

THE ROLE OF INTERNATIONAL WATER LAW IN CENTRAL ASIA'S WATER AND FOOD SECURITY

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Abstract. In Central Asia, water scarcity has become a major issue due to a combination of factors, including climate change, population growth, and unsustainable agricultural practices. The region is home to two of the world's largest rivers, the Amu Darya and the Syr Darya, which are shared by several countries. These rivers are critical sources of water for irrigation, drinking water, and hydropower generation, but they are also under increasing pressure due to overuse and pollution. Kazakhstan, Uzbekistan, and Turkmenistan are the only three countries in the region that have ratified the Water Convention. Yet the UN Watercourses Convention was signed only by Uzbekistan. By using evaluation research, and monitoring case study method we argue that the low level of international water law acceptance can be explained by the absence of clarity and weak mechanisms of implementation. As Central Asia countries tend to prioritize their interests over common ones, there is still much work to be done to overcome collective action problems to implement principles of international water law and foster good governance which will promote water and food security.

Keywords: The UN Watercourses Convention, the UNECE Water Convention, water security, food security, Central Asia.

Аңдатпа. Орталық Азияда су тапшылығы климаттың өзгеруі, халық санының өсуі және ауыл шаруашылығының тұрақсыз тәжірибесі сияқты факторлардың жиынтығына байланысты басты мәселеге айналды. Бұл аймақта дүние жүзіндегі ең үлкен екі өзен – Өмудария мен Сырдария орналасқан, оларды бірнеше мемлекет бөліседі. Бұл өзендер суару, ауыз су және гидроэнергетика үшін маңызды су көздері болып табылады, бірақ олар шамадан тыс пайдалану және ластану салдарынан қысымның жоғарылауында. Қазақстан, Өзбекстан және Түркіменстан су конвенциясын ратификациялаған аймақтағы үш мемлекет қана. Бірақ БҰҰ-ның су арналары туралы конвенциясына Өзбекстан ғана қол қойды. Бағалау зерттеуі мен мониторингтік кейс-стади әдісін қолдану арқылы біз халықаралық су заңнамасын қабылдаудың төмен деңгейі айқындықтың жоқтығымен және іске асыру механизмдерінің әлсіздігімен түсіндірілуі мүмкін екенін дәлелдейміз. Орталық Азия елдері ортақ мүдделерден гөрі өз мүдделерін бірінші орынға қоюға бейім болғандықтан, халықаралық су құқығы қағидаттарын жүзеге асыру және су және азық-түлік қауіпсіздігін ілгерілететін тиімді басқаруды ынталандыру үшін ұжымдық әрекет проблемаларын жеңу үшін әлі көп жұмыс істеу керек.

Түйін сөздер: БҰҰ-ның су арналары туралы конвенциясы, БҰҰ ЕЭК су конвенциясы, су қауіпсіздігі, азық-түлік қауіпсіздігі, Орталық Азия.

Аннотация. В Центральной Азии нехватка воды стала серьезной проблемой из-за сочетания факторов, включая изменение климата, рост населения и неустойчивые методы ведения сельского хозяйства. В регионе протекают две крупнейшие реки мира — Амударья и Сырдарья, которые принадлежат нескольким странам. Эти реки являются важнейшими источниками воды для орошения, питьевой воды и производства гидроэлектроэнергии, но они также находятся под растущим давлением из-за чрезмерного использования и загрязнения. Казахстан, Узбекистан и Туркменистан — единственные три страны в регионе, которые ратифицировали Водную конвенцию. Однако Конвенцию ООН по водотокам подписал только Узбекистан. Используя оценочное исследование и метод мониторинга конкретных случаев, мы утверждаем, что низкий уровень принятия международного водного права можно объяснить отсутствием ясности и слабыми механизмами реализации. Поскольку страны Центральной Азии склонны отдавать приоритет своим интересам над общими, предстоит еще многое сделать для преодоления проблем коллективных действий по реализации принципов международного водного права и содействия хорошему управлению, которое будет способствовать водной и продовольственной безопасности.

Ключевые слова: Конвенция ООН по водотокам, Водная конвенция ЕЭК ООН, водная безопасность,

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Introduction

Central Asia is a region that is characterised by its arid and semi-arid climate, which makes water a scarce and precious resource. This region boasts abundant river systems such as the Amu Darya and Syr Darya feeding into the once vast Aral Sea—yet this area has been facing severe water shortages that persist even today for several years now [1]. A combination of various factors like climate change, population growth, and overuse of resources alongside unsustainable water management practices have only led to aggravating this issue further. The rivers supplying the Aral Sea are drying up fast due to excessive usage that results in the loss of essential habitats for fish species and local wildlife. Additionally, increased dust storms are escalating related environmental problems even further. Central Asia's cultivation importance for crops like cotton and wheat amongst others coupled with declining agricultural productivity highlights how alarming these circumstances are about prolonged water scarcity within the region.

The current crisis in Central Asia has put the spotlight on five countries - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan - that are struggling with a severe lack of water. However, the problem of water scarcity does not affect only Central Asia, it is a global issue [2, p.1]. Farmers find it tough to grow crops or raise livestock due to insufficient water supply leading to food insecurity thus affecting populations that are already vulnerable. High food prices have made it increasingly difficult for socially disadvantaged people within this area to access the basic nutrition required for survival further adding pressure on them and putting economies and social structures at risk [3, p.15; 4, p.41]. To cope with these emerging challenges effectively requires understanding how international water law contributes to supporting water and food security in Central Asia.

Research methodology

This article attempts to evaluate international water law's impact on improving regional water and food security. This is

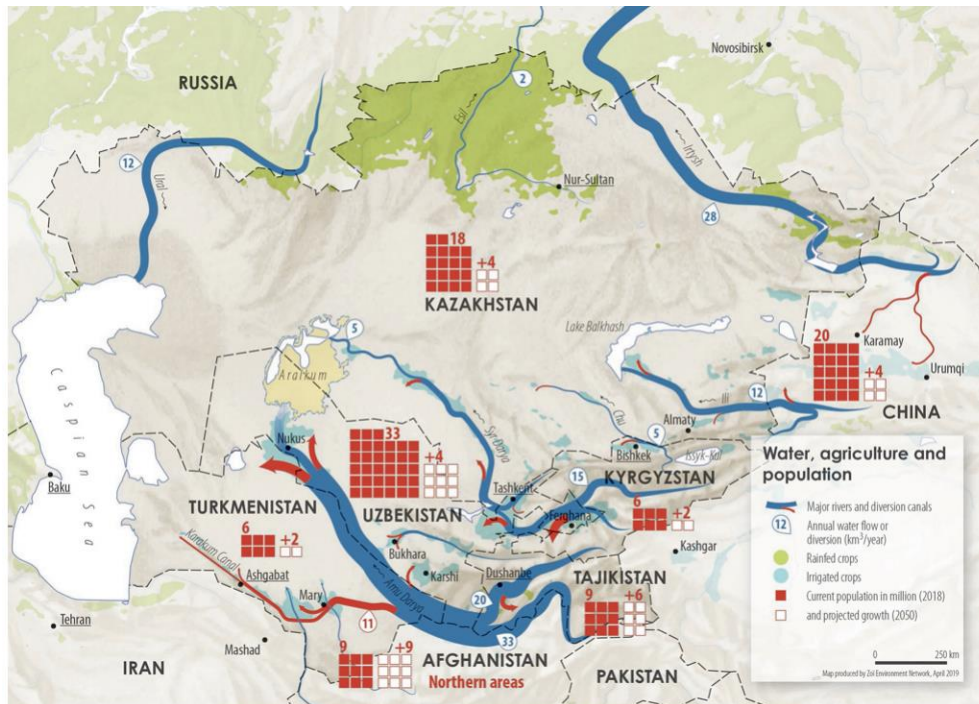
evaluation research as Earl Babbie explains "Evaluation research refers to a research purpose rather than a specific research method" [5, p. 373]. The topics appropriate for evaluation research include program evaluation or outcome assessment, Cost/Benefits Studies, and Monitoring Studies [6, p. 374]. Evaluation of international law requires complex methods, such as Case Studies, Legal Analysis and Review, and Compliance Monitoring. Our work is a Compliance Monitoring case study focusing on Central Asia specifically. To achieve this aim first we conducted extensive literary research which included academic journals, books, and reports. Then we analyzed current international law materials concerning water and evaluated their implementations by the countries of Central Asia and different relevant policies that were put under scrutiny throughout this initiative. Secondary data was used to develop a list of key takeaways that informed about the current situation of sustainable water management policies in the countries of Central Asia. The methods of systematic analysis and synthesis were applied to identify core issues with adherence to international water law. Critical analysis and descriptive methods were major tools to investigate international water law.

Research results

The region's water systems are primarily fed by two major rivers, the Amu Darya and Syr Darya, which originate in the high mountains of Tajikistan and Kyrgyzstan. These rivers provide water for agricultural needs, drinking, and hydropower generation for millions of people in Central Asia. In the 1980s, the allocation of freshwater was executed by a series of policies that assigned the water supply of the rivers Amu Darya and the Syr Darya to the five Soviet Union Republics. The following was done within a system of centrally administered supervision from Moscow [7, p.4]. The administration of the area's drinking water supplies was historically seen as a primarily technical issue throughout the Soviet era, and its complicated political ramifications were rarely acknowledged. The hydrological facilities constructed at that time were traditionally designed with the only purpose of watering as

much land as feasible in the area. The upstream dams as well as reservoirs had been utilized to supply freshwater to

Turkmenistan, Uzbekistan, and Kazakhstan, which would later supply raw resources to the former USSR.



(map reproduced with permission of the Zoi Environment Network)

Source: [8]

This allocation, which is still in force nearly three decades later despite being uneven, has led to significant confrontations among the five Central Asian States. In terms of the usage of water resources and the distribution of flows, the greatest risk still exists between downstream and upstream countries [9, p.24; 10, p.227; 11]. Water is required by the upstream nations in the winter season for the production of energy, while the downstream nations require it in the summertime for the irrigation of agriculture. In reality, the upstream Governments release just a small amount of water from the reservoirs during the summer, insufficient to satisfy the downstream States' requirement for freshwater for cultivation. Although the downstream nations have relatively little demand for water throughout the winter, they frequently experience floods along with various unwanted occurrences as a result of the significant quantities of water that are released from reservoirs in the upstream nations, which depend on these waters to meet their high energy needs during this time of year. This position has already led to several hostilities that are still ongoing now and affect the delicate balance of power between the Central Asian nations.

For example, land and water resource issues between Kyrgyzstan and Tajikistan have generally existed since the 1920s, during the Soviet Union's rule. The earliest known conflicts between people from Kyrgyzstan and Tajikistan occurred in 1936, 1938, 1969, 1975, and 1989. During the irrigation season, border towns between Kyrgyz and Tajik people frequently block each other's roads or water sources, which increases the risk of for armed altercations within the communities. Water resources are used as a weapon to exert pressure on one another. Anytime disputes occur near the border territories where villages restrict each other's access to water canals, escalating tensions further. Thus, approximately 1000 local inhabitants, many of them young people, were involved in a fight that happened in 2014. The regular army units from both nations typically control these battles, and heavier weaponry may be utilized at any time [12].

Compared to other parts of the world, the conflicts involving the five nations of Central Asia are not brought on by a lack of or inaccessibility to the area's common water supplies. Instead, they center on how to maintain the equilibrium required for efficient utilization within the area of the downstream countries of Uzbekistan,

Kazakhstan, and Turkmenistan, and the upstream countries of Kyrgyzstan and Tajikistan. The problem that Central Asian countries face also represents a global one, namely increasing demand for water to meet multiple requirements, in this instance, for electricity, the agricultural sector, and food security. These sectors are interdependent and with the absence of efficient coordination between them compete for access to the water resource. The issue of worldwide warming exacerbates the rivalry that exists. The cross-border basins of this geographic area are, in these circumstances, extraordinarily complex structures where economic, social, environmental, and political factors interact and in great part determine security and stability within the Central Asian States [13, p.898].

Water conflicts in Central Asia have been a significant issue for decades, with the region's arid climate and limited water resources exacerbating tensions between neighboring countries. The main source of conflict is the distribution of water from the Amu Darya and Syr Darya rivers, which flow through several countries in the region. The lack of cooperation between these countries has resulted in disputes over water usage, leading to environmental degradation and economic losses. The countries have different priorities and demands for water resources, which has led to disputes over water allocation and dam construction. For example, Kyrgyzstan and Tajikistan rely heavily on hydropower for their energy needs, and they have constructed several dams on the rivers that flow into Uzbekistan and Kazakhstan. However, this has led to concerns from downstream countries about the impact on their water supply and agricultural production. Thus, Uzbekistan has accused Tajikistan of building dams on the Vakhsh River that will reduce water flow into Uzbekistan, while Kazakhstan has expressed concern over China's plans to divert water from the Irtysh River.

Water disputes can become explosive issues if not managed appropriately. This is evident in Central Asia where tensions continue brewing over various clashes related to water resources. For instance, Tajikistan's Rogun Dam construction elicited unease from neighboring countries Kazakhstan and Uzbekistan due to potential reduced water flow downstream. It caused

fears it could have long-lasting damage to the region which could have been avoided had there been proper dialogue facilities in place. Likewise, recent unrest between Kyrgyzstan and Tajikistan ignited following Tajikistan's decision to construct a reservoir system limiting access to Kyrgyzstan's irrigation networks. It resulted in violence at the border that left many dead or severely injured [14]. These disputes underscore the need for a collaborative water resource governance framework for the region to proactively address resource scarcity and avoid any future armed conflicts.

Discussion

International water law comprises legal principles, rules, and guidelines guiding practices related to freshwater resources that extend beyond national borders. Such waters are often shared by more than one country with the primary goal being their equitable utilization while ensuring long-term conservation for both ecological well-being and human needs. The founding principles of international water law center on fair allocation norms regarding shared freshwater resources use. Every country having access to such a resource has an entitlement to an equitable share without hurting others or causing ecological damage.

Legal provisions governing international water usage are numerous. These include treaties, conventions, and agreements alongside customary international law. A notable example is the Water Convention formed in 1992 which aimed at upgrading national efforts towards the protection and management of surface waters that cross borders such as groundwaters [15]. States such as Kazakhstan, Turkmenistan, and Uzbekistan among others have ratified this agreement. The principal objective underpinning this convention is minimizing pollution from transboundary sources whilst ensuring fair usage of shared waters [16, p.321]. Moreover, it provides a legal framework for collaboration between multiple countries toward achieving these goals. Given that the Water Convention has been identified as a potent tool in operationalizing sustainable development targets outlined under the 2030 Agenda it is significant in promoting water resource management practices [17].

Some accomplishments since its inception are unique to this convention: it provides an exclusive legal and institutional framework for cross-border cooperation on waters. Its three pillars which form the basis of effective ecological management practices have played an essential role in promoting sustainable water management systems. That is preventing, controlling, and reducing transboundary impacts, ensuring reasonable and equitable use of transboundary waters, and ensuring the protection and conservation of ecosystems.

Regardless of its successes, the Water Convention has also faced criticisms and limitations. One criticism is that the convention's scope goes beyond the concept of a 'watercourse' and includes transboundary surface waters and groundwaters, which may make it difficult to implement. Moreover, the convention has been criticized for not being legally binding, which limits its effectiveness in promoting transboundary water cooperation. However, the convention has been instrumental in raising political attention on water-related issues, as evidenced by the high-level special session on water and peace [18]. Thus, while the Water Convention has faced criticisms and limitations, it remains a crucial tool for promoting sustainable water management practices and transboundary water cooperation.

One of the most important treaties in this field is the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention), which was adopted in 1997. The UN Watercourses Convention provides a comprehensive framework for the management and protection of shared freshwater resources and has been ratified by more than 30 countries. It requires states to prevent, control, and reduce transboundary impacts, use transboundary waters reasonably and equitably, and ensure effective cooperation between riparian states. The Convention also contains provisions on the protection and preservation of watercourse ecosystems, pollution prevention, and control, and consultations concerning watercourse management [19].

Despite its many possible advantages, the UN Watercourses Convention has not garnered much support from UN member states and is often criticized [20, p.430].

Some critics argue that its rules are somewhat arbitrary and could benefit from increased clarity to better encourage compliance by member states [21, p.6]. Meanwhile, others point out that provisions regarding groundwater may be limited in scope and thus unable to fully address all related issues [22, p.434]. Finally, yet importantly, critics have claimed that due to a lack of strong legal safeguards regarding enforcement mechanisms under this convention, there is little incentive provided for member states' adherence [23]. However, despite these shortcomings, critics see potential in what it might achieve. Specifically, it could serve as an excellent tool for coordination among riparian countries and improving management practices across transboundary zones, particularly if regional agreements adopt its principles on good stewardship or if used in conjunction with other international frameworks like UNECE Water Convention to reinforce freshwater governance and preservation [24]. As a crucial step towards achieving responsible management of transboundary water resources, the UN Watercourses Convention demands greater commitment from its member states for the complete realization of its benefits.

Conclusion

The complex yet essential water systems found in Central Asia are crucial to support population livelihoods and regional economies. However, these systems face significant challenges stemming from climate change impacts and increasing populations coupled with flawed management practices. Shortage of freshwater has a direct impact on agricultural productivity within these countries. The scarcity of freshwater for cultivating crops and rearing animals leads to insufficient food access among locals who depend on domestic production alone. Consequently, countries within this region have to resort to importing their food from foreign nations. This in turn may result in high prices thus affecting vulnerable populations and undermining governments' policies regarding food insecurity.

Additionally, apart from threatening food security due to freshwater scarcity, there is also an outright environmental crisis resulting from ecological damage. The

drying up of the Aral Sea has significantly decreased fish stocks and wildlife habitats while contributing to increased frequency and severity of dust storms, among other problems associated with environmental degradation. The fisheries sector records the most significant impact caused by inadequate water resources management. The decline of fish populations and alterations of migration routes have adverse effects on the income of individuals who rely on fishing and fish farming in general.

Water resources management in the Central Asian regions is carried out at the state, provincial and district levels. However, regardless of the functioning institutions, most water conflicts have been left unsettled due to the lack of clear mechanisms for transboundary water resources management. Although, International water law exists and is presented by two conventions, it is criticized for being too vague. The absence of clarity and insufficient mechanisms in implementing the practices of international water law does not help in managing water conflicts over

transboundary watercourses. Although international society desperately needs to adhere to the principles of international water law to protect water resources and prevent water and food insecurity, not many countries are willing to sign existing water conventions. Yet international water law remains an important cornerstone for promoting sustainability while equitably managing natural freshwater sources shared globally. Positive results can be achieved by balancing environmental protection strategies with user rights preservation efforts. It follows then that to ensure both progress and prosperity for the region as a whole, Central Asian governments, with support from international organisations must prioritize implementing sustainable water management practices. Nevertheless, until all countries in Central Asia sharing transboundary watercourses sign and follow the regulations of the international water law, there still will be poor management of freshwater resulting in water and food scarcity.

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ОРТА АЗИЯНЫҢ СУ ЖӘНЕ АЗЫҚ ҚАУІПСІЗДІГІНДЕГІ ХАЛЫҚАРАЛЫҚ СУ ЗАҢЫНЫҢ РӨЛІ

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РОЛЬ МЕЖДУНАРОДНОГО ВОДНОГО ПРАВА В ВОДНОЙ И ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ ЦЕНТРАЛЬНОЙ АЗИИ

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