

# REVOCAION OF THE INDUS WATERS TREATY: IMPLICATIONS

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## Introduction

A possible Indian withdrawal or unilateral termination of the Indus Waters Treaty (IWT) has a number of legal and political impracticalities, besides several plausible economic implications and environmental disruptions in the shared river basin. The IWT, like many other international treaties, has its own specific provisions to govern its operation and could only be terminated by being replaced with another treaty on a similar subject between India and Pakistan.<sup>1</sup> Legally speaking, the treaty is a non-exit partnership with wide-ranging international commitments and customary bindings. Politically too, a breach of international commitments is tantamount to earning a worldwide disgrace. By focusing on these two important legal and political aspects of the debate, this study seeks to answer the question as to why it is not workable for India to annul the IWT. In doing so, the study also delineates some of the likely implications for the region in case of a possible treaty breach by India.

## Background

Indian pressure tactics to scrap the 56-year-old bilateral Indus Waters Treaty are not new. Indian Prime Minister Narendra Modi's statement that "water and blood cannot flow together" needs to be seen in light of the past and current Indian attempts to revoke the treaty. Persistent media campaigns had been launched in the past as well to abrogate the treaty. Technical assessments and statements from high government officials to revise or terminate the treaty have been widely publicized through the print and electronic media of India. A former Indian high commissioner to Pakistan G. Parthasarathy reportedly stated, "Should we not consider measures to deprive the Pakistanis of the water they need to quench their thirst and grow their crops. Should we not seriously

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consider whether it is necessary for us to adhere to the provisions of the Indus Waters Treaty.... extraordinary circumstances demand extraordinary responses.”<sup>2</sup>

Earlier calls to abrogate the treaty were mainly based on allegations about its unfair division of waters and limitations in building storage reservoirs on the Chenab and Jhelum flowing through Indian-held Kashmir (IHK) to meet its growing power needs. Regarding the allegation of under-resourced IHK due to the treaty’s limitation of only 3.6 million acre-feet (MAF) of Indian storage over western rivers,<sup>3</sup> it is necessary to identify one of the major issues involved here that seemed missing from the media coverage: IHK’s conflict with Indian government over the ‘royalty issue’. The Northern Grid—covering Chandigarh, Delhi, Haryana, Himachal Pradesh, IHK, Punjab, Rajasthan, Uttar Pradesh, and Uttaranchal—is the biggest source of power supply in IHK. All the centre-led hydropower stations built in IHK provide only 20 per cent electricity to the region, whereas 80 per cent of the power generated is being supplied to the other states covered by the Northern Grid. This is because IHK does not have enough financial resources to invest in hydropower generation.<sup>4</sup> The IHK pretext of Indian government in order to dispense with the IWT is thus rendered groundless.

The issue of Indian threats to annul the IWT got recently hyped again on a different pretext: The Uri incident that left 18 Indian soldiers dead after skirmishes with freedom fighters in IHK. Using the allegation of terrorism to punish Pakistan by abandoning the most revered water-sharing pact between the two nations, India is grossly mistaken on many grounds. All the past and current Indian attempts to annul the IWT under different pretexts reveal the mischievous Indian ploy to deprive Pakistan of its due share in international waters—an act showing the short-sightedness of Indian leadership about regional and international security paradigms, in addition to the intended breach of international law.

## **Implications**

It would suffice to discuss the important political and legal aspects—besides environmental and economic implications—of repeated Indian intentions vis-à-vis a possible withdrawal from the IWT.

### **Political implications**

Politically, India is in a bad bargaining position when it comes to a unilateral withdrawal from the treaty. As a bilateral water sharing pact, the treaty has been hailed across time and space as a test case for ‘successful mediation’,<sup>5</sup> a mechanism to ‘insure compliance’,<sup>6</sup> and a ‘significant confidence-building measure’<sup>7</sup> between India and Pakistan. India will likely gain a bad reputation at home and abroad because this is the only water treaty between the two arch-rival countries of South Asia that has withstood the tests of diplomatic crises and wars.

Following are some of the most important questions that arise after reflecting on Indian threats to annul the treaty:

- How the international community would react to Indian scrapping of the treaty?
- What would be the effects of Indian exit from the treaty on regional peace and security situation?

Scanning through the regional and international media, the reaction of international community is already critical of Indian threats of unilateral abrogation of the treaty in the wake of the Uri incident. A number of countries, including China and the US, have asked India and Pakistan to mutually resolve the issue conveying their disapproval of termination of the treaty. The IWT is the first and only existing model of conciliation between India and Pakistan since the bloody partition of the subcontinent in 1947. One of the biggest feats of the IWT has been conflict management between India and Pakistan over sharing of international river waters for more than five decades.

The partition of 1947 rendered the two countries vulnerable to potential water wars until the mediated agreement in 1960, which ensured the regulation of divided waters through the creation of the Permanent Indus Commission (PIC) with representation from both the countries. Over the years, bilateral water disputes were resolved at the level of PIC, with more serious ones being referred to third parties for mediation or to the International Court of Arbitration (ICA), which is another successful example of dispute resolution mechanism within the framework of the IWT. Had it not been the IWT, India and Pakistan would have gone to several water wars affecting regional peace and security periodically.

An important political implication of Indian withdrawal from the IWT would be setting a precedent for other countries in the region to follow suit. China shares eight per cent of the total Indus River Basin.<sup>8</sup> Both Indus and Sutlej rivers have their headwaters originating from China providing a total inflow to India in the Indus Basin system at 181.62 km<sup>3</sup>.<sup>9</sup> The great Brahmaputra River of India, known as Yarlung Tsangpo in China, originates from the latter, making it an upper riparian in relation to India. Not only do China and India lack a bilateral institutional mechanism for dispute resolution over the shared waters of Brahmaputra, they are also in conflict about the ownership of South Tibet (known as Arunachal Pradesh in India). India also has concerns about Chinese diversion plans of Brahmaputra River upstream.<sup>10</sup> Any Indian act of withholding Pakistan's share of water from upstream or abandonment of water sharing pact with the lower riparian will likely set a precedent for other upper riparian states in the region like China to replicate the practice when their own interests demand. According to an Indian expert on NDTV, "The Indus originates in China.... Should China decide to divert the Indus, India could lose as much as 36% of river water."<sup>11</sup>

In an article about the role of China in the Indus Basin, one Indian expert candidly warned about Chinese reaction over Indian plans of abrogating the treaty in the following words:

"If China decides to shut off water from Tibet that feeds the Sutlej river, huge swathes of north India would be plunged into darkness and deprived of power: water from this river flows into the Bhakra dam, the Karcham Wangtoo hydro-electric project and the Nathpa

Jhakri dam which together generate at least 3,600 megawatts of electricity which lights up large parts of Punjab, Haryana, Rajasthan, Himachal Pradesh, Chandigarh and Delhi.”<sup>12</sup>

It would also be a bad precedent for those countries in the region with whom India is already in agreement on sharing international waters, including Bangladesh and Nepal. After the 1996 bilateral treaty on Ganges River, India is in the process of concluding a water sharing pact with Bangladesh on Teesta River, which has become an emotive issue between the two countries after Bangladesh’s demand of equal allocation of water under the treaty against the Indian proposal of 25/75 ratio of water sharing in the pact. As a lower riparian, Bangladesh has long been conveying feelings of injustice in water sharing agreements on each of the 54 trans-boundary rivers with India.<sup>13</sup> Nepal, with which India has signed two bilateral water sharing agreements, Mahakali and Gandak, is an upper riparian state. It greatly disagrees with Indian plans of irrigation and flood control downstream and insists on developing major long-proposed hydropower projects including Pancheswor and Arun III to resolve power shortages in Nepal.<sup>14</sup> As an upper riparian state, rivers of Nepal provide 80 per cent of water to Indian Ganges River during the dry season.<sup>15</sup> Indian bullying water politics with its lower riparian in the region could become disastrous for its own future water sharing as a lower riparian vis-à-vis China and Nepal. Although Nepal is a small country to ever become a threat to India in its international waters, Indian future water agreements with countries in the region would likely suffer from the bad impression left by the latter through a unilateral withdrawal from the IWT.

There have been discussions in the regional and international media over the issue, but more candid analyses rely on the proof of history that Indian government is only involved in using threats and pressures to bow down Pakistan on the issues of Kashmir and terrorism. Real abrogation is not an easy step, and India is well aware of the political implications of such a move. It would attract a lot of criticism from world powers, besides weakening Indian position in relation to other riparian states in the region.

### **Legal implications**

The Vienna Convention on the Law of Treaties (VCLT), established as customary international law, does not provide for a unilateral right to withdraw from international treaties. Although India is not a signatory to the convention,<sup>16</sup> many of its provisions have been used by both the High Courts and Supreme Court of India with reference to customary international law. In *Ram Jethmalani v. Union of India* in 2011, the Supreme Court of India recognized that the Vienna Convention contained many principles of customary international law.<sup>17</sup> The court specifically referred to Article 31, ‘General Rule of Interpretation’, of the VCLT 1969, which stipulates that a “treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”<sup>18</sup>

Another important Indian recognition of the VCLT as customary international law regarding treaties was made in 2015 by the Delhi High Court in *AWAS Ireland v. Directorate General of Civil Aviation*. The High Court judgement is particularly relevant here because of its special reference to Articles 26, 27, and 31 of the VCLT, again as a matter of customary international law. Article 26 of the VCLT establishes the principle of *pacta sunt servanda*, i.e., “Every treaty in force is binding upon the parties to it and must be performed by them in good faith.”<sup>19</sup> By applying the provisions of Articles 26 and 27 of the VCLT—which oblige a state not only to remain bound by the terms of the treaty in operation, but also not to invoke internal law as a justification for its failure to abide by a treaty—the Delhi High Court set a benchmark to embrace customary international law vis-à-vis treaties.

Considering past practices of the Indian government with regard to application of the VCLT and several of its provisions in matters relating to international treaties, the following discussion on rules of the VCLT regarding “termination, denunciation or unilateral right of withdrawal from a treaty” is quite pertinent within the context of the IWT.

The convention only provides limited circumstances for the exercise of such a right. There are three ‘grounds to invoke’ as specified in Articles 42 to 62:<sup>20</sup>

1. Right of withdrawal provided by the treaty itself or decided by the mutual consent of all parties at any time;
2. Termination or suspension of the treaty by the contracting parties; and
3. Termination as a result of a legal rule independent of parties’ intentions (for instance, inconsistency with a fundamental internal law, possibility of error in the treaty, treaty inducement through fraud, corruption or coercion of a state’s representative, treaty conflicting with general international law, conclusion of a later treaty, material breach of treaty by one of the parties, impossibility of performance,<sup>21</sup> and change of circumstances).<sup>22</sup>

Rejecting unilateral right of withdrawal at will, the International Law Commission (ILC) further clarified invoking certain grounds to terminate or depart from a treaty in an official commentary:

“The formula ‘invoke as a ground’ is intended to underline that the right arising under the article is not a right arbitrarily to pronounce the treaty terminated.”<sup>23</sup>

Articles 65 to 67 of the VCLT also stipulate several provisions with regard to the procedure of termination, invalidity, withdrawal, or suspension of an international treaty. Article 65 requires a party that “invokes either a defect in its consent to be bound by a treaty or a ground for impeaching the validity of a treaty, terminating it, withdrawing from it or suspending its operation, must notify the other parties of its claim. The notification shall indicate the measure proposed to be taken with respect to the treaty and the reasons therefor.”<sup>24</sup> Under Article 66, if no solution reaches within twelve months after the objection and

notification were raised, any one of the concerned parties could submit a written application to the International Court of Justice (ICJ) for a decision.<sup>25</sup>

Considering the exit clauses of the VCLT, the first two grounds including the right of withdrawal under the treaty and suspension of treaty by the contracting parties are not relevant in case of the IWT. Article XII of the Indus Waters Treaty says, “The provisions of this Treaty, or, the provisions of this Treaty as modified under the provisions of Paragraph (3), shall continue in force until terminated by a duly ratified treaty concluded for that purpose between the two governments.”<sup>26</sup>

Only ground three that covers Articles 46 to 62 of the VCLT could be invoked pertaining to different reasons. An analysis of some of the relevant articles leads to an interesting deduction. Invoking Article 46 means<sup>27</sup> that India would have to provide adequate justification, if any, of the IWT provisions that violate its internal law of fundamental importance. Question could be raised over any Indian attempt to use this ground as to why India has been planning and utilizing water works under the same provisions for more than five decades if a violation was manifest in application of her significant internal laws. Moreover, none of the IWT provisions could be used to justify a violation of her internal law vis-à-vis the territory of IJK, which is a disputed territory as recognized by the UN Security Council. A number of writings have appeared in the Indian media justifying the use of Articles 61 and 62 of the VCLT as a withdrawal ground. The ‘impossibility of performance’ clause cannot be applied in case of the IWT, as Article 61 requires impossibility to “result from the permanent disappearance or destruction of an object indispensable for the execution of the treaty.”<sup>28</sup> The IWT is not dependent upon any object to-date for her continued performance. The change of circumstances pretext cannot be used by India for an exit under Article 62 either, because the IWT establishes a boundary vis-à-vis the Indus Basin between the two countries. Article 62 of the VCLT reads:

“A fundamental change of circumstances may not be invoked as a ground for terminating or withdrawing from a treaty: (a) If the treaty establishes a boundary; or (b) If the fundamental change is the result of a breach by the party invoking it either of an obligation under the treaty or of any other international obligation owed to any other party to the treaty.”<sup>29</sup>

India cannot stop water for Pakistan under customary international law even after an attempted withdrawal from the treaty because the VCLT (Article 43), as a major source of customary international law regarding international treaties, obliges a state to “refrain from fulfilling any of her duties defined under customary international law.”<sup>30</sup> The principle of equitable utilization is also well-recognized in customary international law as mentioned in Articles 5, 6, and 7 of the UN Watercourses Convention, which not only calls for equitable and reasonable utilization of trans-boundary water courses and stipulates factors relevant to such utilization, but also obliges states not to cause significant harm to other watercourse states.<sup>31</sup> The practical application of these rights has been

witnessed in one recent example—the Gabčíkovo-Nagymaros Case (1997-98)—where the ICJ declared the unilateral diversion of the Danube River by Czechoslovakia (extracting 90 per cent of water for its exclusive use) as illegal for its breach of ‘joint ownership’ principle of the project under a bilateral treaty with Hungary.<sup>32</sup> A special reference was made by the court to the Law of the Non-navigational Uses of International Watercourses by the United Nations General Assembly to conclude:

“Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resource of the Danube... failed to respect the proportionality which is required by international law.”<sup>33</sup>

The court also rejected Hungary’s termination of the 1977 bilateral treaty regarding the said project as illegal declining all reasons Hungary gave to terminate the treaty such as ‘state of emergency’, ‘impossibility of performing duties’, ‘fundamental change of circumstances’, ‘material breach of the treaty by Czechoslovakia’, and ‘development of new norms in international environmental law’. The court asked the two parties to consider the treaty as being a joint investment project for many purposes and made protection of environment a key issue in its rulings.<sup>34</sup> India must also not forget the political debate over legal rights of Pakistan in the Indus Basin much before the conclusion of the IWT. Emphasis on peace and prosperity through finding a solution to water discords arose immediately after partition between India and Pakistan. David Lilienthal, in his famous 1951 article ‘Another Korea in the Making’,<sup>35</sup> acknowledged Pakistan’s legal position in these words:

“Pakistan’s position that she has the legal right to the uninterrupted flow of water, a right to a share of waters stored by India’s dams upstream, is quite inadequate for this great issue, however sound her legal claim might be if the dispute were between the two farmers asserting their private rights. The International Court of Justice might decide the legal issue in Pakistan’s favor if India agreed to submit it.”

Given the international standards and practices, Indian abrogation of the IWT or blockage of water flow to Pakistan to the extent of leaving a detrimental impact on population and environment downstream will likely contradict the established rules of law, an act that Pakistan could challenge within the context of customary international law.

### **Economic implications**

Niranjan D. Gulhati, India’s chief negotiator, has reportedly stated after the signing of the treaty, “We had to keep in view the interests of the other side: they must live; we must live. They must have water; we must have water.”<sup>36</sup>

Both India and Pakistan have gained a lot in the field of irrigation as the allocation of water under the IWT ensured reliable supplies for the agricultural development in the two parts of Punjab divided between India and Pakistan in 1947. The green revolution of the 1960s across Indian and Pakistani Punjab owe gratitude to the IWT. The settlement aimed at irrigating 30 million acres in India and Pakistan.<sup>37</sup> If India tries to annul the treaty now, the whole economic project established to assist the irrigation infrastructure in the two parts of Punjab would be dealt a blow.

In order to understand the economic benefits of the IWT, one needs to go through the historic developments of 1948-60 that led to the making of a water treaty between India and Pakistan. In his 1951 report to the International Bank for Reconstruction and Development (IBRD, now the World Bank), David Lilienthal has exclusively pointed out the economic significance of Indus Basin waters for Pakistan in these words:

“The Partition gave the major part of the irrigated lands of the Punjab and Sind to Pakistan; but the headwaters of some of the largest irrigation canals that feed Pakistan were left with India or Kashmir....Why the flow of the Punjab’s lifeblood was so carelessly handled in the partition no one seems to know. Pakistan includes some of the productive food-growing lands in the world in western Punjab (the Kipling country) and the Sind. But without water for irrigation this would be desert. 20,000,000 acres would dry up in a week, tens of millions would starve.”

Looking at India’s irrigation and water power development programme, Lilienthal also took into account the irrigation needs of India in the Indus Basin region:

“The Partition gave India almost none of the canals and irrigation systems, and little irrigated land compared with her needs. Out of 22,000,000 acres now irrigated in the Indus Basin, Pakistan has 18,000,000 India about 5,000,000; yet India has 20,000,000 people in the Indus Basin, almost as many as Pakistan’s 22,000,000. There are 35,000,000 more acres in India’s part of the Indus Basin which if irrigated could raise food and do a good job of it.”

Thus it was primarily to solve the joint irrigation issues of both India and Pakistan—affected by continuous wastage of water in the Arabian Sea, and controversy over legal rights of a lower riparian state—that Lilienthal suggested a constructive engineering programme for the efficient use of Indus waters, which soon drew attention from the IBRD and other major powers of the world. Lilienthal was convinced on treating the whole of Indus system as a unit on the basis of the model of the seven states—Tennessee Valley Authority (TVA) system—built and designed by him in 1933 as a community service project providing flood control, navigation, and land management for the Tennessee River system in the US.<sup>38</sup> Focusing on engineering and professional principles to work on a common project for human need, Lilienthal explicitly rejected the political descent to tap into the river basin.<sup>39</sup>



It was this consideration of human need for water and food production on both sides that an international consortium was created to finance water development infrastructures in India and Pakistan after the conclusion of the IWT on 19 September 1960. The Indus Basin Development Fund was created with initial funds from Australia, Canada, New Zealand, West Germany, the United Kingdom, and the United States. To strengthen the consortium, Austria, Belgium, France, Italy, Japan, and the Netherlands made joint financial commitments to the Indian and Pakistani Five-Year Plans.<sup>40</sup> Collectively, these six countries provided \$800 million in the form of grants and loans to India and Pakistan.<sup>41</sup> Therefore, the IWT could be called an international joint investment project created to support food production and protect the environment in the two countries.

The treaty partitioned the Indus Basin between the two parts of Punjab in India and Pakistan, and three out of the total six major rivers of the basin (i.e., Beas, Sutlej, and Ravi) were given to India for her exclusive use while binding India to let flow the water of the other three (i.e., Chenab, Indus, and Jhelum) for unrestricted use of Pakistan with minor rights for India. India constructed major canals and dams on the three western rivers of the Indus system to feed Chandigarh, Haryana, Himachal Pradesh, IHK, Punjab, and Rajasthan.

Within Indian Punjab, multipurpose projects were undertaken to expand the irrigation and storage infrastructure in the post-independence period (Table 1). The new system of Indus canals led to a growth of the irrigated area in the Indian part of the Indus Basin from 22 million hectares (ha) in 1947 to 55 million ha in 2000.<sup>42</sup> In the immediate post-IWT period, the Indian government embarked upon interlinking of its eastern rivers—Beas, Ravi, and Sutlej—through canal networking and diversion projects. The idea to transfer surplus water of River Beas into Sutlej River led to the conception of Beas-Sutlej Link Project, the largest tunnelling project in the country.<sup>43</sup> Huge investments in canal networking and inter-basin transfer projects resulted in a popular green revolution, which transformed India from a nation facing frequent famines in 1950s and 1960s to a self-sufficient and food exporting country. Indian hydropower projects on both eastern and western rivers are another success story of the Indus Basin system.

**Table 1**  
**Post-independence canal infrastructure of India**

Sr. No.	Project Name	Year	River	Location
1.	Bhakra Dam	1963	Satlej	Bhakara (H.P.)
2.	Nangal Dam	1948	Satlej	Downstream (Bhakra Dam)
3.	Nangal Hydel Channel	1954	Satlej	Nangal Dam
4.	Bhakra Main Line Canal	1950-54	Satlej	Extension of Nangal Hydel Channel
5.	Old Sirhind Canal System	1952-54	Satlej	Ropar Headworks
6.	Harike Headwork	1954-55	Satlej-Beas	Harike
7.	Madhopur Beas link	1955-57	Beas-Satlej	Madhopur
8.	Rajasthan canal	1958-1961	Satlej-Beas	Harike Headworks
9.	Ferozepur Feeder	1952-53	Ravi-Beas	Harike Headwork

10.	Pong Dam	1974	Beas	Pong
11.	Beas Satej Link	1977	Beas-Satej	Pandoh (H.P.)
12.	Shanedar Headwork	1983	Beas	Downstream of Pong Dam
13.	Mukerian Hydel Channel	1982	Beas	Shanehar Headwork
14.	Ranjit Sagar Dam	2000	Ravi	Downstream of Madhopur Headworks
15.	Shahpur Kandi dam	2006-07	Ravi	Downstream of Ranjit Sagar Dam

**Source:** Inderjeet Singh and Kesar Singh Bhangoo, 2013<sup>44</sup>

Pakistan has similarly taken steps with external investment to build an extensive network of canals. Besides other large-scale schemes to interlink canal irrigation in the country, three major storage reservoirs namely Chashma and Tabela on River Indus, and Mangla on River Jhelum were built (see Table 2) to fulfil the requirements for those areas earlier irrigated from supplies of the rivers that went to India under the IWT.

**Table 2**

**Salient features of the irrigation network on the Indus Basin (Pakistan)**

<b>Land</b>	
Total cropped area	21.35 million hectares (ha)
Canals commanded area	13.96 million ha
Annual irrigated area	16.19 million ha

<b>Water</b>	
Annual average flow in the Indus River system	162.1 billion cubic meters (bcm)
Extraction from Indus Aquifer	60.0 bcm
Storage capacity in reservoirs	19.2 bcm

<b>Infrastructure</b>	
Major storage sites	3
Barrages (diversion dams)	18
Inter-river link canals	16
Irrigation canals	64,000 km long
Irrigation water courses	100,000
Irrigation tubewells (private)	700,000 (estimated)

**Source:** Shams ul Mulk, 2009<sup>45</sup>

Massive investments in building water infrastructure led to growth of irrigated areas in the Indus Basin (see Table 3), which subsequently provided a boost to agricultural economies of the two countries. Introduction of tube-wells and rural electrification encouraged the development of groundwater resources in both countries. This has accelerated crop outputs in India and Pakistan, the latter experiencing high growth in terms of agriculture production but low water productivity as compared to India. The overall water productivity was reported

to be 0.5 kg/m<sup>3</sup> for Pakistani Punjab and 1.0 kg/m<sup>3</sup> for the Bhakra system of the Indian Punjab.<sup>46</sup>

**Table 3**

**Growth of irrigated area in the Indus Basin in million ha**

<b>Year</b>	<b>India</b>	<b>Pakistan</b>
1947	22.0 (70)*	10.75 (68)
1950	22.0 (70)	9.45 (68)
1955	23.45 (70)	10.60 (68)
1960	26.52 (70)	12.04(67)
1965	31.25 (70)	12.95 (56)
1970	32.30 (70)	14.30 (56)
1975	39.35 (69.7)	13.83 (54)
1985	41.77 (68.1)	15.76 (52)
1990	43.05 (65)	16.30 (69.7)
1995	53.0 (61.9)	17.20 (49.4)
2000	55.0 (60)	18.00 (47)

\* Figures in parenthesis show the percentage of population in agriculture for the country.

**Source:** H. Fahlbusch, et al.<sup>47</sup>

Regulation of surface water supplies to support food and power production needs of Indian and Pakistani Punjab were the major objectives of Lilienthal’s constructive plan, well supported by the World Bank and other countries in the Indus Basin. Although major water user insufficiencies and lack of adequate canal maintenance have recently been reported in both India and Pakistan, the existing irrigation and hydropower infrastructure in the basin is well placed only due to the 1960 treaty. Dissolution of which would again put the two countries’ water resource systems in conflict with each other where feeding only one’s own population would mean the starvation for another and electrifying one’s area would result in loss of energy for the other.

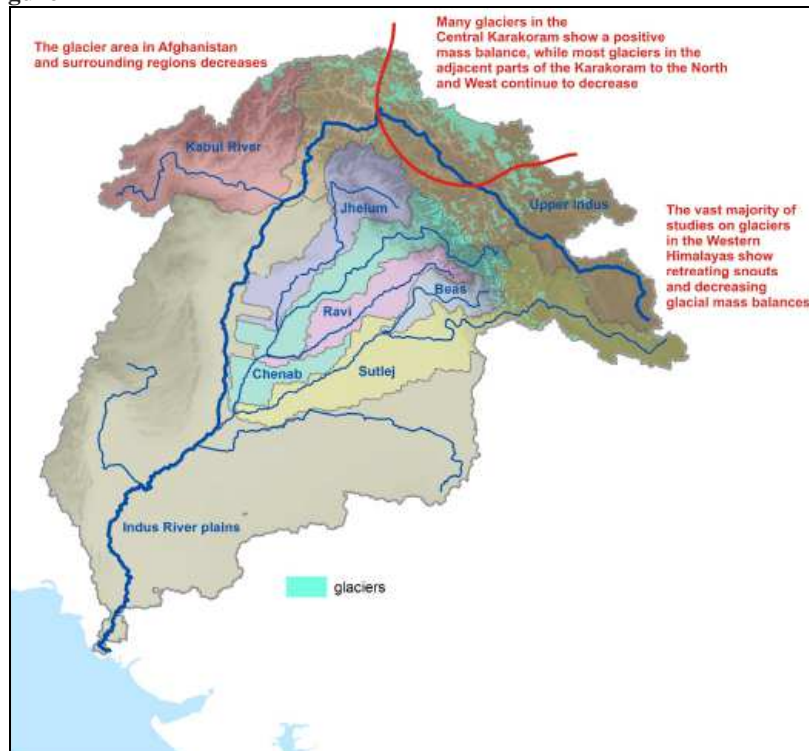
**Environmental implications**

According to experts, Indian desire to convert Pakistan into a desert by withholding water supplies to the latter will inundate lands in IHK and Indian Punjab. The environmental fallout would hit both the countries displacing millions of people and inviting an unquestionable international reaction.<sup>48</sup> The Indian desire to seek unilateral development of the Indus Basin by building huge dams upstream and utilizing full hydropower potential of Chenab, Indus, and Jhelum would destroy the ecology of the whole region. Massive engineering structures as planned by India across the basin to divert water from Pakistan will disturb natural hydrological cycles of rainfall and glacial melt. Furthermore, without a trans-boundary exchange of knowledge about climate change and its effects on water resources, ecology of the basin will remain threatened. The IWT already lacks a proper framework to deal with environmental issues in the region. Any Indian attempt to thwart existing bilateral cooperation on shared

water resources will prove detrimental to her own interests too besides hurting Pakistan.

Many other important present and imminent environmental subjects in the Indus Basin require the two countries to adhere to trans-boundary cooperation instead of withdrawing from it. The Karakoram glaciers are one such subject. This region is lucky enough to be recently reported as having stable glaciers on the Karakoram mountains in contrast to shrinking glaciers in the neighbouring mountains—the Himalayas (Nepal and Bhutan). This phenomenon is famously known as the Karakoram Anomaly<sup>49</sup> due to its unusual glacier behaviour as compared to a worldwide retreat of glaciers. According to an environmental journalist, “The area designated as the Central Karakoram National Park in Pakistan has around 711 glaciers, which is double the number of glaciers in the Alps.”<sup>50</sup> The expansion of glaciers in the central Karakoram (see Figure 1) indicates an increased water supply in the short-term, followed by a decrease in upstream water supply in the region surrounding both parts of Kashmir across the border. A hurried Indian withdrawal from the only bilateral water treaty ever concluded between the two countries would only disrupt the management of environmental flows in the predictable long term.

**Figure 1**



Source: A.N. Leghari et al., 2012.<sup>51</sup>

Another important issue of bilateral concern is environmental pollution in the Indus Basin. The burning of fossil fuels and industrial emissions in South Asia have already started to affect glacier masses and rainfall patterns—major sources of water flow in the Indus Basin. Known as the Asian Brown Cloud, this layer of pollution was observed under the first phase of the Indian Ocean Experiment campaign in 1999 which substantiated the link between surface heating and change of hydrological cycle.<sup>52</sup> In its 2002 report on the Asian Brown Cloud, CNN cited scientists warning about erratic weather patterns such as flash flooding in one part of the Indian subcontinent (i.e., Bangladesh, Nepal, and north-eastern India) but drought elsewhere (i.e., Pakistan and north-western India).<sup>53</sup> Recent environmental trends have lent credence to these warnings with catastrophic floods of 2010 being the largest in recorded history. Similarly, since 2000, a series of monsoon droughts has affected the Indus Basin region in north-western India and Pakistan.<sup>54</sup> According to a 2015 *Times of India* report, droughts have hit grain bowl states of Punjab and Haryana five and six times, respectively, in the past 11 years.<sup>55</sup> Food production in the Indus region is thus at stake as monsoon rains are becoming deficient gradually. An Indian retreat from the IWT would only add to the environmental problems caused by trans-boundary flow variations in the wet and dry seasons as neither country could fully control hydrological cycles of river waters even after building large dams.

In recent decades, the Indus Basin region has become vulnerable to environmental changes, which the treaty essentially fails to address. Article IV (10) of the IWT prohibits water pollution but does not provide a mechanism to control such an environmental problem. Similarly, the treaty is silent about variations in water flow after absolute allocation from western and eastern rivers of the Indus Basin to the concerned parties. One should not forget that like many other international treaties, the IWT has its own limitations. Although the treaty provides an effective conflict resolution mechanism vis-à-vis trans-boundary waters between India and Pakistan, many of the existing environmental issues were not present at the time of the conclusion of the treaty. Therefore, a solution to the existing and future environmental problems in the region is not a withdrawal from a water-sharing accord, but a sustainable institutional response either by adjusting the existing framework to new needs of bilateral cooperation or through creating opportunities for other innovative institutional measures.

## Conclusion

The Indian desire to arm-twist Pakistan by terminating the five-decade-old bilateral water accord has often been expressed through print and electronic media. But looking through the prism of analytical investigations, such a plan is easier said than done. The infeasibility of this Indian wish spans political, legal, economic, and environmental aspects of bilateral relations. Legally, the IWT is a non-exit route, which India itself agreed to by abiding to its provisions at the time of signing of the treaty. Furthermore, customary international law also establishes many rules governing the rights and duties between riparian states, thereby protecting the lower riparian (in this case, Pakistan) from any harm in the sharing of international river waters. Being itself a lower riparian in relation

to China, India is not in a position to set a wrong precedent of breaching the treaty or diverting Pakistan's share of waters upstream.

The IWT has rendered a number of economic benefits to the region in terms of ensuring water supply for the irrigation needs of both India and Pakistan. Many of the existing hydropower generation plants of both India and Pakistan are being installed and operated under the IWT framework. Revocation of the IWT would mean a considerable loss of investment in irrigation and hydropower infrastructure. Any future environmental cooperation would also face a serious setback before any start.

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