

**The Legal System of Exploiting International Water
Resources
(Case Study: Harirud River)
(Original Research)**

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Abstract

The Harirud River, characterized by its international significance, is a transboundary watercourse shared by Afghanistan, Iran, and Turkmenistan. Currently, there is no formal treaty governing the equitable distribution of its water resources among these States. Recent developments, particularly the construction of the Doosti Dam by Iran and Turkmenistan, have prompted Afghanistan—positioned as the upstream State—to adopt a hydro-hegemonic strategy. This involves the construction of various dams aimed at restraining and diverting the river's flow, thereby diminishing the water entitlements of downstream States. Given the critical importance of the Harirud water resources to Iran, Afghanistan's actions could exacerbate tensions and pose security risks among the involved states in the near future. Employing a descriptive-analytical methodology, this study examines the issue through the lens of international legal frameworks governing shared water resources. The findings suggest that the most effective and pragmatic approach to the utilization of Harirud's water resources lies in adhering to the principle of limited territorial sovereignty, alongside the implementation of the principle of equitable and reasonable utilization, ensuring minimal harm to downstream States.

Keywords

Harirud River basin, Principle of Equitable and Reasonable Utilization, Principle of No Significant Harm, International Water Law, Sharing of Water Resources, Environmental Impact Assessment, Hydro-Hegemonic Policy

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Introduction

In contemporary global contexts, the burgeoning population has escalated the demand for water resources necessary for agricultural, industrial, and urban consumption. This situation poses significant challenges for States worldwide. Countries such as Iran and Afghanistan, situated in the arid and semi-arid regions of West Asia, are projected to face substantial water shortages in the near future. The increasing imperative for the acquisition and management of water resources has prompted upstream States to utilize international rivers as instruments of political leverage over their neighbors.¹

Afghanistan and Iran share two significant international water bodies: the Hirmand and Harirud rivers. In both basins, Afghanistan is classified as the upstream State, thereby exerting greater control over the water resources of these rivers. The Harirud River, the second most crucial river in Afghanistan after the Hirmand, is integral to the Harirud basin in northwest Afghanistan. This basin is shared among Afghanistan, Turkmenistan, and Iran, with all three States utilizing its water resources for an extended period.²

However, the recent construction of the Doosti³ Dam—jointly developed by Iran and Turkmenistan—was undertaken without the prior knowledge or consultation of the Afghan government.⁴ In response, Afghanistan has announced plans to construct several dams on the Harirud River, particularly upstream of the Doosti Dam. These projects include the Salma,⁵ Balablook, Gafgan, Tirpol, and Pashdan dams. As of now, only the Salma Dam has been completed and operational, while the remaining four are in the preliminary design stages. Afghanistan aims to complete these dams over the next decade.⁶

Despite the political changes within Afghanistan, officials from the Islamic Emirate continue to express intentions to advance these dam construction projects. It is evident that the establishment of these dams will adversely affect the quality and quantity of water flowing into Iran, jeopardizing agricultural

1. Ali Mashhadi and Narges Akbari, "The obligations of the states of the Harirud Basin in the construction of water facilities." *International Legal Journal* 63 (2019): 311.

2. Ali Ghandehary, Seyed Mohammad Reza Alavi and Hamid Omranian, "Predicting the Necessity of Cooperation Between the Harirud Basin Countries Based on Game Theory: The Shapely Value Approach." *Journal of water and sustainable development* 3, 1 (2016): 116.

3. Doosti means 'friendship' in Persian

4. *Ibid.*, 310.

5. The Salma Dam, is the largest infrastructural project in the history of Afghanistan, which was built during the administration of Sardar Mohammad Dawood Khan (the first President of this State). This dam is located 170 km northeast of Herat and was built by the Indian State and began to work in June 2015 with the presence of the Indian Prime Minister (Narendra Modi) and President of Afghanistan (Ashraf Ghani).

6. Asghar Farzampoor and Mohsen Ebrahimi Khoosefi, "Investigating the effects of water regulation programs of neighboring countries in shared border basins on Iran." *Development and Foresight Research Center* (2017): 160.

and industrial activities and negatively impacting drinking water availability, particularly in northeastern Iran, including the major city of Mashhad. This situation may trigger depopulation in Northeastern Iran due to diminished water resources, leading to increased migration to urban centers and placing additional financial burdens on border security for Iran.

In 2016, Afghanistan officially inaugurated the Salma Dam on the upper reaches of the Harirud River, which is anticipated to reduce the river's water flow to Iran and Turkmenistan by approximately 73%. Prior to this, in 2004, Iran and Turkmenistan constructed the Doosti Dam. The independent and joint dam constructions within the Harirud Basin, executed without trilateral cooperation, heighten the risk of regional conflicts.⁷ Furthermore, Afghanistan's historical practices—evident in the context of the Hirmand River—demonstrate a lack of compliance with international legal conventions governing transboundary rivers, undermining Iran's legal standing to prevent or seek redress for potential losses.⁸

Although Afghanistan, Iran, and Turkmenistan have signed a Memorandum of Understanding regarding the utilization of shared water resources, the absence of legal guarantees for its implementation diminishes its efficacy in addressing Iran's concerns. Consequently, the ongoing dam constructions by the Taliban regime in Afghanistan, alongside its pursuit of hydro-hegemonic policies, raise significant legal and environmental tensions between Afghanistan and Iran. Thus, a thorough assessment of the legal framework governing the exploitation of the Harirud River is imperative from the perspective of international law. The authors of this article aim to elucidate the legal dimensions of this issue at both regional and international levels.

1. The Situation of the Harirud River from the Perspective of International Law

An examination of the various uses of the Harirud River's water resources in Afghanistan and Iran reveals a pressing and growing need for water in the regions affected by the Harirud basin. Given the arid and semi-arid geography of these areas, disputes over the River's resources among the riparian States appear inevitable,⁹ unless proactive legal and diplomatic measures are employed to prevent or resolve such conflicts peacefully. This section will explore the legal status of the Harirud River within the

7. Mohsen Nagheeb, Mahdi Piri, and Michael Faure, "The Legitimacy of Dam Development in International Watercourses: A Case Study of the Harirud River Basin." *Transnational Environmental Law* 8, 2 (2019): 248.

8. Mohammad Reza Shahbazbeigian and Masoud Mousavi Shafaei, "An analysis of the construction of the Salma Dam on the transboundary Harirud River in Afghanistan." *Strategic Research Center* 178 (2015): 2.

9. Pirouz Mojtahed Zadeh, "Boundary Politics and International Boundaries of Iran." Boca Raton, Florida, (Universal Publishers, 2006): 253, 260.

framework of international law.

The development of international law governing water resources dates back to the late 18th century, coinciding with the establishment of international organizations such as the International Law Association (ILA) and the Institute of International Law (IIL).¹⁰ This evolution continues through bilateral agreements and the efforts of specialized institutions, such as the International Law Commission (ILC). To ascertain the appropriate legal regime for the exploitation of the Harirud River, it is essential first to classify the river according to its unique characteristics.¹¹

The Harirud River originates in the northern mountains of Afghanistan, traverses Afghan territory, forms part of the border with Iran, and ultimately flows into the Qaraqom Desert in Turkmenistan. Various scholars of international law have offered differing definitions of what constitutes an international river.¹² Rousseau, for instance, defines an international river as any navigable watercourse that traverses the territories of multiple states or delineates their borders. According to Rousseau, international rivers possess three key characteristics: navigability, transnational flow, and the demarcation of state boundaries.

The Barcelona Convention,¹³ regarded as a foundational instrument in international water law, further incorporates the economic significance of such rivers into the existing criteria.¹⁴

In summary, from the perspective of international law, rivers can be categorized into two main types:

1. **Internal Rivers:** These rivers are entirely located within a single State from source to mouth, allowing that State to exert full control over their water resources. An example of this type is the Mississippi River located in the United States.
2. **International or Transboundary Rivers:** These rivers flow through the territories of multiple States, or serve as natural borders. This category is divided into successive rivers (like the Harirud, which runs between Afghanistan, Iran, and Turkmenistan) and boundary rivers (such as the Arvand River between Iran and Iraq).¹⁵

10. Hojjat Mian Abadi, "Political, Security and Legal Considerations in the Management of Border Rivers," *International Relations Research Quarterly* 1, 9 (2013): 220.

11. Nagheeby et. Al., *The Legitimacy of Dam...*, 252.

12. Nasser Farshad Gohar, "Legal System of International Rivers and Arvand River," *Bureau of Political and International Studies* (1988): 5.

13. Barcelona Convention and Statute on the Regime of Navigable Watercourses of International Concern (1921).

14. Nasser Farshad Gohar, *ibid* note 13, 6.

15. Mashhadi et. al., *The obligations of the states...*, 312.

Given this classification, the Harirud River is undoubtedly an international river, subject to the legal regime applicable to such waterways. As stated in the 1997 United Nations Convention on the Law of Non-Navigational Uses of International Watercourses, an "international watercourse" refers to a watercourse whose parts are situated in different States.¹⁶

2. Afghanistan's Step towards Hydro-Hegemonic Policy in the Region

Each State possesses a unique geopolitical weight, which can be assessed by evaluating its national power across various dimensions, including economic, social, political, territorial, military, cultural, scientific, and cross-border factors.¹⁷ Thus, the geopolitical weight of a State is the composite of these elements. A State with greater geopolitical weight can leverage this advantage in regional dynamics, often influencing outcomes in its favor. This weight is particularly significant in discussions and negotiations concerning water resource management among States.

The concept of hydro-hegemony,¹⁸ articulated by Mark Zeitoun, refers to the dominance of a state over shared water resources within a river basin. According to Zeitoun and Warner, water hegemony is achieved through strategies that control water resources, often employing tactics such as coercion, contractual agreements, and dam construction. These strategies enable more powerful states to secure a larger share of water resources, exploiting the vulnerabilities of international institutions. Consequently, infrastructure like dams serves not only economic and physical purposes but also acts as a political instrument capable of altering the dynamics of hydro-hegemony and the relationships among riparian States.¹⁹

At first glance, hydro-hegemony may suggest that upstream States inherently possess greater political leverage than downstream States. For instance, Turkey, as the upstream State of the Tigris and Euphrates rivers, exerts significant control over water availability for Syria and Iraq, effectively influencing regional political equations.²⁰ Conversely, Egypt, despite being a downstream State in the Nile Basin, has historically maintained its water needs through military and economic dominance, often

16. Convention on the Law of the Non-navigational Uses of International Watercourses Adopted by the General Assembly of the United Nations on May 21, 1997, Article 2(b).

17. Hadi Azami, "Geopolitical weight and regional power system - a case study: Southwest Asia", *Geopolitical Quarterly* 2, 3-4 (2019): 120-121.

18. Afshin Motaghi and Musa Sadeghi, *Political Geography of Waters with an Emphasis on Iran's Water Resources*, 2nd ed. (Tehran: Jihad Deneshgahi Publishing Organization, 2013) 22.

19. Ahmed Rashidinejad, Morad Kaviani Rad, and Afshin Motaghi Disfani, "The ratio of hydro-politic relations with the change of hydro hegemony structure- a case study of the Renaissance Dam in Ethiopia," *Geographical Studies Quarterly* 30, 117 (2015): 147.

20. Mark Zeitoun and Jay Warner, "Hydro-hegemony- a framework for analysis of trans-boundary water conflicts," *Water policy* 8 (2006): 436-437.

disregarding the rights of upstream countries such as Ethiopia and Sudan. Nearly 96% of Egypt's population resides in the Nile basin, making its survival directly contingent upon access to the Nile. Consequently, Egyptian authorities are acutely sensitive to upstream activities that threaten their water rights, demonstrating a hydro-hegemonic posture despite their geographic position.²¹

These examples illustrate that being an upstream State does not necessarily confer hydro-hegemonic power. Geographic advantages must be complemented by other forms of power—financial, economic, military, and diplomatic. For instance, in the case of Egypt and Israel, favorable geopolitical positioning and established agreements have allowed Egypt to secure a beneficial share of water resources despite being downstream.²²

Mark Zeitoun posits that the interactions among countries sharing a river basin can be understood as a "power play," where upstream States leverage water control to enhance their power, while downstream States seek to exert influence to secure their water rights.²³

In assessing the hydro-hegemonic dynamics between Afghanistan and Iran concerning the Harirud basin, it is essential to recognize the evolving political landscape since the fall of the Taliban in 2001. The development of transboundary water resources in Afghanistan has increasingly been tied to its reconstruction efforts. The construction of the Salma Dam in 2004 marked a turning point in Afghanistan's interactions with its neighbors, leading to heightened sensitivities regarding shared water resource management.²⁴

Over the past two decades, international entities, including the World Bank and USAID,²⁵ have sought to foster regional dialogue and cooperation in line with the 1997 United Nations Convention on the Law of Non-Navigational Uses of International Watercourses. However, political interactions during the Hamid Karzai²⁶ administration predominantly reflected Afghanistan's unilateral appropriation of water resources, with no formal

21. Rod Tawfik, "Reconsidering counterhegemonic dam projects: the case of the Grand Ethiopian Renaissance Dam," *Official Journal of World Water Council* (2016): 1033.

22. Rashidinejad, *The Ratio of Hydro-politic...*, 147.

23. Zeitoun, *Hydro-hegemony- a framework...*, 436; see also Jay Warner, "Mind the GAP - Working with Buzan: The Illisu Dam as a security Issue," *SOAS Water Issues Study Group* 67 (2007).

24. Nagheby, *The Legitimacy of Dam...*, 248.

25. The United States Agency for International Development (USAID), which is an independent agency of the U.S. federal state that is primarily responsible for administering civilian foreign aid and development assistance

26. Afghanistan's former president (2002-2014).

agreements for joint management with neighboring countries.²⁷

Currently, the Islamic Emirate of Afghanistan appears committed to unilaterally controlling Harirud's water resources, drawing from the precedent set by previous governments in dam construction. This stance is politically framed as a necessity for Afghanistan's development, thereby justifying full control over the river.

While Iran's reliance on foreign water sources is relatively low—approximately 7% of its total needs²⁸—limitations in eastern Iran's water supply have exacerbated tensions concerning Iran's water rights from the Hirmand and Harirud rivers. The "nexus approach,"²⁹ which advocates for mutually beneficial agreements such as water-for-food or energy exchanges, has yet to gain traction between Iranian and Afghan authorities. This lack of cooperation is particularly evident given that the Salma Dam offers little to no benefit to Iran in terms of shared environmental advantages, with existing infrastructure like the Doosti Dam already addressing flood control and sediment management. Despite not formally protesting the Salma Dam's construction, Iran has persistently sought clarification of its water rights through diplomatic channels. This suggests that Afghanistan's policy is focused on maximizing control over water resources, while Iran aims to mitigate Afghanistan's growing dominance over transboundary water resources.³⁰

Ultimately, the Islamic Emirate of Afghanistan's control over the Harirud and Hirmand rivers positions it as a potential hydro-hegemon in the region. This control occurs despite Iran's critical need for these water resources, especially for the economic and domestic needs of its Eastern regions, including the city of Mashhad. Additionally, Iran's military capabilities, political stability, and access to international waters may serve as leverage in negotiations for securing its water rights.

To counter Afghanistan's hydro-political influence, Iran could consider transforming its water consumption frameworks, particularly in Khorasan Razavi province, where approximately 90% of water is allocated to agriculture.³¹ Given the low economic productivity associated with current water usage, adopting more efficient practices and exploring inter-basin

27. Jay Warner and Van Thomas, "Hydro-politics in the Harirud/ Tejen River Basin: Afghanistan as hydro-hegemon?," *Water International* 40, 4 (2015) 593.

28. Ismail Mohammad Jani and Nazanin Yazdani, "Analysis of the water crisis situation in the state and its management requirements," *Trend Quarterly* 21, 65-66 (2013): 121.

29. NEXUS approach: Water, food and energy form a nexus at the heart of sustainable development. Agriculture is the largest consumer of the world's freshwater resources, and water is used to produce most forms of energy. Demand for all three is increasing rapidly. To withstand current and future pressures, states must ensure integrated and sustainable management of water, food and energy to balance the needs of people, nature and the economy; also see: <https://www.unwater.org/water-facts/water-food-and-energy>; <https://rc.majlis.ir/fa/report/show/1678168>, last accessed October 30, 2024.

30. Warner and Thomas, *Hydro-politics in the...*, 601.

31. Shahbazbeigian and Mousavi Shafaei, *An analysis of the construction...*, 7.

water transfers could enhance Iran's water security and reduce reliance on the Harirud River and Doosti Dam.

In conclusion, while neither state currently occupies a definitive hydro-hegemonic position, the absence of compliance with existing conditions and the lack of a fair, cooperative agreement among the riparian states may soon enable Afghanistan to assert itself as a hydro-hegemon in the region.

3. The Position of Turkmenistan Regarding the Division of Harirud Water Resources

The arid and semi-arid geography of Turkmenistan presents significant limitations in freshwater availability, with few rivers, primarily located in border areas. The lack of high mountains, natural glaciers, and adequate rainfall contributes to the shallow and limited water resources of these rivers. The Amu Darya River, originating from the mountains of Tajikistan and Afghanistan, serves as the primary source for meeting Turkmenistan's water needs. However, the Harirud River also holds considerable importance for Turkmenistan, particularly following the construction of the Doosti Dam in cooperation with Iran, executed without Afghan involvement.

Under the terms of a 1999 Agreement between Iran and Turkmenistan,³² the Doosti Dam, with a reservoir capacity of 1,250 million cubic meters, was completed in 2004. This agreement stipulates an equal division of water resources stored in the dam's reservoir between the two countries.³³

A substantial portion of Turkmenistan's water resources is allocated to irrigation, including those from the Harirud River. Both Turkmenistan and Iran are entitled to 50% water rights from the Doosti Dam. Despite the relatively small population of approximately 168,000 residing within the Harirud basin in Turkmenistan,³⁴ Iran's larger population of around 4 million in Mashhad necessitates significant water allocation for agricultural, industrial, and drinking purposes.

32. Negotiations between Iran and the Soviet Union regarding the joint construction of a dam downstream of the Harirud River, based on the 1926 agreement, were resumed in 1992 between Iran and the newly established Republic of Turkmenistan, established after the collapse of the Soviet Union. Iran and Turkmenistan reached an agreement in 1999 to divide the water resources of the Doosti dam equally. The two countries officially started the construction of the Doosti dam in 2000, and the dam was opened in 2004 by the authorities of the two countries.

33. UNECE, *Water allocation in transboundary basins: a global workshop on the status and good practices* Geneva-Switzerland, (16-17 October of 2017), Islamic Republic of Iran Ministry of Energy Joint Investment with Water Allocation: The Doosti Dam on the Tejen/ Harirud River IR of Iran-Turkmenistan, p: 5; See also the text of the official agreement between the two countries, which has also been approved by the Islamic Republic of Iran: Agreement on the Construction and Operation of the Doosti Dam, 20 Oct. 1999, between the State of the Islamic Republic of Iran and the State of Turkmenistan Republics, Art. 9, available at: <http://rc.majlis.ir/fa/law/show/93319>., last accessed October 30, 2024.

34. Mike King and Benny. Sturtewagen, *Making the Most of Afghanistan's River Basins: Opportunities for Regional Co-operation*, " (East-West Institute, 2010) 6.

Furthermore, the Harirud basin is ecologically significant for Turkmenistan. The area between the Tejn River and the Morghab River, known as Badghis, is recognized for its unique ecosystem, featuring a variety of plant and animal species, some of which are listed by the International Union for Conservation of Nature. This region, including the Tejn Valley, has been designated as critical for bird life by Bird Life International,³⁵ underscoring its ecological value and dependence on Harirud water.³⁶

Given these factors, it appears that the Iranian negotiators failed to adequately account for the drinking water needs of communities affected by the Harirud River when the cooperation agreement for the Doosti Dam was signed. Should Afghanistan proceed with policies that limit the water rights of downstream countries, ecological harm could ensue, particularly in the natural habitats dependent on Harirud water.

In light of the equal water rights established between Iran and Turkmenistan, the differing population sizes should also be considered. Iran's priority in utilizing Harirud water focuses on supplying drinking water to densely populated areas, while Turkmenistan, with a smaller population, primarily utilizes its allocation for agricultural purposes. Consequently, Iran may face more severe challenges in securing sufficient water resources, potentially necessitating greater concessions to Afghanistan to safeguard its rights. Unlike Turkmenistan, which might adapt to reduced agricultural output, Iran could confront dire consequences, including the need for population relocations or substantial financial investments to secure drinking water in its Eastern regions.

4. The Legal System for Exploitation of Harirud Water Resources between Afghanistan and Iran

In this section, we will examine the appropriate legal regime for the exploitation of Harirud's waters between the beneficiary States. To achieve this goal, we will first analyze various legal theories related to water resource exploitation, determining the most suitable doctrine for implementation in this basin. Then, we will review relevant legal instruments to emphasize the formation of a fair international treaty and introduce mechanisms proposed by international law for resolving future disputes among the involved countries.

4.1. Legal Theories and Doctrines Regarding the Use of Common Fresh Waters

The significance of sharing common water resources has prompted jurists

³⁵ Bird Life Institute (Bird Life International) is a global partnership of non-state organizations that was founded in 1992 in Cambridge, England, and works to protect birds and their habitats.

³⁶ Nagheby, *The Legitimacy of Dam...*, 254-255.

worldwide to develop legal theories aimed at protecting national interests and ensuring equitable access to these resources. Consequently, the relations among beneficiary countries have become more structured.³⁷ Generally, four distinct doctrines govern the division of common water resources, and pertinent treaties and international legal documents have emerged from these theories. As follows, each will be examined concerning the Harirud watercourse.

4.1.1. The Theory of Absolute Territorial Sovereignty³⁸

This doctrine posits that States possess absolute territorial sovereignty over water resources within their geographical borders. Under this theory, States can utilize all river resources, disregarding the interests of downstream countries. The conduct of Afghanistan in recent years—particularly its efforts to maximize control over Harirud's resources—aligns closely with this doctrine. However, most international jurists deem this theory invalid, as it conflicts with principles of justice, equity, and social benefit, rendering it unsuitable for contemporary global conditions.

4.1.2. The Theory of Absolute Territorial Integrity

In contrast to the previous theory, this doctrine favors downstream countries by prohibiting upstream States from major alterations to the river's course, such as blocking or diverting it. Consent from downstream countries is deemed necessary for any significant changes. Nevertheless, this theory is also deemed unjust, as it places undue restrictions on the developmental activities of upstream states along shared rivers, making continuous development impractical.

4.1.3. Theory of Limited Territorial Sovereignty

This doctrine imposes restrictions on the sovereignty of countries sharing a common basin, allowing resource usage only if it does not inflict harm on downstream States. It emphasizes equitable and reasonable utilization, alongside the principle of not causing harm to others.³⁹ This principle has become foundational in international law concerning the division of shared water resources and underpins many contemporary treaties.

³⁷. Motaghi and Sadeghi, *Political Geography of...*, 70.

³⁸. This theory was first used by Johnston Harmon, the Attorney General of the United States of America in 1895 to resolve disputes over the use of the Rio Grande River waters between Mexico and the United States of America, and it is also known as "Harmon's doctrine".

³⁹. Mian Abadi, *Political, Security and Legal...*, 230.

4.1.4. Doctrine of Community of Interest

This legal theory views the entire basin as an integrated economic unit, advocating for equitable sharing of international river resources among all beneficiaries. It necessitates collective sovereignty, requiring all countries in the basin to form a joint organization for resource exploitation.⁴⁰ However, applying this doctrine to Harirud's resources—given the unequal population distribution and differing water needs—would be illogical. Instead, applying the principle of equitable and reasonable utilization could yield a fairer distribution, minimizing losses during periods of drought.

4.2. International Customary Rules on Exploitation of Common Water Resources

This section evaluates three pivotal international customary rules pertinent to the exploitation of international river resources, applicable to the Harirud River.

4.2.1. The Principle of Equitable and Reasonable Utilization

Today, the theory of limited territorial sovereignty is widely accepted in the international community. It allows States surrounding an international watercourse to use common waters as long as such usage aligns with the rights of other States and does not harm their interests. Each State is entitled to a reasonable and equitable share of water resources for practical uses within its territory.

This principle does not mandate equal shares for all States; rather, it assesses fairness and reasonableness based on various criteria, including geographical factors, hydrological status, population dependency, economic needs, existing uses, and ecological considerations. Its application seeks to balance resource exploitation among basin states.⁴¹ The principle is supported by international documents, notably Article 5 of the 1997 UN Convention on the Non-Navigational Uses of International Watercourses, which states that "States on watercourses must use an international watercourse in their respective territories in an equitable and reasonable manner."⁴²

The International Law Commission emphasizes that no State can unilaterally determine its share of water or the quality of water it can use without considering the rights and interests of others. Ultimately, the principle relies on good faith and cooperation among relevant States,

40. Zahra Pishgahifard, *An introduction to the political geography of the seas with an emphasis on the waters of Iran*, (Tehran: Tehran University Press, 2004) 40.

41. UN Watercourses Convention..., Arts. 5, 6; International Law Association (ILA); The Helsinki Rules on the Uses of the Waters of International Rivers, (Helsinki Rules), 1966, Arts. IV, V.

42. *Ibid.*, Art. 5(1).

ensuring fair exploitation and resource distribution.⁴³

Stephen McCaffrey, a key rapporteur for the International Law Commission, highlights that the right to beneficial use of water is common among all coastal States, and each State must exercise this right without impairing the equal beneficial use by others. Conventional use entails utilizing water efficiently and sustainably while respecting the rights of all stakeholders.⁴⁴

4.2.2. The Obligation Not to Cause Significant Harm

The principle of prohibiting significant harm is a cornerstone of international law concerning transboundary waters. This principle, akin to the principle of equitable and reasonable utilization, emerges from the doctrine of limited territorial sovereignty and is grounded in the concept of equal sovereignty. Article 7 of the UN Convention mandates that States sharing a watercourse must take all necessary measures to prevent significant harm to others in the basin.⁴⁵ This provision requires States to exercise due diligence, which entails acting in a manner that ensures their activities do not adversely affect the environment of neighboring countries.⁴⁶ Potential harm may encompass damage to human health and safety, the beneficial use of water, or detrimental impacts on living organisms within the transboundary water system. Several factors must be considered to avoid causing harm. Firstly, the severity of the harm must be accurately assessed. Secondly, States are obligated to implement reasonable measures to prevent significant harm, taking into account their specific circumstances and capacities.⁴⁷

The first paragraph of Article 7 articulates that countries must take appropriate measures to prevent harm to others in the watercourse basin. If significant damage occurs to one of the States, the responsible State must consult with the affected country to ensure equitable and reasonable utilization and to mitigate the harm caused. Since rectifying already commenced activities can be challenging, compensation may be required when feasible.

43. Margaret J. Vick, "The law of international waters: Reasonable utilization." *Chi.-Kent J. Int'l & Comp. L.* 12 (2012): 141.

44. Stephan McCaffrey, "International Water Law in the Anthropocene," *Environmental Policy and Law* 48, 3-4 (2018): 156.

45. UN Watercourses Convention..., Art. 7.

46. Maria Flemme, *Due Diligence in International Law*, Master Thesis, Faculty of Law, University of Lund, (2004) 1.

47. Ted Bruha and Collin Maaß, "Schutz der Süßwasserressourcen im Völkerrecht-Prinzipien, Instrumente, neuere Entwicklungen," *Integrierte Gewässerpolitik in Europa, Baden-Baden*, (2001) 69.

The prohibition of significant harm is a fundamental tenet in international law aimed at preventing one State from causing damage to another.⁴⁸ This principle was notably established in the Trail Smelter Arbitration,⁴⁹ and has since been incorporated into various environmental conventions, including the Stockholm and Rio Declarations.⁵⁰ This obligation compels States to avert catastrophic disasters⁵¹ and to evaluate the environmental consequences of their actions.⁵² Adhering to fair and conventional use of shared resources is critical for preventing significant damage to other countries.⁵³

Professor McCaffrey emphasized the importance of conventional use regarding shared water resources, underscoring that each property owner must exercise their rights without infringing others.⁵⁴ Judicial decisions, including those from the International Court of Justice, have reinforced the commitment to fair and conventional use, ensuring equitable rights among States with interests in shared watercourses.⁵⁵ The Court has ruled against upstream States that disproportionately divert water, highlighting the necessity for fair and customary sharing of natural resources.⁵⁶ The construction of dams or diversion structures that alter historical river courses can be deemed unconventional use, as evidenced by recent developments involving Afghanistan's activities in the Hirmand River and its tributaries.

4.2.3. Principle of Transboundary Environmental Impact Assessment

The principle of transboundary environmental impact assessment is an obligation within international environmental law aimed at preventing pollution and protecting the environment. This principle mandates assessing the potential effects of proposed activities or projects on the environments of neighboring states. It was initially articulated by the International Court of Justice in the Pulp Mills and San Juan River cases and subsequently

48. Mohammad Hossein Ramezani Qawamabadi, "Looking at the principle of non-harmful (sustainable) use of land in international environmental law," *Environmental Sciences* 4, 4 (2016): 58-62.

49. Trail Smelter Case (United States, Canada), Reports of International Arbitral Awards, Vol III, (1938 & 1941) 1965.

50. Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), 1972, Principle 21; Rio Declaration, 1992, Principle 2.

51. Convention on the Law of the Non-Navigational Uses of International Watercourses, Art. 7; Allstair S. Rieu-Clarke, "A Survey of International Law Relating to Flood Management: Existing Practices and Future Prospects," *Natural Resources Journal* 3 (2008): 658.

52. Certain Activities Carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua) and Construction of the Road along the San Juan River (Nicaragua v. Costa Rica), Judgement, I.C.J Reports. (2015), paras. 155-156.

53. Margaret J. Vick, "The Law of International Waters: Reasonable Utilization," *Chicago-Kent Journal of International and Comparative Law* 12 (2012): 144.

54. Kansas v. Colorado, 206 U.S. 46, 1907, p. 104, Cited in: Stephen McCaffrey, *The Law of International Watercourses: Non-Navigational Uses*, (Oxford University Press, 2001) 389.

55. Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder, (UK/Pol), Judgement, P.C.I.J. Reports, Ser. A, No. 23, (1929): 27.

56. GabCikovo- Nagymaros Project (Hungary v. Slovakia), Judgment, I.C.J. Reports 1997, para. 85.

recognized as a customary rule of international law by the International Tribunal for the Law of the Sea (ITLOS).⁵⁷

In the Pulp Mills case,⁵⁸ the Court noted that parties must comply with their obligations under Article 41(a) of the 1975 Statute by conducting an "environmental impact assessment" to protect and preserve the aquatic environment from activities that may cause transboundary harm. This obligation has gained widespread acceptance among States, making it a requirement under general international law, particularly when a proposed industrial activity poses a significant risk of adverse transboundary impact on shared resources.⁵⁹

In the San Juan River case,⁶⁰ the Court reiterated the necessity of due diligence, asserting that States must not permit their territories to be used for actions that infringe upon the rights of other States.⁶¹

The Court concluded that conducting an environmental impact assessment is now a general international law requirement when there is a risk of significant adverse impacts in a transboundary context.⁶²

This process involves identifying, predicting, evaluating, and mitigating the environmental and social consequences of development plans before major decisions are made. Governments are expected to provide verifiable documentation and a comprehensive action plan that accurately reflects the project analysis and its potential environmental impacts, alongside

57. Asma Salari, "Transboundary Environmental Impact Assessment in International Environmental Law," *Public Law Studies Quarterly* 50, 4 (2020): 1332.

58. On May 4, 2006, the Argentine Republic filed in the Registry of the Court an Application instituting proceedings against the Eastern Republic of Uruguay in respect of a dispute concerning the breach, allegedly committed by Uruguay, of obligations under the Statute of the River Uruguay (United Nations, Treaty Series (UNTS), Vol. 1295, No. I-21425, p. 340), a treaty signed by Argentina and Uruguay at Salto (Uruguay) on 26 February 1975 and having entered into force on 18 September 1976 (hereinafter the "1975 Statute"); in the Application, Argentina stated that this breach arose out of "the authorization, construction and future commissioning of two pulp mills on the River Uruguay", with reference in particular to "the effects of such activities on the quality of the waters of the River Uruguay and on the areas affected by the river".

59. ICJ Reports, case Concerning Pulp Mills on the River Uruguay (ARGENTINA v. URUGUAY), Judgment of April 20, 2010, paras. 203-219.

60. On November 18, 2010, the Republic of Costa Rica filed an application instituting proceedings against the Republic of Nicaragua in respect of an alleged incursion into, occupation of and use by Nicaragua's Army of Costa Rican territory as well as alleged breaches of Nicaragua's obligations towards Costa Rica, namely the principle of territorial integrity and the prohibition of the threat or use of force. In its application, Costa Rica contended that Nicaragua had, in two separate incidents, occupied the territory of Costa Rica in connection with the construction of a canal from the San Juan River to Laguna los Portillos (also known as "Harbour Head Lagoon"), and carried out certain related works of dredging on the San Juan River. According to Costa Rica, the dredging and the construction of that canal would seriously affect the flow of water to the Colorado River of Costa Rica, and would cause further damage to Costa Rican territory, including the wetlands and national wildlife protected areas located in the region.

61. ICJ Reports, the Corfu Channel (United Kingdom of Great Britain and Northern Ireland v. Albania), Judgment of 9 April 1949, p. 22; ICJ Reports, Pulp Mills on the River Uruguay (2010), para. 101

62. *Ibid.*, para. 204; ICJ Reports, Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (NICARAGUA v. COSTA RICA), Judgment of December 16, 2015, para 104.

reasonable alternatives.⁶³

Therefore, it is imperative that, prior to constructing successive dams on the Harirud's main branches, Afghanistan should address potential issues such as water depletion in the Doosti Dam—supplying drinking water to over four million people—and the possible ecological damage to protected areas like Badghis. Unfortunately, there has been a noticeable lack of such due diligence from both previous and current administrations in Afghanistan.

Conclusion

This article highlights the escalating conflict over water resources in arid and semi-arid regions, particularly among countries sharing the Harirud river basin. The increasing demand for water for industrial, agricultural, and domestic purposes in Iran and Afghanistan has intensified, especially as Turkmenistan relies heavily on the Amu Darya River for its water needs. Despite treaties stipulating equal water rights from the Doosti Dam between Iran and Turkmenistan, the significant population and differing needs of these countries raise concerns about future conflicts if Afghanistan fails to uphold Iran's water rights.

Afghanistan's approach to controlling and utilizing Harirud waters has been unilaterally focused since the construction of the Doosti Dam, both under previous administrations and the current Taliban regime. This one-sided strategy, which includes the construction of dams and alterations to the river's historical path, reflects an adherence to the doctrine of absolute territorial sovereignty. This theory, however, is largely discredited among international legal experts because it disregards the interests of downstream countries and promotes a skewed perspective on shared water resources.

Afghanistan appears to be pursuing hydro-hegemonic ambitions in the West Asian region, aiming to shift regional political dynamics to its advantage, particularly through potential exchanges of water for energy or food—an arrangement sought by Iran, which needs cooperation on its eastern watercourses (Hirmand and Harirud).

Given that the Harirud River traverses three countries and serves as a border in certain areas, it qualifies as an international waterway. International law mandates that upstream States like Afghanistan respect the water rights of downstream States. The doctrine of limited territorial sovereignty emerges as the most suitable framework for equitably dividing the River's water resources, as it allows for fair utilization while considering the needs of all riparian States. To that end, it is essential to reference international customary rules regarding shared water resources and relevant environmental protection legal texts, such as the Helsinki and Berlin Rules on Water Resources and the UN Convention on Non-Navigational Uses of

63. Tallyrand Yang, "The Emergence of the Environmental Impact Assessment Duty as a Global Legal Norm and General Principle of Law," *Hastings Law Journal* 70 (2019): 529, 1333.

International Watercourses. Establishing a fair quota for each country based on their actual needs and priorities is crucial.

In summary, several key factors must be prioritized: the necessity of providing potable water to populations in northeastern Iran, historical usage patterns, the potential for irreversible environmental damage to protected areas reliant on Harirud's waters, and the principle of sustainability in the utilization of shared water resources. The Afghan government should aim to avoid unnecessary alterations to the historical course of the Harirud, thereby preventing waste of its water resources. By securing the water rights of downstream countries through equitable and reasonable utilization, Afghanistan can mitigate future conflicts, ultimately contributing to regional stability and security.

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