

Amending the Indus Water Treaty

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Abstract

The Indus Water Treaty 1960 ('IWT') has been a hallmark for transboundary water management and peaceful settlement of transboundary water disputes since its inception. However, recent demands on behalf of India for renegotiation of the IWT bring forth the question of whether there is a need to amend the IWT. It has been indicated that the Indus basin is situated in the area worst affected by climate change. As such, it would be beneficial to both parties to ratify an amendment that establishes a flexible allocation mechanism that reallocates water to accommodate the depreciating downstream flow, ensuring a fair distribution of water to Pakistan. Variability management should also be applied in the creation of new amendments, acknowledging that due to uncontrollable circumstances brought on by climate change, water availability may fluctuate. Other renegotiation reasons fall into distribution and development plans involving the Indus Basin. In this regard, amendments may include regulating the utilisation of the river waters; global climate change; utilisation of groundwater; joint basin development; enhancing the role of the 'Permanent Indus Commission'; incorporation of international law developments post-1960 etc. Accordingly, this paper has inquired into the primary and secondary sources of research, including treaties, international conventions, judgments of international courts and tribunals, books, research articles etc.

Keywords: International Law, Indus Water Territory, Indus River Basin, Environmental Law, Climate Change

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Introduction

India and Pakistan signed the Indus Water Treaty ('IWT') on September 19, 1960, with a desire to attain the "*most complete and satisfactory utilisation of the waters of the Indus system of rivers*" (IWT, 1960, Preamble). It also recognised the need of "*fixing and delimiting, in a spirit of goodwill and friendship, the rights and obligations of each in relation to the other concerning the use of these waters*" (IWT, 1960, Preamble). Moreover, it sought to make provisions for peaceful settlement of disputes between India and Pakistan pertaining to the Indus Basin (IWT, 1960, Preamble).

The IWT has been a hallmark for transboundary water management and peaceful settlement of transboundary water disputes since its inception. However, recent demands on behalf of India for renegotiation and amendment of the IWT bring forth the question of whether there is a need to amend the IWT. Considering this, this paper will dwell upon the questions: whether there is a need to amend the IWT?; and what would be the nature of such amendments?

In this regard, the first section will elaborate upon the historical context of the IWT; key provisions of the Treaty; and the need for amendments. The next section will propose amendments to the IWT, such as: regulating the utilisation of rivers; global climate change; joint basin development; enhanced cooperation between the IWT state parties; utilisation of the groundwater; enhancing the role of the 'Permanent Indus Commission'; incorporating the post-1960 international law developments etc.

Background

Historical Context of the Indus Water Treaty

The IWT is a landmark international agreement ratified between India and Pakistan governing the sharing of water from the Indus River and its tributaries. It was signed on 19 September 1960 and its historical context is rooted at the conclusion of the British colonial administration and the partitioning of India in August 1947 into two independent nations: India and Pakistan (Rossi, 2020). Consequently, an international boundary was drawn between India and Pakistan through the province of Punjab, decapitating the headworks in

upstream India, and the dependent canals in downstream Pakistan (Bhatnagar, 2009). This division had its implications on the agricultural life and economic survival of the nascent states (Bhatnagar, 2009).

From 1947 to 1960, both nations attempted to manage their disagreements through several provisional agreements (Bhatnagar, 2009). However, despite bilateral negotiations, a resolution to the conflict proved elusive, necessitating the involvement of international mediation. Facilitated by the World Bank, it was brought into effect in 1960, after nearly a decade of talks, India and Pakistan successfully concluded the Treaty (Maqbool, 2017).

As indicated above, the Indus River and its branches flow through both India and Pakistan. The partition led to division of Indus River's basin among the then two newly formed States. Under the agreement, management of eastern rivers' waters (Ravi, Bias and Sutlej) in the Indus Basin was assigned to India (IWT, 1960, Arts II, III; Haq & Sofi, 2019). Moreover, unrestricted access to the western rivers (Indus, Jhelum and Chenab) was apportioned to Pakistan (IWT, 1960, Arts II, III; Haq & Sofi, 2019).

Water from these rivers is critical for irrigation, agriculture, and overall economic development in both nations. However, the distribution of water resources became a contentious issue, as it was intertwined with political tensions and territorial disputes arising from the partition. (Qureshi, 2017) As the newly established countries began to develop their economies and expand their agricultural sectors, access to water resources became increasingly vital. The Indus River basin provided water for a significant portion of the population in both India and Pakistan, and any disputes over water allocation had the potential to escalate into conflicts that could further strain their already fragile relationship (Qureshi, 2017).

The IWT is considered as one of the few successful agreements between India and Pakistan, as it has largely endured despite the broader conflicts and tensions between the two countries. While there have been occasional disputes and disagreements over the Treaty's implementation, the framework it established is crucial to preventing water-related conflicts in the region (Qureshi, 2017).

Key Treaty Provisions

As mentioned above, the western rivers, the Chenab, Indus, and Jhelum were allocated to Pakistan, whereas the eastern rivers,

the Beas, Ravi, and Sutlej went to India (IWT, 1960, Articles II & III). Nevertheless, they were afforded the conditional right to use the other State-party's allotted rivers, including 'domestic use', 'non-consumptive use', 'agricultural use' etc as set out in the Treaty (IWT, 1960, Articles II & III). Articles II (1)(2)(3) & III (1)(2)(3) are produced as follows for ready reference:

“Article II

PROVISIONS REGARDING EASTERN RIVERS

(1) All the waters of the Eastern Rivers shall be available for the unrestricted use of India, except as otherwise expressly provided in this Article.

(2) Except for Domestic Use and Non-Consumptive Use, Pakistan shall be under an obligation to let flow, and shall not permit any interference with, the waters of the Sutlej Main and the Ravi Main in the reaches where these rivers flow in Pakistan and have not yet finally crossed into Pakistan. The points of the final crossing are the following:

(a) near the new Hasta Bund upstream of Suleimanke in the case of the Sutlej Main, and

(b) about one and a half miles upstream of the syphon for the B-RB-D Link in the case of the Ravi Main.

(3) Except for Domestic Use, Non-Consumptive Use and Agricultural (as specified in Annexure B), 1 Pakistan shall be under an obligation to let flow, and shall not permit any interference with, the waters (while flowing in Pakistan) of any Tributary which in its natural course joins the Sutlej Main or the Ravi Main before these rivers have finally crossed into Pakistan.”

“Article III

PROVISIONS REGARDING WESTERN RIVERS

(1) Pakistan shall receive for unrestricted use all those waters of the Western Rivers which India is under obligation to let flow under the provisions of Paragraph (2).

(2) India shall be under an obligation to let flow all the waters of the Western Rivers, and shall not permit any interference with these waters, except for the following uses, restricted (except as provided in item (c) (ii) of

Paragraph 5 of Annexure C) 1 in the case of each of the rivers, The Indus, The Jhelum and The Chenab, to the drainage basin thereof:

- (a) Domestic Use;
- (b) Non-Consumptive Use;
- (c) Agricultural Use, as set out in Annexure C; and
- (d) Generation of hydro-electric power, as set out in Annexure D.

2 (3) Pakistan shall have the unrestricted use of all waters originating from sources other than the Eastern Rivers which are delivered by Pakistan into The Ravi or The Sutlej, and India shall not make use of these waters. Each Party agrees to establish such discharge observation stations and make such observations as may be considered necessary by the Commission for the determination of the component of water available for the use of Pakistan on account of the aforesaid deliveries by Pakistan.”

The said provisions were stipulated to regulate the use of rivers principally allotted to each State by the other party. However, neither party is allowed to disturb the river’s natural flow (IWT, 1960, Arts. II, III, IV). In this regard, the upper riparian state of India has the right to set up water-storage dams, utilise the water for agricultural purposes or the production of hydroelectric power as long as these actions do not disrupt the flow of the western rivers (IWT, 1960, Article IV; Qureshi, 2017). Any such disruption would result in a violation of Article IV of the IWT. As such, Article IV (2) is relevant in this regard:

“Article IV

PROVISIONS REGARDING EASTERN AND WESTERN RIVERS

(2) Each Party agrees that any Non-Consumptive Use made by it shall be so made as not to materially change, on account of such use, the flow in any channel to the prejudice of the uses on that channel by the other Party under the provisions of this Treaty. In executing any scheme of flood protection or flood control each Party will avoid, as far as practicable, any material damage to the other Party, and any such scheme carried out by India on the Western Rivers shall not involve any use of water or any storage in addition to that provided under Article III.”

Furthermore, the IWT makes provision for a dispute resolution mechanism under Article IX. The Article stipulates a three-step process to resolve disagreements and disputes vis-à-vis the Treaty. First, any ‘question’ arising between Parties on the interpretation and Application of the Treaty, as well as, the existence of any fact which may constitute a breach of the Treaty, must be brought under the attention of the Permanent Indus Commission (‘PIC’). The PIC would endeavour to settle the issue by ‘agreement’ (IWT, 1960, Article IX (1)). Second, if the PIC fails to reach an agreement, the matter will be a ‘difference’ which will either be dealt with by a ‘Neutral Expert’ or if a “*dispute will be deemed to have arisen which shall be settled in accordance with the provisions of Paragraph (3), (4) and (5)*” (IWT, 1960, Article IX (2)). Third, in case of a dispute, the PIC shall ‘report’ to the two Governments stating in which points the PIC is in agreement and the “*issues in dispute*” (IWT, Article IX (3)). Either Government may also invite each other to resolve the disputed issues via ‘negotiation’ and ‘mediation’ (IWT, 1960, Article IX (4)). Additionally, if negotiation and mediation fail, “*a court of Arbitration shall be established to resolve the dispute...*” either “*upon agreement between the Parties to do so*” or “*at the request of either Party...*” (IWT, 1960, Article IX (5)).

Need for Renegotiation and Amendment of the Treaty

The IWT was concluded at a time when ‘climate change’ had little significance compared to utilisation of the Indus Water in the region. Consequently, developments regarding climate change are not reflected in the Treaty (Shah, 2018) However, issues such as water scarcity, droughts, floods and decreasing agricultural productivity, have become common occurrences, making it crucial to refine water management mechanisms within the IWT (Shah, 2018).

Moreover, for the last several decades India and Pakistan have clashed several times on matters of national interest, leading to tense relations between the two countries (Lad, 2023). Considering the Indus Basin is a fundamental natural resource for both States, the Treaty must reconceptualise a more efficient dispute resolution mechanism that would strengthen cooperation and make it less

likely for political and economic frustrations to get in the way of the use and development of water resources in the region (Lad, 2023).

As such, it would benefit both parties to ratify an amendment that establishes a flexible allocation mechanism considering issues such as groundwater, industrial use, and general water distribution within the region. Variability management should also be a factor in developing new amendments, acknowledging that due to uncontrollable circumstances brought on by climate change, water availability may fluctuate. All in order to prevent disproportionate division of water, defining particular circumstances in which water allocation may have to be altered, implementing stricter irrigation procedures, and specific reservoir releases, among other initiatives (Steffano, 2012).

Other reasons to renegotiate may fall into distribution and development plans involving the Indus Basin. The Treaty stands out among international agreements on water sharing due to its allocation being determined by the locations of tributaries, as mentioned above (IWT, 1960, Articles II & III). However, there is a need for amendments that establish an operational guideline on water distribution and resource management, facilitating collaboration between India and Pakistan (Nax, 2016).

Proposed Amendments

In view of the above, the following amendments are proposed for the purpose of renegotiation of the IWT, which may involve regulating the utilisation of rivers; global climate change; joint basin development; enhanced cooperation between the IWT state parties; utilisation of the groundwater; enhancing the role of the 'Permanent Indus Commission'; incorporating the post-1960 international law developments etc.

Utilisation of Rivers

As per Article III (2), India is under an obligation to let flow all the waters of the western rivers, and not permit any interference with these waters, except for the following use in the case of each of the rivers: domestic use; non-consumptive use; agricultural use (Annexure C of IWT); and generation of hydroelectric power (Annexure A of IWT). Similarly, 'Domestic Use and Non-

Consumptive Use' exceptions also apply to Pakistan in relation to the Eastern rivers (IWT, 1960, Article II (2) (3)).

Industrial Use. The term 'domestic use' is defined to include 'industrial purposes (including mining, milling and other like purposes)' (IWT, 1960, Article I (10) (c) & Article II (2) (3)). It has been argued that unhindered industrial use might have been appropriate in the 1960s, however, the emergence of large-scale "consumptive industries" changed the situation upon which the 'industrial purposes' were predicated (Concannon, 1989). For instance, India has unrestricted access to the river Chenab before it enters Pakistan. In situations where large-scale mining is conducted, Pakistan may not receive enough flow to sustain its agriculture (Concannon, 1989).

Moreover, Article IV (12)(a) stipulates that the use of water for 'industrial purposes' under Article II and III shall not exceed the quantity customarily used in 1960 "*if the process was known at that time, and to the quantity used in similar processes in 1960 for new ones.*" (IWT, 1960, Article IV (12)). In addition, as per Article IV (12) (b), if no industrial process existed on the 'Effective Date' similar to the new process, such "quantum of use" will be allowed which "*would not have a substantially adverse effect on the other party*". It is argued that this limits the amount that an individual plant can consume but omits to regulate the number of new plants that may be constructed on waters allocated to the other state party (IWT, 1960, Article IV (12)). This 'deficiency' in the Treaty may encourage the State Parties to appropriate large quantities of water allocated to the other party for "domestic use", which would militate against the very essence of the IWT (IWT, 1960, Article IV (12)).

Considering which, in order to reclassify the 'industrial purposes', reference will be made to the customary international law vis-a-vis international watercourses, i.e., 'reasonable and equitable utilisation' and 'no-harm' principles (ICJ (Gabcikovo-Nagymaros), 1997; ICJ, Legality of the Threat or Use of Nuclear Weapons, 1996). The 'United Nations Convention on Non-Navigational Uses of International Waters 1997' ('1997 UN Convention') coherently stipulates both principles.

In relation to the 'Equitable and reasonable utilisation and participation' of the international watercourses, Article 5 (1) of the 1997 Convention requires that the "*Watercourse States shall in their*

respective territories utilise an international watercourse in an equitable and reasonable manner". Moreover, the watercourse states are required to use and develop an international watercourse "with a view to attaining optimal and sustainable utilisation thereof and benefit therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse." As per Article 5 (2), the Watercourse States are required to participate in the "use, development and protection of an international watercourse in an equitable and reasonable manner". Such participation involves the right to utilise the watercourse; and the duty to cooperate in protection and development.

Additionally, Article 6 (1) lists the 'Factors relevant to equitable and reasonable utilisation', which are as follows:

- 1.1 "Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
- 1.2 The social and economic needs of the watercourse States concerned;
- 1.3 The population dependent on the watercourse in each watercourse State;
- 1.4 The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
- 1.5 Existing and potential uses of the watercourse;
- 1.6 Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
- 1.7 The availability of alternatives, of comparable value, to a particular planned or existing use."

With respect to the 'no harm' principle, the International Watercourse States are required to take all appropriate measures in the utilisation of an international watercourse, flowing through their territories, to prevent causing "significant harm" to other watercourse States. However, where significant harm is caused to another watercourse State, the State causing the harm must take all

appropriate measures to eliminate or mitigate such harm and where appropriate discuss the question of compensation (1997, UN Convention, Article 7).

It is relevant to note that Pakistan and India are not parties to the 1997 UN Convention, however, they are subject to the customary counterparts of Articles 5 and 7 (ICJ (Corfu Channel Case) 1949; ICJ (Gabcikovo-Nagymaros) 1997). Moreover, it would make matters clearer to render the use for 'industrial purposes' subject to the newly stipulated provisions of 'equitable and reasonable use' and the 'no harm' in the IWT.

Use for Generation of Hydroelectricity

It has been argued that India is utilising the waters of all six rivers through construction of hydroelectric power projects, including dams on the western rivers and appropriating the eastern rivers for agricultural and other domestic purposes. Such constructions have rendered Pakistan susceptible to massive shortages of water from the western rivers allotted to Pakistan via the IWT. This indicates an inequitable utilisation and availability of river water between the two States (Qureshi, 2017). Therefore, similar to the use for 'domestic purposes', Article III exception regarding 'hydroelectric power generation' should expressly be made subject to the customary principles of 'equitable and reasonable utilisation' and 'no harm'.

Global Climate Change

The IWT was tailored to the expectation that the climatic conditions existing at the time would continue. However, the Agreement might be rendered ineffective if the change in climatic conditions impact regular flow of rivers (Concannon, 1989). It has been observed that the recent impact of greenhouse gas emissions on the atmosphere has led to global climate change not previously encountered in history (Concannon, 1989). Moreover, climate change may radically impact the climate and hydrology of the Indus Basin. The average rise in the global temperature may alter precipitation patterns, ocean and atmospheric currents, ocean levels, and storm patterns (Concannon, 1989). However, the Treaty contains no mechanism for adapting to long-term environmental

transformations or global climate change (Concannon, 1989). It has been indicated that the Treaty allows for unilateral actions in terms of climate change, which would fail for two reasons: firstly, the magnitude and scope of responses to climate change would require bilateral action; secondly, the climate is likely to affect Pakistan's use of western rivers to a greater extent as compared to India (Concannon, 1989).

For example, as upstream consumption decreases the flow in downstream of the Indus Basin, salt water from the Arabian Sea will flow upward, contaminating the freshwater supplies and agriculture in the process. Pakistan will be affected by the saline intrusion on account of being the lower riparian state. Further examples of global climate change materially changing the circumstances of the Indus Basin are the temperature rise reducing the total amount of available water; it could also have the opposite effect by increasing the amount of water entering the Indus Basin due to runoff from snow fields and glaciers, and changing precipitation patterns etc.

Moreover, Pakistan has contended that India has been involved in curtailment of the water flowing from the Indian Administered Kashmir, in violation of the Treaty (Soofi, 2016). However, as per the Indian point of view, the "water levels" have reduced over time primarily due to "climate-based water scarcity". Yet, the IWT provides no mechanism to cater to the 'climate change' induced 'water scarcity' (Soofi, 2016). Therefore, in order to determine the said question pertaining to causes of water scarcity, both state parties "*would need to agree to an independent and a separate study by a neutral body such as the World Bank. The determination by such a study would make matters clearer for Pakistani and Indian policymakers who could then follow a bilateral remedial course of action.*" (Soofi, 2016, p.19).

In case it is established that 'water scarcity' is perpetuated by 'climate change', the IWT would still need a "flexible allocation mechanism" to address the "disproportionate division of water" and to reallocate water in order "to accommodate the depreciating downstream flow". It is suggested that the "flexible allocation mechanism" would provide water based on "flow availability" and ensure "fair distribution of water" (Mohsin, 2023).

Further, the IWT may stipulate 'variability management' which is formulated to deal with extreme climate conditions, e.g. drought, floods etc. Such stipulation would cater to the "temporal

variability of water” and assist state parties in dealing with extreme events perpetuated by climate change (Mohsin, 2023).

Additionally, both state parties should consider “water management” as “joint responsibility”. In this regard, a joint team of independent experts may produce an ‘environmental impact assessment’ (EIA) report before initiating any project with transboundary effects on the Indus Basin (Mohsin, 2023). The said report will allow the collection of information vis-à-vis the ‘environmental effects’ of the proposed project, and which should be taken into account when deciding whether or not to proceed with the projects (Mohsin, 2023).

Lastly, as indicated above, it is not mandatory for the State Parties to collaborate when dealing with such “material change of circumstances”, for example, due to global climate change. Therefore, it would be appropriate to stipulate an “affirmative obligation” with respect to both state parties in terms of sharing the cost of catering to material change of circumstances (Concannon, 1989).

Utilisation of Ground Water

“Groundwater” is accumulated when rain and snowmelt seep into the ground. It is usually found in “aquifers” which are “*water-bearing soil or rock formation capable of yielding useable amounts of water*”. It is pertinent to note that the Indus Basin contains an “unconfined aquifer” with a surface area of “0.16 km²” (Mitha, 2021). It is estimated that an average safe “groundwater yield” is around 63 billion-cubic-meters (‘bcm’), however, only around 11 bcm remains after abstraction in the Indus Basin (Mitha, 2021). Moreover, in some locations of the Indus Basin, the water table has been estimated to fall at the rate of “more than 1 meter per year” (Mitha, 2021). In addition to the danger of “water depletion and scarcity”, infiltration of toxic waste and chemicals due to unregulated agricultural practices and poor sanitation has perpetually deteriorated the quality of groundwater in the Indus Basin (Mitha, 2021; Lucy Litton, 2021). It is noted that “*Only 20 per cent of the population has access to safe drinking water, the remainder relying on water contaminated by increasing salinity, improper disposal of untreated wastewater, agricultural runoff with*

pesticide and fertiliser residue, and geogenic (natural) contaminants.” (Lucy Litton, 2021).

The term “watercourse” has been defined under Article 2 of the 1997 UN Convention as “*a system of surface waters and groundwaters constituting, by virtue of their physical relationship, a unitary whole and normally flowing into a common terminus;*”. Hence, ‘groundwater’ is part of a ‘watercourse’ as per the 1997 UN Convention. It is also argued that “*The conceptual separation of surface and groundwater is largely artificial, as in reality there is a close interplay of water above and below the ground.*” (Lucy Litton, 2021)

However, the IWT does not deal with groundwater, nor does it admit the possibility of surface water being linked to groundwater in the Indus Basin (Mitha, 2021). It has been suggested that the Indus Basin is densely populated and water-stressed which renders it imperative for both State Parties to collectively address the “transboundary groundwater in the Indus Basin” through a “joint mechanism” under the Treaty’s auspices “*which adequately envisions the future cooperation for the development of rivers.*” (Mitha, 2021).

Joint Basin Development

It has been argued that any new changes to the IWT should take into account ‘joint basin development’ in order to take “*advantage of the synergies and comparative advantages of each country*” (Bhatnagar, 2009). In this regard, the basin requires development as an “integrated whole”. Lessons can be learned from the Mahakali Treaty signed in 1996 between India and Nepal. Wherein, Nepal, on account of India’s expertise in barrage construction and its comparative advantage, ceded territory to India and allowed India to build “*key infrastructure, such as transmission lines and head regulators*”, and guaranteed Nepal “*an uninterrupted supply of the resulting energy.*” (Bhatnagar, 2009, p.306) Therefore, given India’s comparative advantage in “harnessing hydropower”, Pakistan can provide technical and financial assistance in exchange for share in hydroelectricity. Moreover, instead of the “current Indian diversions from the eastern rivers”, Pakistan’s irrigation mechanism is deemed to be better

suited to supply water to “*Rajasthan and elsewhere in the Indian Plains*” (Bhatnagar, 2009).

Strengthening Cooperation

Moreover, any new water-sharing arrangement should facilitate cooperation between state parties. The current arrangement contemplates cooperation via PIC. However, such measures are designed to facilitate cooperation once a dispute arises. A better approach would be to facilitate cooperation “*as a means of avoiding the cause of disagreements*” in the first place. Greater opportunities for cooperation and interaction may build trust and reduce tensions by eliminating misinformation (Bhatnagar, 2009, p. 309).

Dispute Resolution Mechanism

The fundamental source of dispute with respect to the IWT on both sides is the controversy surrounding “dam projects” on the western rivers. However, the Mahakali Treaty, of 1996 is deemed to offer a different model. This treaty requires the major dam projects to be implemented in accordance with a jointly prepared report. Essentially, this approach will allow both parties to the IWT to object directly to the proposed plan while the joint report is being prepared. It creates an opportunity for mutual consultation with respect to a proposed plan, instead of a legal dispute mechanism holding up an entire project after it is finalised by at least one party (Bhatnagar, 2009).

Moreover, given the cost and time required to resolve disputes, it is deemed appropriate that the PIC may have an odd number of commissioners (Bhatnagar, 2009). With each state party selecting one commissioner, the third neutral commissioner can be either from the World Bank or an outside expert. This will allow disputes to be resolved at the PIC level with the stamp of “international neutrality” (Bhatnagar, 2009).

Incorporating International Law Developments

Significantly, at the time of IWT’s ratification, the international law pertaining to transboundary waters was still in its

early stages of development. The ‘Helsinki Rules on the Uses of the Waters of International Rivers’ were adopted in 1966 (‘1966 Helsinki Rules’), providing guidelines concerning the use of rivers and the connected ground waters crossing national boundaries. The 1966 Helsinki Rules led to the adoption of the 1997 UN Convention. In addition, the 1966 Helsinki Rules have now been superseded by the 2004 Berlin Rules on Water Resources. Moreover, the ‘Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes 1992’ (‘1992 UN Convention’) was concluded with an emphasis on:

“the need for strengthened national and international measures to prevent, control and reduce the release of hazardous substances into the aquatic environment and to abate eutrophication and acidification, as well as pollution of the marine environment, in particular coastal areas, from land-based sources,” (UN Convention, 1992, Preamble)

With respect to customary international law, the *Trail Smelter* arbitration established that any usage of a resource in one state must not cause harm in the neighbouring state, that is, the ‘no harm’ principle (Trail smelter case (United States, Canada), 1938). Similarly, in the *Corfu Channel* judgment, the International Court of Justice (‘ICJ’) concluded that it is internationally wrongful for one state to allow its territory to be used for acts contrary to the rights of other states (Corfu Channel (United Kingdom of Great Britain and Northern Ireland v. Albania), 1949). This is also reflected in Principle 21 of the Declaration of the United Nations Conference on the Human Environment, 1972, wherein, it is reiterated that although States have the sovereign right to exploit their own resources, such activities within their jurisdiction or control must not cause damage to the environment of other States or areas beyond national jurisdiction. It was further held by the ICJ in the *Legality of the Threat or Use of Nuclear Weapons* Advisory Opinion:

“the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national

control is now part of the corpus of international law relating to the environment.” (ICJ, Legality of the Threat or Use of Nuclear Weapons, 1996, para.29). (emphasis supplied)

Additionally, the ‘watercourse states’ are obligated to participate in “*the use, development and protection of an international watercourse in an equitable and reasonable manner.*” (Gabcikovo-Nagymaros Project (Hungary vs. Slovakia), Judgment, 1997, para.147). Such an obligation encompasses the right to ‘utilise the watercourse’ and the ‘duty to cooperate in the protection and development thereof’. In this regard, the ICJ emphasised and reiterated the said principle in its *Gabcikovo-Nagymaros* Judgment in the following terms:

“147. Re-establishment of the joint regime will also reflect in an optional way the concept of common utilisation of shared water resources for the achievement of the several objectives mentioned in the Treaty, in concordance with Article 5, paragraph 2, of the Convention on the Law of the Non-Navigational Uses of International Watercourses, according to which:

“Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention” (General Assembly doc. A/51/869 of 11 April 1997 & Gabcikovo-Nagymaros Project (Hungary vs. Slovakia), Judgment, 1997, para.147).

Considering the same, it is evident that the principles, namely ‘no harm’ and ‘equitable and reasonable utilisation’, have arguably been entrenched within the corpus of customary international law post-1960. Additionally, the said principles have been incorporated into the treaty law, i.e. the 1997 UN Convention. Accordingly, the IWT may be amended to reflect customary international law.

Conclusion

Since the inception of the IWT, the geopolitical status of its signatories and their water needs have evolved. Shifting

circumstances, such as climate change, the depletion of natural resources, pollution, scarcity and the need for a new model of consumption and energy generation, bring the need for amendments to the fore.

Furthermore, recent developments between India and Pakistan - including their aspirations for further control and infrastructural works in the Indus Basin - reinforce the need for amendments that encompass the political, geographical, and environmental needs of both countries. To do so effectively, it is inherently necessary that amendments be made regarding developments in international law, e.g. concerning climate change, environmental law, transboundary watercourses etc.

The proposed amendments include incorporating principles of equitable and reasonable utilisation and no harm, addressing groundwater use, promoting joint basin development, strengthening cooperation, and improving the dispute resolution mechanism. The importance of adapting the IWT to international law developments and principles related to transboundary water resources is evident.

In this regard, the IWT is purely a water-sharing agreement, which renders it inadequate to deal with changing climatic conditions and hydrological needs of the Indus Basin. Nevertheless, on account of IWT's symbolic significance, updating its body of regulations could have an immensely beneficial impact on the region. It is possible for the IWT to serve as a model for conflict prevention, regional cooperation, climate change adaptation, and equitable distribution. Lessons from the Treaty can guide states in the region, as they seek to manage their shared water resources effectively and sustainably in the face of evolving challenges.

The IWT has been a historic success in preventing water-related conflicts between India and Pakistan. However, to secure a sustainable future for the people of the Indus Basin, it is imperative that the Treaty be updated to reflect the realities of the 21st century. The IWT should be modernised to provide for more sustainable use and development of the Indus rivers, incorporating new mechanisms for dispute resolution that facilitate communication between India and Pakistan, as well as a more in-depth discussion regarding resource allocation to address the ever-increasing needs of the general population for water utilisation, including irrigation, hydropower generation, industrial and domestic purposes. By renegotiating and amending the treaty with a comprehensive and

forward-looking approach, we can ensure the equitable, efficient, and sustainable management of the Indus Basin's vital water resources for generations to come.

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