigated land’. Wegerich (2005) confirms their reasoning, and points out that the protocol of 1987 allocates to each country a set water distribution limit. Between 1991 and 2001 Tajikistan utilised a more or less constant amount of water. Even during the drought years of 2000 and 2001, Tajikistan utilised 7.6 and 7.3 km³, respectively. In addition, he argues that any variation of the annual river flow affects Uzbekistan more than any upstream riparian. The report by Ahmad & Wasiq (2004) concludes that Afghanistan might achieve the abstraction claimed only in the next 20 years. One must question whether such a conclusion is coincidental or deliberate, as this would imply that the current allocations do not have to be questioned. A reference to the Director of the SIC located in Uzbekistan—Mr. Dukhovny—in the acknowledgements of the report is telling: ‘In particular, the work of Mr. Dukhovny in preparing a background paper on the Basin that provides that primary source of information for this report is gratefully acknowledged’. In addition, Ahmad & Wasiq (2004) do not pick up the question raised earlier by Glantz (2002) whether Afghanistan could ‘sell’ their legitimate share of the Amu Darya water to downstream users, because it is not in a position to use that water at present.

4.2. Applying and expanding the theoretical framework of hydro-hegemony to water allocation in the Amu Darya

Particular aspects of hydro-hegemony appear to provide insight into the Central Asian case. The review of the Amu Darya has demonstrated the importance of the colonial legacy which continues to influence the current hydro- hegemonic setting. If one takes into consideration water allocations, the total population and the irrigated area of the basin states one might evaluate Uzbekistan as a strong hydro-hegemon.\(^\text{12}\)

On the other hand, after a closer consideration of the aspects of control over data and current discourses it becomes apparent that Uzbekistan’s position as hydro-hegemon is either contested or that it was not very strong from the beginning.

In terms of hegemony over data, for instance, it is noteworthy that the different datasets presented in Table 1 do not reflect the changes in Tajikistan or Turkmenistan. This may indicate that neither

\(^{12}\text{This evaluation could be supported by the recent history of civil war in Afghanistan and Tajikistan, but weakened because of the natural resource endowment of Turkmenistan, the international support for Afghanistan, Russian support for Tajikistan and the negative international reaction to the recent events in Andijan (Uzbekistan).}\)
Uzbekistan nor the interstate Basin Water Management Organisation (BVO) Amu Darya located in Uzbekistan has the hegemony over data, but that data is nationally controlled and that each state is protective over its own data. However, the two contradictory datasets of the BVO and the official statement that Uzbekistan reduced its share indicates that Uzbekistan has a strong influence on the BVO Amu Darya and that the BVO cannot be seen as a neutral interstate organisation.

The case study demonstrated also the importance of discourses in underpinning hegemonic aspirations and the existence of simultaneous and contradictory discourses. The official line of the key experts of the SIC ICWC—'conflicts have been avoided'—could imply that Uzbekistan is in a unique and powerful position to deny any conflicts, while the hegemonised states would stress the existence of conflicts, especially feeling victimised or unjustly treated (see Kemelova & Zhalkubaev, 2003). The less-dominant Uzbek discourse puts the blame on one stakeholder (Turkmenistan) and because of the stakeholders’ closure in terms of participation on the international arena and discourses, this less dominant discourse produces a ‘truth’. The more often the ‘truth’ gets restated, the more embedded in the minds of the intended audience as true and as legitimate and therefore ‘hegemonic’ the discourse will become, and the more difficult it will be to question the ‘truth’. The effect is one of ‘sanctioning the discourse’, which is identified as a common and effective tactic of water resource control by the Framework of Hydro-Hegemony. One could interpret this less-dominant Uzbek discourse as a strategy to show that they are non-hegemonic and more the victims in the situation. Consequently, it harms Turkmenistan not to engage in the discourse, or to facilitate a counter discourse by opening up their data.

4.3. Provision structures in the basin

In the current state of affairs, the water-provision problem in the Amu Darya is based mainly on access to the infrastructure which is located in Turkmenistan but provides water to Uzbekistan. This
includes, for example, the Tuyamuyun reservoir, which provides water to Khorezm and Karakalpakstan in Uzbekistan as well as Dashoguz veloyat in Turkmenistan, and the pumping stations which pump water to Bukhara and Kashkadarya provinces. After independence, Uzbekistan has had to pay a fee to Turkmenistan for the utilization of the land of the pump stations and is also responsible for the operation and maintenance of the infrastructure. Mardi (2004) argues that before the year 2000 workers could travel for maintenance work on the infrastructure in Turkmenistan, but that after 2000 border controls expanded and movement was limited. The strained relationship between Uzbekistan and Turkmenistan also affected an anticipated rehabilitation project of the Kashkadarya pump station. In the early 2000s the World Bank declined to provide funding for the rehabilitation project because of the extraterritorial location of the pumping station, and because Uzbekistan and Turkmenistan could not agree as to which of the two countries should benefit from the funds (informal interview with leading UZGIP expert, 2004). A similar problem could also potentially arise with the anticipated rehabilitation project of the Bukhara pump station, which is also located in Turkmenistan. Currently, Uzbekistan is anticipating to expand its pumping facilities at the Amu Zang pump station in Surkhandarya province. A plan to construct a water diversion scheme from Surkhandarya province to the Kashkadarya and Bukhara provinces is currently being considered in a pre-feasibility study. With the Amu Zang pump station within its boundaries, Uzbekistan would reduce its dependence on Turkmenistan significantly.

As was reasoned above, during the Soviet Union dams were constructed in upstream Central Asian states. The Nurek Dam which is located in Tajikistan has a storage capacity of 10.5 km³, but the non-operational dead level volume is 4 km³. The dam controls 40% of the flow of the Amu Darya (Spoor & Krutov, 2003, footnote 4). The Nurek Dam produces 2700 megawatt (MW) annually (Nurkanov, 2001). Although Tajikistan produces a total of 4.4 gigawatts annually (USAID Report, 2004) and is a net energy producer (Ibodzoda, 2005), she has an energy deficit and accumulated an energy debt of $51 million by 2003 (Parshin, 2002). The deficit has different reasons. The structure of the existing electricity transmission grid does not allow Tajikistan to support its north-west territory with its own hydro-power. Even though Tajikistan and Uzbekistan agreed to barter summer hydro-power against gas and coal supplies in winter, Uzbekistan started following an energy self-sufficiency policy and reduced the hydro-power imports from Tajikistan. Hence, Tajikistan cannot sell its summer hydro-power surplus. To make things worse, the gas supplies from Uzbekistan are unreliable during the winter. Uzbekistan ‘switches off the pipeline without any notification and explanation’ (Parshin, 2002). Tajikistan would like to switch to Turkmen gas: however, the pipes go through to Uzbekistan, which has levied ‘huge transit taxes on Turkmen gas’ (ICG, 2002, p. 20, footnote 128).

Tajikistan is planning to restart the construction of the Rogun reservoir (3,600 MW), 100 km northeast of the Tajik capital, which was started already during the Soviet period but resumed with the Tajik civil war, and the Sangtuda dam (670 MW) in the Vakhsh Basin. The Uzbek Government is very critical of the Rogun Dam (Spoor & Krutov, 2003), because it would ‘put it [Tajikistan] firmly in control of the river’ (ICG, 2002, p. 23). Parshin (2003) reasons that international financial institutions would not support these plans unless Tajikistan’s neighbours would agree. Because the construction would alter the power balance, Spoor & Krutov (2003, p. 22) argue ‘taking into consideration the power relations, the

13 While the energy–water dispute in the Syr Darya Basin received more international attention, the swaps between Tajikistan and Uzbekistan are less well known.
latter [Uzbekistan] will never allow this to happen\textsuperscript{14}. The lack of agreement from Uzbekistan let Tajikistan to seek financial support for the infrastructure construction from Iran and Russia (Central Asia–Caucasus Analyst, 2004). According to Smith (2004) Russian President Putin announced that Russia would invest $2 billion in Tajikistan. Parts of the investment are earmarked for the completion of the hydroelectric projects in the Vaksh valley. The construction of the Rogun Dam will allow Tajikistan to have high control of the flow of the Vakhsh River, and therefore might put Tajikistan into a similar position as Kyrgyzstan, which is demanding from the downstream riparian states Kazakhstan and Uzbekistan cost-sharing for her reservoirs (see Table 2).

Looking for more outside support for its hydroelectric ambitions, Tajikistan sponsored a water conference in Dushanbe in 2005. Even though Tajikistan was subject to criticism because of the tremendous costs involved in sponsoring the water conference, Tajikistan by sponsoring the conference started to challenge the hegemony of Uzbekistan, which has so far dominated the international arena with its own sponsored favoured discourses, such as at ICID, the World Water Week in Stockholm, Green Cross International and the World Water Forum.

Even though Tajikistan might be able to receive investment from Russia or Iran, there is still the problem of selling hydropower. The current electrical energy grid has as its centre Tashkent, the capital of Uzbekistan; hence Uzbekistan is again in a power position. Potential buyers could be Russia and China to the north and Afghanistan, Pakistan, Iran, and possibly India, to the south (Putnam & Mukhamadiev, 2005). At present Tajikistan together with Kyrgyzstan is exploring the possibility of a north–south transmission line, which would run ‘through Tajikistan to Kyrgyzstan and through Kyrgyzstan to Kazakhstan, then Tajikistan would be able to export electrical energy directly north to Kazakhstan, Russia, and possibly China. In addition, the construction of transmission lines south from Tajikistan would enable Tajikistan, and eventually Kyrgyzstan, to sell hydropower to Afghanistan and further south’ (Putnam & Mukhamadiev, 2005, p. 5). The north–south transmission line would make Tajikistan independent from the energy-grid hegemony of Uzbekistan (see Figure 3).

\begin{table}[h]
\centering
\begin{tabular}{ll}
\hline
\multicolumn{1}{l}{Population (UN estimates, millions, 2004)} & \multicolumn{1}{l}{Irrigated area (000 ha, 1998)} \\
\hline
Afghanistan & 28.6 & 460* \\
Kyrgyzstan & 5.2 & 22 \\
Tajikistan & 6.4 & 469 \\
Turkmenistan & 4.8 & 1735 \\
Uzbekistan & 26.2 & 2321 \\
\hline
\end{tabular}
\caption{Population and irrigated areas of Amu Darya Basin riparian states.}
\label{tab:2}
\end{table}

\textsuperscript{14} While Uzbekistan might argue that the international law on water would oblige riparians to seek agreement over infrastructure construction which alter the flow of rivers. Uzbekistan itself is currently constructing reservoirs in the Syr Darya Basin in order to become less dependent on Kyrgyzstan’s cooperation, without seeking agreements from other riparians.

Sources: UN, World Population Prospects: The 2004 Revision; Dukhovny & Sokolov (no date); Zonn (2002).
4.4. Applying and expanding the theoretical framework of hydro-hegemony to water provision infrastructure

The Amu Darya case highlights the power that control over the flow-control structures provides. The power derives from the significant influence in determining water allocations and the timing of water
allocations. This concept of the politics of water control is an old concept (having been recently referred to by Mollinga (2003)). In this sense it should be more explicitly incorporated into the framework of hydro-hegemony. Uzbekistan realised the importance of the water provision structures located in Turkmenistan and tried to gain control by renting the land and being responsible for operation and maintenance. When the political tensions between Turkmenistan and Uzbekistan heightened, Turkmenistan simply strengthened its border control and by this limited access for operation and maintenance of the pump stations and the dam, rather than cancel the contract. The move by Turkmenistan demonstrates how small or subtle changes in unrelated areas (control of border) might have a significant influence on water management. These may be readily explained with administrative or technical reasons on other issues, and therefore are not necessarily attributed to power plays strictly over water. Uzbekistan furthermore fears that Tajikistan might follow the same footsteps as Kyrgyzstan after constructing the Rogun Dam. Kyrgyzstan has demonstrated that a simple shift in mode of operation of an upstream dam proved to be a very effective method of utilising water control to challenge the power structures and therefore creating new hegemonic discourses. The shift of operational regime did not alter the official allocation of water to the different riparian states but only the timing of the water delivery. The most relevant aspect of hydro-hegemony in this case is not about water allocation, the water right, but about water use, either consumptive or non-consumptive. Upstream non-consumptive uses, such as hydro-power production, become consumptive when their timing occurs in a period when the water cannot be used for irrigation and when there are no other storage possibilities downstream. Energy and water are linked and an issue-linkage approach might be necessary to get a more complete understanding (Wegerich, 2004; Daoudy, 2005).

While in terms of water allocations there was a dominant discourse stating that there are no conflicts, and a less dominant discourse portraying Uzbekistan as a victim, in terms of water provision infrastructure (the Tuyamuyun reservoir and the two pump stations), it is interesting to notice that it is rarely mentioned that Uzbekistan is paying for the operation and maintenance costs of the water provision structures in Turkmenistan. To keep this issue silent allows Uzbekistan to make a claim for no cost contribution in the Syr Darya, and may prevent this issue is taken up by Tajikistan for the Nurek reservoir or the Rogun reservoir. In this respect one has to highlight that upstream Tajikistan has acknowledged the power of discourse and has actively sponsored and engaged in it with the aim to gain allies and to strengthen its position to finally continue the construction of the Rogun reservoir.

5. Conclusion

The analysis of the Amu Darya Basin reveals several insights into the competition for flows in the post-Soviet era. To date, there has been no equilibrium reached; in other words, no clear form of hydro-hegemony has been established. Control over the flows instead seems ‘contested’. The basin is rather characterized by different riparian states engaged in strategies of resource capture, by increasing their water demand without renegotiating the official agreements. In addition the riparian states are utilizing their leverage over the former integrated water control and energy infrastructure in their national interest and, in some cases, to flex their muscles to demonstrate their power. In this regard the former policy during the Soviet hegemony should be interpreted more as ‘integrate and rule’ instead of ‘divide and rule’. The mutual interdependence was so established that a real disintegration and the emergence of independent
self-sufficient states is costly economical and political, or not even feasible. Hence, with the given interdependence the emergence of a real hegemon in the Amu Darya Basin seems not to be possible.

The different datasets of water utilisation of the BVO Amu Darya suggest that the basin organisation might not be entirely neutral. In addition, that the changes in Tajikistan and Turkmenistan are not represented suggest that the BVO might be limited in its control over producing or acquiring data. It also could suggest that Tajikistan and Turkmenistan already mistrust the ‘neutral’ status of the BVO and are therefore withholding the data. Assuming that this is the case, then it would be questionable whether the BVO can regain trust of the riparian states or the trust of the ‘newcomer’ and whether the international community can continue to trust the publicised data and would continue to make efforts for saving the Aral Sea. In this respect the hydro-hegemony of the individual states on their data, and the political influence of Uzbekistan on the BVO, has negative affects for the whole basin.

It was demonstrated that the riparian states Turkmenistan, Tajikistan and Uzbekistan follow the strategy of resource capture. So far, the strategy had its main impact on the weakest ‘riparian’, the Aral Sea and in dry and even not so dry years on the regions downstream, especially Karakalpakstan. The strategy of resource capture is especially important because of the potential Afghan challenges to the current allocations. By changing the realities on the ground, it will be more difficult for Afghanistan to claim its equitable share. The current closure of the basin suggests that the Afghani ‘share’ has to come from the increased shares of the other riparian states. Given the fact that downstream regions are already affected during dry years, one could assume that, with the rising utilisation upstream, these regions might receive even less water. In this respect, it appears to be necessary to utilise the hydro-hegemonic framework not only for the basin level and between riparian states, but also between different administrational units within one state and how these units share the water resources. For a study on equitable utilisation of water resources between different provinces in Uzbekistan, see Wegerich (2007).

Acknowledgements

I would like to thank Jeroen Warner, Tony Allan, Oliver Olsson, Rutgerd Boelens, Gerrit van Vuren and Flip Wester for their helpful comments and suggestions.

References


