Competition and Benefit Sharing in the Ferghana Valley

Soviet Negotiations on Transboundary Small Reservoir Construction

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Abstract

While there has been a regional and international focus on large reservoirs in Central Asia, smaller transboundary reservoirs within the Ferghana Valley have been over- looked. The valley is shared by Kyrgyzstan, Tajikistan, and Uzbekistan, three riparian countries of the upstream Syr Darya. Located within the valley are many small trans- boundary tributaries and reservoirs. An analysis of the initial proposals and docu- mented negotiations for four of these reservoirs reveals a changing pattern of benefit sharing. These past approaches call into question the argument that the boundaries set by the Soviets did not matter, as well as the assumption that Moscow as a hegemon planned infrastructure in order to divide and rule Central Asia.

Keywords

hydro-hegemony – power – negotiations – small reservoirs – Ferghana Valley

Most of the literature on cooperation and conflict in transboundary river basins focuses on conflict, not cooperation.1 When the emphasis is on hydro-hegemony, even cooperation is viewed critically.2 The same is true with the literature on dam and reservoir construction.

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A prominent example of cooperation on a dam is the renegotiation of the Aswan High Dam between Egypt and Sudan in 1959;3 in reaching their agreement, however, these two riparian states did not consider the claims of other riparian states. The Columbia River Treaty of 1964, between Canada and the United States, features equal sharing of downstream benefits from hydropower and flood control in the United States resulting from dam construction and the use of 19 km3 of stored water in Canada.4 The Lesotho Highlands Water Project between Lesotho and South Africa is another positive example of benefit sharing between two countries, although the social and environmental aspects of the project have been questioned.5

Similarly, most of the transboundary water research in Central Asia covers the hydropower and irrigation nexus and emphasizes conflicting interests between upstream and downstream states, looking either at existing large reservoirs (Toktogul, Nurek) or potential hydropower plants (Rogun, Kambarata).6

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1 A. Wolf, J. Natharius, J. Danielson, B. Ward, and J. Pender, "International River Basins of the World," *International Journal of Water Resources Development*, 15, no. 4 (1999): 387–427.

2 M. Zeitoun and J. Warner, "Hydro-hegemony: A Framework for Analysis of Trans-boundary Water Conflicts," *Water Policy*, 8, no. 5 (2006): 435–460.

3 A.P. Elhance, *Hydropolitics in the Third World*: *Conflict and Cooperation in International* River Basins (Washington, dc: us Institute of Peace Press, 1999).

4 K.W. Muckleston, "International Management in the Columbia River System," Paris, unesco, Technical Documents in Hydrology No. 12 (2003); N. Bankes, "The Flood Control Regime of the Columbia River Treaty: Before and After 2024," *Washington Journal of Environmental Law and Policy*, http://digital.law.washington.edu/dspace-law/handle/1773.1/1147 (accessed August 2013).

5 O. Mwangi, "Hydropolitics, Ecocide, and Human Security in Lesotho: A Case Study of the Lesotho Highlands," *Journal of Southern African Studies*, 33, no. 1 (2007): 3–17; L. Keketso, "The Mixed Blessing of the Lesotho Highlands Water Project," *Mountain Research and Development*, 23, no. 1 (2003): 7–10.

6 K. Wegerich, "Coping with Disintegration of a River-Basin Management System: Multi-Dimensional Issues in Central Asia," *Water Policy*, 7, no. 6 (2004): 335–344; K. Wegerich, "Hydro-hegemony in the Amu Darya Basin," *Water Policy*, 10, no. 2 (2008): 71–88; K. Wegerich, "The New Great Game: Water Allocation in Post-Soviet Central Asia," *Georgetown Journal of International Affairs*, 10, no. 2 (2009): 117–123; K. Wegerich, "Water Resources in Central Asia: Regional Stability or Patchy Make-up?" *Central Asian Survey*, 30, no. 2 (2011): 275–290; J. Allouche, "Water Nationalism: An Explanation of the Past and Present Conflicts in Central Asia, the Middle East and the Indian Subcontinent?" (PhD diss., Geneva, Graduate Institute

To date, the research has not focused on cooperation on smaller reservoirs or other transboundary infrastructure.7 Little attention has been paid to historic benefit-sharing approaches regarding reservoir construction and operation or to the historic development of agreements between riparian states. In this article, instead of trying to identify potential conflicts, we explore past water control infrastructure projects and the evolution of benefit-sharing agreements, negotiation processes, project implementation, and outcomes for small- and medium-sized reservoirs in the Ferghana Valley of Central Asia.

While there has been a regional and international focus on large reservoirs in Central Asia, smaller transboundary reservoirs within the Ferghana Valley have been overlooked. Shared by Kyrgyzstan, Tajikistan, and Uzbekistan, the valley has over a dozen small transboundary tributaries. Shared reservoirs include two large transboundary reservoirs (Kairakum and Toktogul), the medium-sized Andijan reservoir, and four smaller reservoirs (Karkidon, Kasansai, Papan, and Tortgul). In order to understand the complexity of this transboundary setting, we explore the history of transboundary infrastructure negotiations and expansion, with a focus on four case studies: the Karkidon (216 million m3), Kasansai (165 million m3); Tortgul (90 million m3), and Andijan (1750 million m3) reservoirs.

We begin with a brief overview of hydro-hegemony and negotiations processes, followed by an introduction to regional policy and the geographical set- tings within Ferghana Valley. Next, we discuss the consequences of applied tactics and strategies of the riparian states in this region, as related to the case studies. Finally, we explore whether the dominant strategy during the negotiations over water control infrastructure in Soviet Central Asia was cooperative and whether it was driven by the local riparian states themselves.

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of International Studies, 2005); K. Wegerich, O. Olsson, and J. Froebrich, "Reliving the Past in a Changed Environment: Hydropower Ambitions, Opportunities, and Constraints in Tajikistan," *Energy Policy*, no. 35 (2007): 3815–3825; S. Sojamo, "Illustrating Coexisting Conflict and Cooperation in the Aral Sea Basin with twins approach," in *Central Asian Waters: Social, Economic, Environmental, and Governance Puzzle*, ed. M.M. Rahaman and O. Varis (Espoo, Finalnd: Helsinki University of Technology, Espoo: Water and Development Publications, 2008), 75–88; S. Jalilov, T.M. DeSutter, and J.A. Leitch, "Impact of Rogun Dam on Downstream Uzbekistan Agriculture," *International Journal of Water Resources and Environmental Engineering*, 3, no. 8 (2011): 161–166.

7 K. Wegerich, "Passing over the Conflict: The Chu Talas Basin Agreement as a Model for Central Asia?" in *Central Asian Waters: Social, Economic, Environmental, and Governance Puzzle*, pp. 117–131; K. Wegerich, J. Kazbekov, F. Kabilov, and N. Mukhamedova, "Meso-level Cooperation on Transboundary Tributaries and Infrastructure in the Ferghana Valley," *International Journal of Water Resources Development*, 28, no. 3 (2012): 525–543.

Framework: Hydro-hegemony and Negotiations

Zeitoun and Warner provide a framework of hydro-hegemony for classifying the tactics and strategies used by riparian states to consolidate their control over water resources within basins.8 They note that "hegemony can be considered as leadership buttressed by authority" and define dominance as "leader- ship buttressed by coercion." They state "the methods of hegemony employed depend on the capacity of the hegemon to persuade subordinate actors to accept not just the hegemon's authority, but to adopt and internalize its values and norms intended to impose on solution over others."9 Zeitoun and Warner refer to Lustick's four forms of compliance-producing mechanisms: coercion, utilitarian, normative, and ideological hegemony.10 According to Lustick, coercion is the least efficient and ideological hegemony the most efficient compliance mechanism. Lustick explores ideological hegemony in the form of nationalism; hence, the concept is mainly explored within a state. This may be the reason that Zeitoun and Warner distinguish between the "negative/ dominative" and "positive/leadership" forms of hydro-hegemony.11 The hydro- hegemonic framework has been further explored in different transboundary basins.12

Within their framework, Zeitoun and Warner interpret utilitarian compliance-producing mechanisms as "incentives" and normative compliance-producing mechanism as "treaties."13 They make special reference to "mutually beneficial 'shared interest' water projects" as incentives and appear to link treaties with water-sharing agreements only for "institutionalizing a status quo." Hence, there appears to be an opaque understanding of water projects and also a limiting usage of the term "treaty." This shortcoming hinders the ability to look at long-term developments, particularly if different water projects and additional treaties are implemented between the same riparian states. Although the framework allows Zeitoun and Warner to identify the tactics that

8 Zeitoun and Warner, "Hydro-hegemony."

9 Zeitoun and Warner, "Hydro-hegemony," p. 438.

10 I.S. Lustick, "Hegemony and the Riddle of Nationalism: The Dialectics of Nationalism and Religion in the Middle East," *Logos: A Journal of Modern Society and Culture*, 1, no. 3 (2002): 18–44.

11 Zeitoun and Warner, "Hydro-hegemony," p. 452.

12 A.E. Cascao, "Ethiopia: Challenges to Egyptian Hegemony in the Nile Basin," *Water Policy*, 10, no. 2 (2008): 13–28; Wegerich, "Hydro-hegemony in the Amu Darya Basin"; M. Daoudy, "Asymmetric Power: Negotiating Water in the Euphrates and Tigris," *International Negotiation*, 14, no. 2 (2008): 359–389.

13 Zeitoun and Warner, "Hydro-hegemony," p. 447.

a riparian state applied, the framework does not focus on negotiations; instead, it focuses on identifying the hydro-hegemon. Thus, the framework fails to explain why each of the negotiating parties has chosen a certain strategy and how that strategy was implemented. This gap can be bridged by borrowing from studies on behavior and negotiations. Pruitt identified four main strategies for negotiations: problem solving, contending, yielding, and inaction.14 This classification has since been used to analyze bilateral negotiations and their outcomes at the individual and group levels and to develop a framework that indicates the impacts of the negotiation strategies on the inter-partner relations.15 Das and Kumar (2011) argue that there are cooperative (problem solving and yielding) and non-cooperative (inaction and contending) strategies and tactics leading to either positive or negative outcomes.

In their negotiation strategy classifications, both Pruitt and Das and Kumar utilized Blake and Mouton's motivational studies and dual concern model.16 According to the model, the negotiators' goals are determined by two independent factors: concern for themselves and concern for the other party. In the model, the concern can be either high or low for each of the factors, e.g., self and other. The dual concern model, combined with four strategies, makes the following predictions: high concern about one's own and the other party's out- come encourages a problem-solving strategy; high concern about one's own outcome encourages a contending strategy; concern only about the other party's outcome encourages a yielding strategy; concern about neither party's out- come encourages an inaction strategy.

In terms of negotiation outcomes, the problem-solving strategy yields positive outcomes for both parties; the contending strategy yields a positive out- come for one and a negative for the other; yielding brings a negative outcome for the yielding party and a positive for the other; and inaction damages both parties. Although the negotiation frameworks developed by Pruitt and Das and

14 D.G. Pruitt, "Strategic Choice in Negotiation," *American Behavorial Scientist*, 27, no. 2 (1983): 167–194.

15 P.G.D. Carnevale and A.M. Isen, "The Influence of Positive Affect and Visual Access on the Discovery of Integrative Solutions in Bilateral Negotiations," *Organizational Behavior and Human Decision Processes*, 37, no. 1 (1986): 1–13; P.G. Carnevale and D.G. Pruitt, "Negotiation and Mediation," *Annual Review of Psychology*, 43, no. 1 (1983): 531–582; J.R. Curhan, H.A. Elfenbein, and H. Heng, "What Do People Value When They Negotiate? Mapping the Domain of Subjective Value in Negotiation," *Journal of Personality and Social Psychology*, 91, no. 3 (2006): 493–512; T.K. Das and R. Kumar, "Interpartner Negotiations in Alliances: A Strategic Framework," *Management Decision*, 49, no. 8 (2011): 1235–1256.

16 R, Blake, R., & J. Mouton, *The managerial grid: The key to leadership excellence* (Houston: Gulf Publishing Company, 1964), pp. 140–142.

Kumar present four negotiation strategies and four sets of outcomes, the list is not complete. The Pareto efficiency concept, borrowed from studies on eco- nomic efficiency, can contribute to the negotiation framework by adding a facilitation negotiation strategy that yields a positive outcome for one party and a neutral outcome for another. A situation is called "Pareto efficient" if the existing set of rights and arrangements and the allocations of resources can be changed in a way that would make at least one person better off without making anyone worse off. Jaeger defines a potential Pareto improvement as "change with winners and losers, but if the winners compensated the losers for their losses, no one would be worse off and at least one person would be better off than before."17 Figure 1 diagrams this framework.

According to Zeitoun and Warner, the "same conflict can undergo various levels of intensity through time," indicating that water resources negotiations is a dynamic process.18 Building on this concept, Mirumachi and Allan

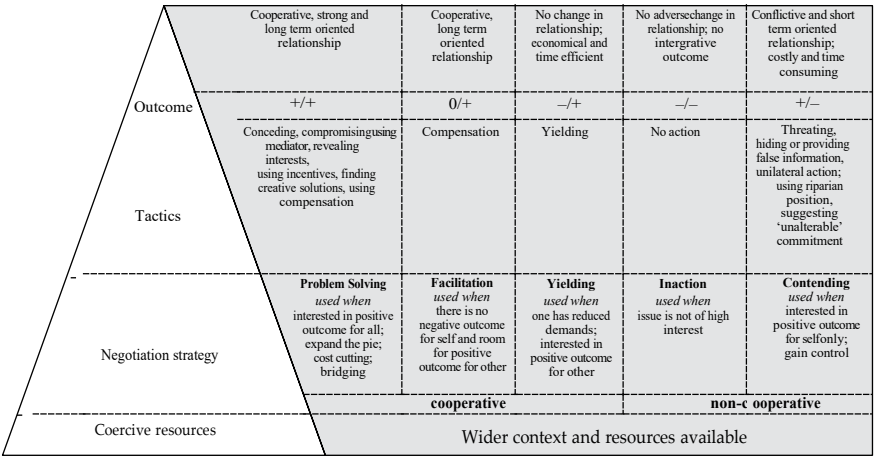

Figure 1 *Transboundary Negotiation Framework*
Note: The framework combines the hydro-hegemony and negotiation frameworks aswell as Pareto efficiency concept. See M. Zeitoun and J. Warner, "Hydro-hegemony: A Framework for Analysis of Trans-boundary Water Conflicts," Water Policy*, 8, no. 5(2006): 435–460; D.G. Pruitt, "Strategic Choice in Negotiation," AT.K. Das and R. Kumar, "Interpartner Negotiations in Alliances: A Strategic Framework,"* Management Decision*, 49, no. 8 (2011): 1235–1256.* merican Behavorial Scientist*, 27,no. 2 (1983): 167–194; W.K. Jaeger,* Environmental Economics for Tree Huggers and Other Sceptics *(Washington, DC: Island Press, 2005).*

17 W.K. Jaeger, *Environmental Economics for Tree Huggers and Other Sceptics* (Washington,dc: Island Press, 2005), p. 136.

18 Zeitoun and Warner, "Hydro-hegemony," p. 441.

developed the Transboundary Freshwater Interaction NexuS (twins) frame- work to analyze water policy dynamics in a three-dimensional matrix that includes conflict intensity, cooperation intensity, and robustness of political economy.19 The twins framework provides the ability to illustrate intensities of riparian conflicts and cooperation over time. Missing from this framework is an element that clearly explains the change in classifications within bilateral relations. The negotiation frameworks based on Pruitt and Das and Kumar provide the tools to examine multiple negotiations and therefore explain how partners adapt and change their strategies based on positive or negative experiences from past negotiations. This provides the means to predict the possible future relationship situation between the partners.

Although the hydro-hegemony and twins frameworks allow for identifying the hydro-hegemon, these frameworks do not cover the issue of the nested scales of the hegemon. This gap can be captured through Taylor's materialist framework for political geography, which introduces a three-tier hierarchical model for separation and control: (1) World economy, the macro scale; (2) State, the meso scale of ideology, and (3) City, the micro scale of experience. According to Taylor, the tier that "really matters" is the largest world economy; thus, the assumption here is that the lower the tier, the less the power.20 Taylor's model allows us to hypothesize that in moving from the micro scale to the macro scale, and as the stakes get higher, the lower-tier hegemon might be replaced by the higher-tier hegemon.

Water Management in the Ferghana Valley

In Central Asia, irrigation for growing cotton was an important activity during the Tsarist and Soviet eras. The cotton grown in Central Asia supplied the te tile industry of the Russian Empire with the necessary raw materials and eliminated the need to import from abroad.21 Early on, the Tsarist government

19 N. Mirumachi and J.A. Allan, "Revisiting Transboundary Water Governance: Power, Conflict, Cooperation, and the Political Economy," paper delivered at the International Conference on Adaptive and Integrated Water Management, November 12–15, 2007, Basel, Switzerland.

20 P. Taylor, "A Materialist Framework for Political Geography," *Transactions of the Institute of British Geographers*, 7, no. 1 (1982): 15 –34.

21 J. Whitman, "Turkestan Cotton in Imperial Russia," *American Slavic and East European Review*, 15, no. 2 (1956): 190–205; I. Lypovsky, "The Central Asian Cotton Epic," *Central Asian Survey*, 14, no. 4 (1995): 529–542.

carried out expeditions to explore the region and plan potential irrigation projects for increasing cropland.22 With the fall of the Russian Empire and the creation of the Soviet Union, the economic policy for Central Asia did not change.

Soviet planners focused on establishing the Uzbek SSR as a center for cotton and irrigation development for Central Asia. Tashkent hosted many irrigation research institutes, such as the Central Asian Water Resources Management Institute (Sredazvodkhoz, later Sredazgiprovodkhlopok), the Central Asia Research Institute for Irrigation (saniiri), and Turkestan State University. These institutions were responsible for conducting research on irrigation, agriculture, infrastructure design, and exploitation, as well as providing training. These organizations served as bridges between individual republics and the central government in discussions of irrigation-related activities and plans.

The case study area, the Ferghana Valley, is located within Central Asia and is shared by three countries: Kyrgyzstan, Tajikistan, and Uzbekistan, with Uzbekistan mainly located within the valley and Kyrgyzstan and Tajikistan on the mountain slopes. During the Soviet era, the Ferghana Valley was the leading cotton-growing area for the Central Asian region. The main water resources in the valley come from the Syr Darya River, which is formed at the confluence

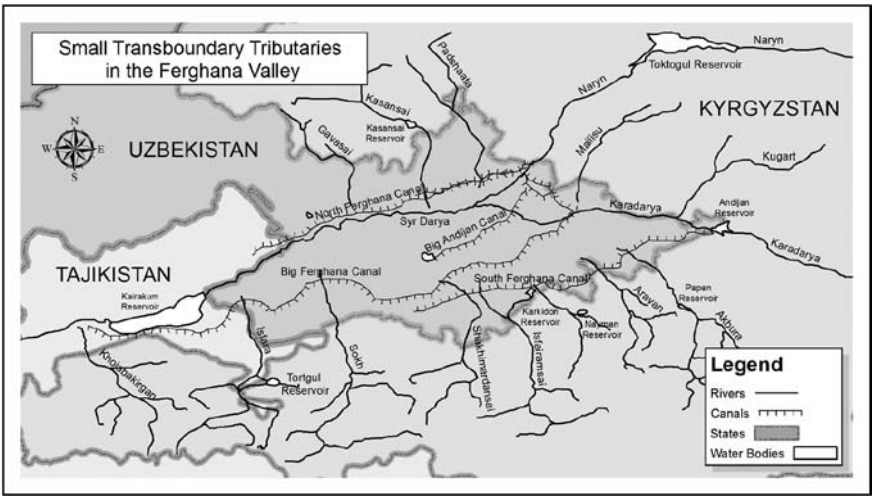

Figure 2 *Small Transboundary Tributaries in the Ferghana Valley*

22 Z.M. Benjaminovich and D.K. Tersitskiy, *Irrigatsiia v Uzbekistane II* (Tashkent: FanPublishing House, 1975).

of the Naryn and Karadarya in Uzbekistan and is fed by many transboundary rivers, among them the Kasansai, the Isfara, and the Kuvasai. The tributaries of the Syr Darya originate in mountainous Kyrgyzstan.23 While the Isfara is shared among Tajikistan, Kyrgyzstan, and Uzbekistan, the Kasansai, Kuvasai, and Karadarya are shared between Kyrgyzstan and Uzbekistan only. Reservoirs have been constructed on all four tributaries: the Kasansai (formerly Urta- Tokay) Reservoir on the Kasansai, the Tortgul Reservoir on the Isfara, the Karkidon Reservoir on the Kuvasai, and the Andijan (formerly Kampir Ravot) on the Karadarya (see Table 1).

Table 1 *Small Transboundary Tributaries in the Ferghana Valley*

No	River Name	Average flow (m3/sec)	Upstream Riparian	Downstream riparian 1	Downstream riparian 2	Location in the Ferghana Valley
1	Akbura	21.5	Kyrgyzstan	Uzbekistan	-	SE
2	Aravan	10.7	Kyrgyzstan	Uzbekistan	-	SE
3	Gavasai	5.9	Kyrgyzstan	Uzbekistan	-	N
4	Kasansai	9.9	Kyrgyzstan	Uzbekistan	-	N
5	Padshaata	6.1	Kyrgyzstan	Uzbekistan	-	N
6	Koksereksai	1	Kyrgyzstan	Uzbekistan	-	N
7	Tentyaksai	12.5	Kyrgyzstan	Uzbekistan	-	E
8	Mailisai	8	Kyrgyzstan	Uzbekistan	-	E
9	Isfara	14.7	Kyrgyzstan	Tajikistan	Uzbekistan	SW
10	Sokh	41.6	Kyrgyzstan	Uzbekistan	-	S
11	Isfairamsai	22.4	Kyrgyzstan	Uzbekistan	-	S
12	Shakhimardansai	9.9	Kyrgyzstan	Uzbekistan	-	S
13	Aksu	4.6	Kyrgyzstan	Tajikistan	-	W
14	Khojabakirgan	11	Kyrgyzstan	Tajikistan	-	W
15	Isfana	0.5	Kyrgyzstan	Tajikistan	-	W

Source: Authors own compilation based on Z.M. Benjaminovich and D.K. Tersitskiy, *Irrigatsiyav Uzbekistane* (Russian). (Tashkent: Fan Publishing House, 1975); *Scheme of the Complex Use and Protection of Syr Darya River Basin* (1983) and A.D. Jamgirchiev, *Encyclopedia of Water Resources* (Bishkek: Poligraf bumresursi, 2008). The list is not exhaustive.

23 Wegerich, Kazbekov, Kabilov, and Mukhamedova, "Meso-level Cooperation on Transboundary Tributaries and Infrastructure in the Ferghana Valley."

Kasansai Reservoir

The Kasansai Reservoir on the Kasansai River is located within the Jalabad prov- ince of Kyrgyzstan in the north of the Ferghana Valley. The reservoir is owned by Uzbekistan, and the Uzbek Namagan Province Basin Irrigation Authority is responsible for its operation and maintenance. The reservoir capacity is 165 mil- lion m3. Negotiations on the Kasansai Reservoir started in the 1930s. According to the former leader of the Kyrgyz SSR, Turdakun Usubaliyev, in the 1930s and 1940s, cotton growing in the Ferghana Valley became very important for the USSR; therefore, the central government requested that the Kyrgyz SSR allocate most of the water resources for irrigation development in the Uzbek SSR.24 The purpose of the Kasansai Reservoir was to capture winter flow and extreme spring flows from the Kasansai River. The water resources could then be used to cover water shortages during the growing season, as well as to further allow the expansion of the irrigated area within the Ferghana Valley. Under pressure from Moscow, the Kyrgyz SSR had to obey to the request of the Uzbek SSR to allocate land for the construction of the reservoir. The Kyrgyz SSR transferred 660 hectares, which were well-suited for the construction of the Kasansai Reservoir, to the Uzbek SSR.25 The construction of the reservoir began in 1941 and was completed in 1954; the Uzbek SSR was responsible for its operation and maintenance.

The next phase of Kasansai Reservoir negotiations started in 1967, when the Uzbek SSR decided to increase the water holding capacity of the reservoir. The Kyrgyz SSR Cabinet, in its "Resolution on Land Allocation for State and Community Needs," complied with the Uzbek SSR's request to allot lands for the expansion of the reservoir.26 This time, however, the Kyrgyz SSR requested compensation of the allocated lands in same amount and value. The Resolution allocated 190 hectares for the Kasansai Reservoir upgrade. When the Uzbek SSR enlarged its reservoir capacity in 1972, the land compensation to the Kyrgyz SSR was completed in full. At that time, the new border demarcation between the Kyrgyz and Uzbek SSRs was finalized.27

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24 T.U. Usubaliyev, " К вопросу о водных ресурсах Кыргызстана," *Central Asia and Caucasus* (1998), http://www.ca-c.org/journal/13-1998/st_10_usubaliev.shtml.

25 "Решение исполнительного Комитета Джалал-Абадского областного совета депутатов трудящихся об изъятии земель колхоза им. Ленина Ала-Букинского района в связи со строительством Урта-Токайского водохранилища," Май 25, 1941, Наманганское областное управление водными ресурсами.

26 "Постановление Совета Министров Киргизской ССР №- 585 "Об отводе земель для государственных и общественных надобностей," Ноябрь 1, 1967. Наманганское областное управление водными ресурсами.

27 "Решение исполнительного комитета Ала-Букинского районного совета депутатов трудящихся №- 192," Сентябрь 27, 1972. Наманганское областное управление водными ресурсами.

After the Soviet Union collapsed in 1991 and the successor independent states emerged, Kyrgyzstan's claim to own the reservoir was contested,28 and as of 2014, the issue had not been resolved. Water management for downstream Uzbekistan has been complicated by the necessity of crossing the Kyrgyz- Uzbek border for operations and maintenance of the reservoir.29

Tortgul Reservoir

The Tortgul Reservoir is located on the Isfara River within Kyrgyzstan. The reservoir capacity is 90 million m3. Water in the reservoir is shared between Kyrgyzstan and Tajikistan. The protocol decision from the 1958 meeting between the Kyrgyz, Tajik, and Uzbek SSRs resulted in an agreement to share the Isfara River waters as follows: Kyrgyz SSR, 2%; Tajik SSR, 57%, and Uzbek SSR, 41%.30 The plan for the Tortgul Reservoir was adopted by the Cabinet of the Kyrgyz SSR in 1962, and construction began a year later.

From the initial stage, the Soviet Water Planning Institute (*Giprovodhoz*) was involved in project development. However, the Kyrgyz SSR underestimated the costs, and had to ask the Central Committee of the Communist Party of the Soviet Union to increase funding. In 1967, a meeting was held in Moscow; the USSR minister of water resources, the deputy of the head of the cabinet of the Kyrgyz SSR, and the deputy of minister of melioration and water resources of the Kyrgyz SSR were among the participants. They noted that the three republics had not agreed on new water allocations to go into effort after the reservoir was complete. At the meeting, they agreed that the Kyrgyz SSR would continue reservoir construction and would utilize the free flow of the river. The USSR minister of water resources approved the protocol and required that the project proposal on the Tortgul Reservoir be rewritten and that the republics agree on the water shares.

The revised project proposal was created by Giprovodhoz and the Kyrgyz Water Planning Institute in 1968 and approved in 1969 by the USSR Ministry of Water Resources. Under the revised plan, the Kyrgyz SSR's share of the Isfara

28 "Письмо от Президента Кыргызской Республики господина Курбанбека Бакиева Президенту Республики Узбекистан Исламу Каримову," Октябрь 22, 2005, Наманганское областное управление водными ресурсами.

29 "Отчет по Управлению Водными Ресурсами в Наманганской Области," Наманганское областное управление водными ресурсами (2012).

30 "Письмо Заместителю Министра Мелиорации и Водных Ресурсов Республики Таджикистан тов. Зоирову А. М. от Главы Согдийского Областного Управления Водного Хозяйства Боирова Х." (2008); Кохиров. И., "Постановочные воросы по вододелению реки Исфары, исполнитель начальник ЛОПРЭМО," (нет даты).

would increase from 2% to 26.7%.31 However, neither the Tajik nor the Uzbek SSR were involved in the planning; therefore, they had not agreed to the construction of the reservoir or the increase in the Kyrgyz SSR's water share.32 The Kyrgyz SSR appealed directly to Moscow with the request to approve the construction of the reservoir and the expansion of irrigation within its territory. The construction of the reservoir was finalized in 1971. Although no new water agreement was signed, the new infrastructure effectively changed the water allocations within the basin. Possibly to compensate for the increase in the share of the Isfara allocated to the Kyrgyz SSR, the Tajik and Uzbek SSRs constructed numerous lift irrigation schemes, which were financedby Moscow.

In 1980, the Kyrgyz SSR invited Moscow to mediate water-sharing negotiations for the entire Isfara Basin, including agreements concerning the Tortgul Reservoir. During the negotiations, the parties agreed to gradually increase the Kyrgyz percentage of the water share within the Isfara Basin, while delivering more water resources to the downstream Tajik and Uzbek SSRs via large inter- basin transfers through main canals (e.g., the Big Ferghana Canal [BFC], which draws from the Naryn and Karadarya) and lift stations (directly from the Syr Darya).33 They also agreed to switch the water sources for the downstream users (Tajik and Uzbek irrigated areas) from the Isfara River to the bfc.34 Finally, the riparian states agreed that the mediator, the USSR Ministry of Water Resources, would be responsible for determining the annual water shares among the Isfara riparian states.

After 1985, the USSR Ministry of Water Resources stopped determining the annual water shares for the three riparian parties.35 The riparian states agreed that the 1982 allocation principles as set by the USSR Ministry of Water

31 "Письмо Председателю г. Исфара Ленинабадской области Республики Таджикисан г-ну Халимову от Вице-президента производственного объединения "Совинтервод" г-на Леонтьева О.А.," Согдийское областное управление водными ресурсами (Май 1998).

32 M. Pak, K. Wegerich, and J. Kazbekov, "Reexamining Conflict and Cooperation in Central Asia: A Case Study from Isfara River, Ferghana Valley," *International Journal of Water Resources Development*, 30, no. 2 (2013).

33 "Письмо Заместителю Министра Мелиорации и Водных Ресурсов Республики Таджикистан тов. Зоирову А. М. от Главы Согдийского Областного Управления Водного Хозяйства Боирова Х."

34 "Протокол по межреспубликанскому распределению стока малых рек Ферганской долины," Согдийское областное управление водными ресурсами (Апрель 11, 1980).

35 Кохиров. И., "Постановочные воросы по вододелению реки Исфары, исполнитель начальник ЛОПРЭМО.""

Resources should be used from 1986 onward.36 Immediately after the former Soviet republics gained independence in 1991, the new states continued to use the proportions indicated in the 1982 agreement. However, because of Kyrgyzstan's increased dependence on the hydropower operations of the Toktogul Reservoir, less water was released into the BFC. The reduced flows made it impossible for the Tajik and Uzbek irrigated areas to switch from the Isfara River to the BFC, and water sharing between them stopped operating despite the 1980 Protocol Agreement.37 Water sharing and cooperation on the Tortgul Reservoir between Kyrgyzstan and Tajikistan continued, however.38

Karkidon Reservoir

The Karkidon Reservoir is located on the Kuvasai within the larger Isfairamsai Basin in the southern Ferghana Valley. The reservoir receives water from the Isfairam and Karadarya and has a capacity of 216 million m3. The negotiations over the construction of the Karkidon Reservoir began in 1961. Both the Kyrgyz and Uzbek SSRs were interested in increasing water availability for irrigation purposes in their respective territories within the Kuvasai Basin. The most suit- able location for the reservoir was on the border between the two republics within the territory of the Kyrgyz SSR. The republics agreed that the Kyrgyz SSR would allocate land for the reservoir construction and receive 13% of the stored water resources in the reservoir annually.39 The Uzbek SSR, as the main water consumer, took over responsibility for the construction of the reservoir and became the owner of the reservoir, therefore making it responsible for operation and maintenance. According to Muchkaev,40 the land allocated for the Karkidon Reservoir construction remained within the administrative bordersof Kyrgyz SSR.

In 1965, the Uzbek SSR wanted to increase the water-holding capacity of the Karkidon Reservoir. Because the reservoir had been built within the territory of the Kyrgyz SSR, the Uzbek SSR had to request land (698 ha) from the Kyrgyz

36 "Письмо Заместителю Министра Мелиорации и Водных Ресурсов Республики Таджикистан тов. Зоирову А. М. от Главы Согдийского Областного Управления Водного Хозяйства Боирова Х."

37 Pak, Wegerich, and Kazbekov, "Reexamining Conflict and Cooperation in Central Asia."

38 Interview, Anonymous, 2012, Isfara city.

39 "Решение исполнительного комитета Ошского областного Совета депутатов трудящихся №- 179 об утверждении изъятия земель под строительство Керкидонского водохранилища Узб. ССР от колхоза "Правда" Тую-Муюнского с/с Араванского района," Наманганское областное управление водными ресурсами (Март 31, 1962).

40 Reference Note issued by technical land surveyor Mr. Muchkayev. Osh Province Water Management Department (in Russian).

SSR for the anticipated enlargement.41 The Kyrgyz SSR agreed but requested compensation from the Uzbek SSR for the land as well as to pay for individual relocations.42 On May 22, 1972, the Uzbek SSR compensated the Kyrgyz SSR with land resources, as specified in the resolution, "Partial Change of the Border Between the Kyrgyz SSR and Uzbek SSR."43 During the negotiations over the Karkidon Reservoir upgrade, the Kyrgyz right to 13% of the reservoir water was applied to the new holding capacity of the upgraded reservoir.

The Karkidon Reservoir water-sharing percentages and water delivery issues were raised in the correspondence between the republics during the Soviet era.44 According to the Kyrgyz Communist Party, Uzbek water authorities violated the inter-republican agreement and did not deliver the Kyrgyz 13% share of the water from the reservoir.45 The Kyrgyz authorities stated that the Uzbek Water Ministry delivered water to Kyrgyzstan at its own discretion and primarily during the flood season, when there were no water shortages. Since the collapse of the Soviet Union in 1991, the situation has remained somewhat similar: the Kyrgyz water authorities cannot monitor and control the implementation of the agreement.46 As of 2011 the Kyrgyz authorities stated that they "do not have data on the factual reservoir filling" and therefore "there is no capacity to monitor the implementation of the agreement."47

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41 "Чернушин. В. Пояснительная записка, " (нет даты).

42 "Решение исполнительного комитета Ферганского районного Совета депутатов трудящихся "О внесении дополнений к ранее принятому решению Ферганского райисполкома от 11.12.1964 года № 320 "О передаче земель Ошской области, Киргизской ССР от колхоза "Коммуна" Вадильского сельсовета; колхоза им. Навои Ляганского сельсовета и совхоза "Мули" №4 Ляганского сельсовета Ферганского района,"" Ошское бассейновое управление водного хозяйства (Март 20, 1965).

43 "Постановление Совета Министров Киргизской ССР "О частичном изменении республиканской границы между Киргизской ССР и Узбекской ССР,"" Ошское бассейновое управление водного хозяйства (Май 22, 1972).

44 "Письмо Секретарю ЦК Компартии Узбекистана, товарищу Рашидову Ш. Р. от Секретаря ЦК Компартии Киргизии, Т. Усубалиева" (Апрель 16, 1980.); "Доклад (Перечень) нерешенных воросов по межреспубликанскому вододелению между Киргизской и Узбекской ССР," Ошское бассейновое управление водного хозяйства (нет даты).

45 "Письмо Секретарю ЦК Компартии Узбекистана, товарищу Рашидову Ш. Р. от Секретаря ЦК Компартии Киргизии, Т. Усубалиева" (Апрель 16, 1980).

46 "Письмо от Начальника Ошского Бассейнового Управления Водного Хозяйства Начальнику Управления Магистральных Каналов Ферганской Долины и ЦДП," Ошское бассейновое управление водного хозяйства (Апрель 12, 2011).

47 "Письмо от Начальника Ошского Бассейнового Управления Водного Хозяйства Абибиллаева Р. Председателю Госкомводхоза Жамалдинову З.," Ошское бассейновое управление водного хозяйства (Февраль 22, 2011).

Andijan Reservoir

The Andijan Reservoir is located on the Karadarya in the southeastern part of the Ferghana Valley. The reservoir capacity is 1,750 million m3. The reservoir is owned by Uzbekistan, and the Uzbek Andijan Province Basin Irrigation Authority is responsible for its operation and maintenance. The negotiations over the Andijan Reservoir started in 1962, when Uzbekistan proposed the construction of the reservoir within the territory of the Kyrgyz SSR in order to expand its own irrigated area within the Karadarya Basin. The Kyrgyz SSR was also interested in increasing its irrigated area within the basin. The proposed agreement anticipated that the Kyrgyz SSR would allocate land for the construction of the reservoir, but would receive land in an equal amount, as well as cash compensation for village relocation expenses from the Uzbek SSR. In addition, the Kyrgyz SSR was supposed to receive water resources from the new reservoir (via a new channel), as well as a share of the planned Sokh Reservoir in the Sokh Basin.48 In return, the Uzbek SSR would receive the lion's share of the water resources and would be responsible for the construction, operation, and maintenance of the reservoir.

During the negotiations, the Kyrgyz SSR requested that the Uzbek SSR indicate the exact location of the lands that would receive water from the reservoir and name the organizations that would pay for the individual resettlements from the construction zone.49 The Uzbek SSR addressed the Kyrgyz concerns and in 1965 the parties agreed to build two canals, one on the right and one on the left bank of the reservoir, for irrigating areas within the Kyrgyz SSR.50 The right bank canal, the Pravoberejniy Kampir-Ravotsky Channel (PKRC), was supposed to facilitate irrigation in the Kugart River Valley, and the left bank

48 "Протокол совещания представителей Министерства водного хозяйства Узбекской ССР, Министерства водного хозяйства Киргизской ССР, Госстроя Киргизской ССР, проектных институтов "Средазгипроводхлопок" и "Киргизгипроводхоз" по вопросу использования водных ресурсов реки Кара-Дарья с учетом Андижанского (Кампыр-Раватского) водохранилища", Ошское бассейновое управление водного хозяйства (Сентябрь 23, 1965).

49 "Протокол совещания о предложении ЦК КП Узбекистана, Совета Министров и Президиума Верховного Совета Узбекской ССР о строительстве Кампыр-Раватского водохранилища в Узгенском районе Киргизской ССР," Ошское бассейновое управление водного хозяйства (1962); "Письмо Центральному Комитету Коммунистической Партии Узбекиснана, Совету Министров Узбекской ССР от Коммунистической Партии Киргизии, Центрального Комитета," Ошское бассейновое управление водного хозяйства (Сентябрь 26, 1962).

50 "Письмо Секретарю ЦК Компартии Узбекистана, товарищу Рашидову Ш. Р. от Секретаря ЦК Компартии Киргизии, Т. Усубалиева" (Апрель 16, 1980.)

canal, the Levoberejny Kampir-Ravotsky Channel (LKRC), was supposed facili- tate irrigation in the Sokh River Valley. The PKRC was supposed to be built by the Kyrgyz SSR, and the LKRC was supposed to be built by the Uzbek SSR.51 It was anticipated that both canals would be finalized at the same time as the Andijan Reservoir.52

The Tashkent Sredazgiprovodkhlopok (Central Asian Design Institute for water infrastructure under the d Ministry of Cotton) developed the Andijan Reservoir proposal and was supposed to submit the proposal to the USSR Water Resources Ministry and USSR Sredazgiprovodkhlopok. The Uzbek SSR pro- posed to the Kyrgyz SSR that construction begin before the agreement was approved by Moscow; the Kyrgyz SSR agreed to this proposal. However, in 1969 the USSR Water Resources Ministry in Moscow did not agree to the original proposal and asked to reduce the costs by excluding both the cash compensation for village relocation (9.2 million rubles), as well as the construction costs for the Kyrgyz LKRC, which was supposed to be built by the Uzbek SSR. Neither Sredazgiprovodkhlopok nor the Uzbek SSR informed the Kyrgyz SSR about the decision from Moscow, and in fall of 1969 they submitted a new proposal to the USSR Water Resources Ministry that excluded these two items. Moscow approved the new proposal on October 2, 1969; however, the Uzbek SSR did not share the information that the proposal has been updated with the Kyrgyz SSR until November 10, 1969.53 When the Kyrgyz SSR complained to the Uzbek SSR regarding the poor information sharing, the Kyrgyz SSR was informed that it could file an official complaint with Moscow regarding the decision to reject the original proposal. Despite this, the Kyrgyz SSR did not file the complaint.

Since 1991, the management of the Andijan Reservoir has been cooperative; Kyrgyzstan and Uzbekistan regularly communicate on reservoir operation andmaintenance.54

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51 "Протокол совещания представителей Министерства водного хозяйства Узбекской ССР, Министерства водного хозяйства Киргизской ССР, Госстроя Киргизской ССР, проектных институтов "Средазгипроводхлопок" и "Киргизгипроводхоз" по вопросу использования водных ресурсов реки Кара-Дарья с учетом Андижанского (Кампыр-Раватского) водохранилища," Ошское бассейновое управление водного хозяйства (Сентябрь 23, 1965).

52 "Письмо Секретарю ЦК Компартии Узбекистана, товарищу Рашидову Ш. Р. от Секретаря ЦК Компартии Киргизии, Т. Усубалиева" (Апрель 16, 1980.)

53 Письмо Секретарю ЦК Компартии Узбекистана, товарищу Рашидову Ш. Р. от Секретаря ЦК Компартии Киргизии, Т. Усубалиева, Ошское бассейновое управление водного хозяйства (Апрель 1, 1970).

54 "Протокол совместного рабочего совещания по вопросу подготовки канала Савай к вегетации 2007 года," Ошское бассейновое управление водного хозяйства (Декабрь

Cooperation, Coercion, and Pragmatism

To detect and understand the change in the negotiation strategies applied by the riparians, we will examine two distinct features of the water negotiation process: the changing character of the negotiation strategies and the tactics utilized to implement these strategies.

From the perspective of negotiation theory, the first construction of the Kasansai Reservoir during the 1940s could be interpreted as yielding and there- fore cooperative. However, taking into consideration the macro-scale hydro- hegemon, Moscow, and particularly the political leadership at that time, it may not have been possible for SSR leaders to discount plans that would have benefited the (larger) Soviet Union's goals. Although it is possible to classify the act of handing over the land as cooperative (under negotiation theory), it is likely that coercion by the macro hydro-hegemon in Moscow was feared; thus, thiswas forced cooperation.

In the early 1960s, the situation in the Ferghana Valley changed, however; the construction of new infrastructure (construction of the Karkidon Reservoir and planning of the Andijan Reservoir) was beneficial for both riparian states, the Kyrgyz and the Uzbek SSRs, who gained access to additional water resources. Here the riparians utilized what from the negotiation perspective is identified as a "problem-solving strategy" and from the hydro-hegemonic perspective as a "utilitarian" approach. Analysis of the Karkidon and Andijan reservoir negotiation outcomes shows that the Kyrgyz SSR benefited from the new reservoirs constructed by the Uzbek SSR.

It could be argued that both partners learned from the outcomes of past negotiations and therefore adapted their strategies and tactics. While this development cannot be explained by using the hydro-hegemony framework, the Transboundary Negotiation Framework does provide insights by allowing a comparison between the negotiations for the reservoirs. The Kyrgyz SSR appeared to have learned from negotiations over the Karkidon that, as a mini- mum, it could secure water shares. Hence, in the negotiations on the Andijan, it negotiated a much larger package, which included water shares, land compensation, individual compensations, the construction of an expensive canal, and shares for a different reservoir.

21, 2006); "Протокол совместного рабочего совещания по вопросу подготовки канала Савай к вегетации 2008 года," Ошское бассейновое управление водного хозяйства (Февраль 12, 2008); "Акт о выполненных работах на канале "Савай" проходящему по территории Карасуйского района Ошской области," Ошское бассейновое управление водного хозяйства (Апрель 2, 2012).

The Kyrgyz SSR began to unilaterally construct the Tortgul Reservoir in 1963. Within the hydro-hegemony framework, this could simply be explained by using the power of the upstream position. Arguably, because the reservoir was located within its own territory, the Kyrgyz SSR did not need to negotiate with the other riparian states regarding land or border issues. The Kyrgyz SSR likely knew and anticipated that the new construction would change the water allocations within the basins and therefore would negatively affect the other riparian states. However, it appears that the Kyrgyz SSR may have learned from the Karkidon negotiations that it could claim at least non-captured water rights within the basin, such as winter flow and extreme spring flows.

Although the negotiations on the Karkidon and Kasansai reservoir upgrades utilized the compensation tactic, the strategies chosen by the riparians were different. During the negotiations over the Karkidon Reservoir upgrade in 1965, the Uzbek and Kyrgyz SSRs chose to continue their previous, positive negotiation experience (i.e., the Karkidon negotiations in 1961) and they utilized problem-solving and utilitarian strategies. In the case of the Kasansai upgrade, however, the Kyrgyz SSR facilitated irrigation expansion in the downstream Uzbek SSR, but applied a facilitation strategy. It stands to reason that the Kyrgyz SSR was not able to claim a water share due to the geographical location of the existing reservoir.

Looking at the later phases of the Andijan Reservoir construction, one could assume that the Uzbek SSR learned from the Kyrgyz SSR behavior on Tortgul and therefore also followed a contending strategy of hiding information. From the hegemony perspective, the Uzbek SSR behavior could be explained in two ways. First, following the request of the hegemon, e.g., the federal government, it reduced the construction costs. Second, following its personal interests in increasing the benefit from the river, the Uzbek SSR utilized a contending strategy and concealed information from the Kyrgyz SSR. Hence, the Andijan case presents a two-level hydro-hegemony interpretation: within the basin (meso scale) and beyond the basin (macro scale).

According to the Transboundary Negotiation Framework, sustainable agreements are those based on problem solving, facilitating, or yielding strategies, all of which are based on cooperation. In all analyzed reservoirs, at some stage, these positive strategies were used. However, in the case of the Kasansai Reservoir, the identified forced cooperative and yielding strategy may have created a negative outcome, since today the reservoir is contested. In the case of the Tortgul Reservoir negotiations, which were contested from the start by the Uzbek SSR but facilitated by Moscow, the

cooperative strategy was implemented through compensation and mediation (1980s). Since Moscow stopped participating in mediation in 1985, this might suggest that remaining as the mediator for these small tributaries was not much of a priority. Hence, it is possible that Moscow did not in fact intend to "divide and rule," at least in these small basins.55 After independence in 1991, the conflictive situation in the Isfara Basin concerning the Tortgul Reservoir continued. As of 2012, how- ever, the conflict has mainly been between the downstream riparian states, Tajikistan and Uzbekistan, and is related to the broken compensation mechanism for switching from Isfara to bfc.56

From the hegemony perspective, the most efficient and perhaps therefore the most sustainable strategy would be ideological hegemony. Arguably, Moscow never achieved a complete "ideological hegemony" in Central Asia because the republics reserved the ability to negotiate reservoir construction arrangement and ownership rights for themselves. They also preferred utilitar- ian and/or facilitating strategies to a hegemonic belief strategy for working to achieve their irrigation expansion goals. Also, given that the USSR collapsed and the Soviet ideology vanished, projects based on "ideological hegemony" might not be sustainable, since they were easily questioned after the hege- mon's collapse.

55 S. O'Hara, "Central Asia's Water Resources: Contemporary and Future ManagementIssues," *International Journal of Water Resources Development*, 16, no. 3 (2000): 430.

56 Pak, Wegerich, and Kazbekov, "Reexamining Conflict and Cooperation in Central Asia:A Case Study from Isfara River, Ferghana Valley."

Table 2 summarizes the negotiations. The most frequently utilized tactics for coming to an agreement among the riparian states on building new or upgrading existing water-control infrastructure were incentives, compensation, and ownership rights. Incentives were largely utilized because all of the transboundary water projects were developed collaboratively through the regional organization Sredazgiprovodkhlopok, wherein the riparian states worked together, and because the projects were aimed to increase agricultural production in Central Asia, which was demanded by Moscow. The parties also saw the incentive in the "increased pie," because reservoirs that improved water availability allowed for future irrigation expansion. It appears that if compensation alone was utilized, either regarding land (Kasansai Reservoir) or water (Tortgul Reservoir), the long-term outcome was not positive. This particularly applied in the case of the Tortgul Reservoir, in which compensation was based on annual allocations rather than a single installment. With the col- lapse of the Soviet Union, the compensation mechanism (costly lift irrigation and water transfers dependent on other riparian states) collapsed as well. In this respect, the determination of clear, single-ownership rights of reservoirs based on who benefits most, as a creative solution, followed the same approach as that of reducing transaction costs. In a case where a joint ownership among the riparian states would have been applied, there would have been annual negotiations and agreements on dividing the operation and maintenance costsof the infrastructure.

Table 2 *Reservoir Negotiation Stages, Strategies, and Outcomes*

No.	Starting date	Reservoir	Negotiation Tactics		Negotiation framework strategy	Hydro-hegemony framework strategy	Hegemon	Outcome
			Uzbekistan	Kyrgyzstan				
1	1941	Kasansai	No action	Uncompensated land transfer	Yielding	Coercion, Moscow hegemon	Moscow	Cooperative
2	1961	Karkidon	Incentive, 13% of reservoir water	Incentive, land transfer	Problem solving	Utilitarian	Uzbek SSR	Cooperative
3	1962	Andijan	Incentive, water from the new infrastructure; compensation	Incentive, more water	Problem solving	Utilitarian	Uzbek SSR	Cooperative
4	1965	Karkidon	Compensation, land transfer	Compensation, land transfer	Problem solving	Utilitarian	Uzbek SSR	Cooperative
5	1967	Kasansai	Compensation, land transfer	Compensation, land transfer	Facilitating	Coercion, Moscow hegemon	Moscow	Cooperative
6	1968	Tortgul	Construction disapproval	Unilateral action, reservoir construction	Contending	Disapproval, unilateral action	Kyrgyz SSR	Non-cooperative
7	1980	Tortgul	Mediation; gradual change in water share	Mediation using Moscow; Inter-basin transfers	Problem solving	Infrastructure construction, mediator	Kyrgyz SSR	Cooperative

Conclusion

The analyzed documents, agreements, protocols, and letters highlight that certain arguments made in the past are no longer valid. First, the referenced documents show that the SSRs themselves came up with the proposals for infrastructure outside or at the boundaries of their SSRs. Hence, it was not Moscow that drove the development to "divide and rule."[57] However, it is important to point out that this was true only for the relatively small-scale water infrastructure studied in this article. This would confirm the nested approach to hegemony, wherein Moscow focused on large-scale projects, leaving smaller basins and their infrastructure to the Central Asian SSRs. Secondly, the land exchanges for infrastructure development show that boundaries mattered already during the time of the Soviet Union.[58]

This study showed that in all cases, at some stage of negotiations, cooperative (i.e., problem-solving and facilitating) strategies were utilized. Hence, riparian states either increased their benefit or at least were not made worse off. However, the case studies also highlighted that equal compensation may not be sufficient for yielding long-term positive outcomes. This study also showed that problems may occur if compensation was based on annual allocations. Moreover, if the benefit of one riparian increased and the increase was defined in percentages, not volumes, e.g., the 13% share of the annual water stored in Karkidon, there were problems with monitoring. Such problems may have been foreseen and therefore clear ownership rights of the party benefit- ting the most and the obligations of that party were determined in order to allow long-term, sustainable cooperation.

The Transboundary Negotiation Framework suggests that there is a learning curve inherent to the negotiations; hence, there could be a positive feedback loop of making both riparian states better off. The case of Ferghana Valley showed that even though there was a learning process, there also appeared to

57 O'Hara, "Central Asia's Water Resources: Contemporary and Future Management Issues,"p. 430.

58 N. Megoran, "The Critical Geopolitics of the Uzbekistan-Kyrgyzstan Ferghana ValleyBoundary Dispute, 1999–2000," *Political Geography*, 23, no. 6 (2004): 731–764.

be ruptures. Arguably, since the study evaluated only four reservoirs, the full picture is missing. One has to take into consideration that, on the one hand, negotiations are influenced by the wider political context and therefore there may be jumps from one strategy to the other (as was the case at the end of the Stalin era). On the other hand, third parties can also influence the outcomes (i.e., Moscow imposing its will, and later withdrawing from mediation).

The analysis showed the importance of looking at the historical evolution of cooperation on transboundary infrastructure and learning from experience before building new infrastructure in a region. In this respect, past negotiations on proposed reservoirs, e.g., Rogun and Kambarata, should also be analyzed.

In this article, instead of trying to identify potential conflicts, we explored past water control infrastructure projects and the evolution of benefit-sharing agreements, negotiation processes, project implementation, and outcomes on small- and medium-sized reservoirs in the Ferghana Valley of Central Asia. The results suggest that future negotiations on proposed reservoirs, should take into account the outcomes that any chosen negotiation strategy may generate. As the evidence from the small- and medium- sized reservoir construction negotiation in the Ferghana Valley shows, the negotiations that were based on cooperative strategies, such as problem solving, facilitating, and yielding, resulted in long-term positive outcomes for the parties involved.

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