**Operationalizing the Indus Water Treaty, *a Case Study of Upper Riparian***

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**Abstract**

*Indus water treaty is the agreement signed by Pakistan and India in 1960 to solve the water issue that was started after the partition. For some time the treaty was followed by both the parties in full spirit but due to some weak points and shortcomings India started violating the treaty. Still the treaty is in operation but only for lower riparian. Pakistan cannot bind India to follow because of flaws within the treaty. The paper is an attempt to highlight the violation of treaty by India also the shortcomings and defects in Indus water treaty which India is always cashing at every point as it wishes.*

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**Historical background**

Prominent British poet of twentieth century, W.H Auden once said, “thousands have lived without love not one without water”.

Water is the true wealth in a dry land, without it the land is worthless or nearly so. And if you control water, you control the land that depends upon it. (Stinger in Gleick 1993) Water is considered as the basic need of life. Civilizations developed near water, which supported them for stay and develop like the Indus Valley civilization developed near Indus River. Indus river system is being used by not only by the present day people, but it was developed before the 19th century and was then organized by the British during their rule in subcontinent.

In ancient times there was no conflict on water because of low population and plenty of water reservoirs, but with the increase in population and use of water, a threat alarmed in the eyes of lower riparian. Initially the struggle was started between Punjab and Sindh before partition as Punjab was upper riparian and Sindh was suspicious about their water share. Sindh was afraid that Punjab will use and stop water flow and will established their right over Indus water and may encroach upon Sindh’s part of water. Initially this dispute was between provinces and was not so crucial but after partition of sub-continent that issue arose and required international involvement for solution.1

Pakistan faced the water issue from the day one, when India, the upper riparian blocked the flow of water to Pakistan from Farooz Pur headwork. India got the authority of the headworks of all rivers present in subcontinent viz Indus river, Chenab river, Bias river, Jehlem river, Sutlej and Ravi due to unjust demarcation of boundaries by Red Chilf between India and Pakistan. Chief engineers from India and Pakistan signed an agreement on 20th of December 1947, under which Pakistan could use water of Indus basin till Rabbi Crop, which ended on March 31, 1948. On April 1st India blocked the water flow to Dipulpur canal and upper Bari doab canal.2 The act was highly criticized by the people of Pakistan and a rumor arose among the people that India is going to convert Pakistan into a desert. Resolving the issue Pakistan sent a delegation to India where on May 4th 1948 an agreement was signed known as Delhi Agreement. Under said agreement, Pakistan has to pay for the continuous supply of water for only agricultural purpose and not for construction of dams until it manages an alternate source. 3

On June 16, 1949, a notice was sent by government of Pakistan to Indian Prime Minister Jawhar Lal Nehru regarding a conference “equitable apportionment of all common water” and suggested the world arbitration court to take part in the issue and bring it into their jurisdiction. But India was against the involvement of a third party. In the same year David Lilienthal, former chairman of Tennessean Valley Authority and US atomic energy commission, visited Indus basin and invited World Bank to take some interest in solving water disputes between the two rival countries.

In 1951, president of world band, Eugene Black arranged a meeting between Liaqat Ali Khan, the then prime minister of Pakistan, and India Prime Minister Jawahar Lall Nehru in Washington. In the meeting both finally agreed that neither side will reduce the flow of water without any appropriate reason. 5

From 1952 to 1960 a series of meetings were held for resolving the said issue, initially India was against the involvement of a third party so it took eight long years and at last in 1960 the famous Indus Water Treaty was signed by Indian prime minister Jawhar lall Nehru, field marshal Ayub khan the then president of Pakistan and W.A .B Illif president of World Bank in September 19th, 1960 in Karachi. 6

**Indus Water Treaty**

On 19th September 1960, with the help of World Bank, the long undissolved issue between India and Pakistan was resolved under the famous treaty know as Indus Basin Treaty (Sindh Tass agreement) in Karachi. Indus water treaty is divided into three parts, part one consists of preamble, part two contains 12 articles and part three comprising of Annexures from A to H. 7

Main constituents of IWT

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|  | Preamble |
| Article 1 | Definitions |
| Article 2 | Provision regarding eastern rivers |
| Article 3 | Provisions regarding western rivers |
| Article 4 | Provisions regarding both western and eastern rivers |
| Article 5 | Provisions regarding finance |
| Article 6 | Data exchange |
| Article 7 | Future cooperation |
| Article 8 | Permanent Indus commission |
| Article 9 | Settlement of differences and disputes |
| Article 10 | Emergency provision |
| Article 11 | General provision |
| Article 12 | Final provision |
|  | **ANNEXURE OF INDUS WATER TREATY** |
| Annexure A | Exchange of note between both government |
| Annexure B | Agricultural use by Pakistan from certain tributaries of raver Ravi |
| Annexure C | Agricultural use by India from western rivers |
| Annexure D | Generation of hydroelectric power by India on the western rivers |
| Annexure E | Storing of water by India on the western rivers |
| Annexure F | Neutral experts |
| Annexure G | Court of arbitration |
| Annexure H | Transitional agreements |

**Significance of the Treaty**

Following are some of advantages of Indus water treaty

1. The long conflict over water between Pakistan and India was solved and each nation became independent of the other state in apportioning its own share of water.
2. The Indus water treaty was a step toward confidence building measurement.
3. The treaty gives opportunity to each state to use the water according to their sweet will, they can construct dams, plants and can adjust according to their own choice.
4. Water war between Pakistan and India started immediate after the partition came to an end in 1960 because of the agreement.
5. For future prospects, permanent commission was founded to resolve the issues. 18

**Violation of Indus Water Treaty**

Indus water treaty is the most important agreement which had solved the issue of water sharing between India and Pakistan. Issue arose after stopping the water flow by India to Pakistan which created great disturbance and enmity towards India. After 1960, the issue was settled down for some time but due to some weak points in the treaty, India again started creating problems for Pakistan. From 1970 till now India is constructing dams of western rivers which are against the treaty. Some of the shortcomings in the treaty are highlighted below which India is cashing till date. To keep the disputes on track water Indus water treaty should be reviewed so that in future no such conflict arises between India and Pakistan. 19

**Construction of Dams on Western Rivers**

Under article III of Indus water treaty, Pakistan could use three western rivers unrestrictedly, under the said article India also got the authority to use western rivers for minor use such as domestic use, agricultural use, non-consumptive use and run-on-river hydro project before entering into Pakistani territory. According to Annexure D (3) India cannot construct big dams for the storage purpose, nor can they divert the natural flow of water, also on Chenab river the run-on-river plant should not be full poundage level. Part 4 of the same annexure deals with the irrigation canals, there will be no restriction on India to construct and operate new hydroelectric plant on irrigation channel taking from western rivers but not additional supplies of water to run the irrigation channel for hydroelectric power. {Annexure (3) (4)}.

For construction of new dams on western rivers India has to inform Pakistan about the design and level of storage of water, they must inform Pakistan six months in advance, before starting construction of the project. If such information were not provided Pakistan will inform India in written against such decision and India has to change the shape and height of the dam within three months. {Annexure D (10)]

According to article VI of Indus water treaty, a regular exchange of data from both the sides at regular intervals will be provided by both the parties, the data will be of daily basis, daily withdrawal and level of water flow from dams, also the level of water in the rivers, daily delivery from canals, daily escape from canals including link canals, means that both the countries have to inform each other in written about the level and flow of water from headworks, dams and link canals. {Article VI, annexure (a)}

Keeping these points in view how India is violating Indus water treaty by constructing dams on western rivers against Indus water treaty is treated below. 20

**Violation of Above Provision**

From the date of implementation of Indus water treaty up to 1970, both the states have followed the treaty in true spirit but after 1970 and onward, India kept aside the treaty and started construction of dams especially on western rivers which should flow to Pakistan unrestricted according to agreement. India had violated the treaty many times in the construction of Baglihar, Dul Hast, Nimoo Bazgo, wallur, kishanganga and many more projects. 21

**Case 1# Salal Hydroelectric Project**

Salal hydroelectric project is constructed on river Chenab in occupied Kashmir. The first project when India started violating Indus water treaty and a tussle started once again between India and Pakistan after ten years. The starting date for the project was 1970, under article iii, annexure D (3) India must have to inform Pakistan about the project up to the start of 1971, secondly under article vi, India has to submit their documents to Pakistan regarding the flow of water by constructing Salal project that how much water will flow after its completion and what will be the lengths and widths of the project. India gives information about the Salal project in June 1974, four years after then its starting date. That was the first step taken by India against Indus water treaty. 22

When Pakistan objected the design of Salal project, a series of sessions regarding the issue started. Pakistan objects the project under annexure D of Indus water treaty, that it will disturb the regular flow of water to western Punjab. In 14th aril 1978, both the parties signed a treaty known as Salal hydroelectric project, under which the design of the project was modified but India came victorious as they had built Salal hydroelectric project on Western River which might enter into Pakistani territory unrestrictedly.23

The design of the Salal project was changed but it should be demolished by the court of arbitration on violation of treaty. The flexibility in this case boosted up the courage of Indians and later on they started regularly violating the treaty by construction of dams on western rivers.

**Case II, Waller Barrage Project**

The second project started by India on Western Rivers was Waller barrage project. The project is located on Jehlem River in occupied Kashmir. Same violation of treaty was repeated in Waller project. No information was provided to Pakistan before starting of project. It was started in 1984 and Pakistan raised objection on the project in 1985. The issue was initially discussed among the commissioners under article IX of Indus water treaty but India did not agree upon the stopping of construction on Waller barrage. Later on the dispute was put forward to permanent Indus commission to deal with under article viii of treaty and decide the case as explained in annuities D. Following the articles and annexure the construction on the project was suspended in 1987. Resolving the project issue 30 meetings were held by India for starting the construction on project. The dispute is suspending unitl now and ban on construction is still veiled but questions arise that why permanent Indus commission and court stopping India by regular violating of treaty. 24

The first defect in Indus water treaty arises here that there is no such provision in the treaty to deal with the party who is violating the treaty. India will continuously construct dams on western rivers without informing Pakistan. And later on they will just change the design of the project. This violation is victory for India. Treaty also helps India in violation as no such provision is present about the behavior of upper riparian. India will always be violating and Pakistan will have to compromise on such occasions.

**Case III Baglihar Hydroelectric Project**

Baglihar is situated in Chandrakot, in south of Doda district of Jammu. Baglihar hydroelectric project is constructed on Chenab River, which has shaken Indus water treaty to the base. It was the first dispute which was presented in front of Neutral experts for solution. The project had the capacity to generate 450 MW of electricity. Pakistan explained its point that it was kept in dark about the project and was not allowed to visit the project site. For generating 450 mw power it was proposed that the height of the dam will be up to 144.5 meters and a gross storage of 395 million cubic meters of water. 25

Pakistan raised six objections on the design of dam and told neutral experts that it is not according to the prescribed rules of Indus water treaty. The objections are about 1. Elevation of tunnels, 2. Height of the gates 3. Poundage’s level, 4. Lower weir level 5. Level of intake tunnels, 6. Gated and submerged spillways. 26

Pakistani experts also feared that the structure of dam will results in loss of up to 8000 cusecs of water on daily basis which will directly affect the rabbi crops. Due to high storage of water India can stop water to Pakistan in winter season up to 27 days, as they have to stop water for generation of electricity. They will need more water flow and in winter season the flow reach to dead storage, so they will stop the regular flow to Pakistan. 27

By putting the situation in front of international court of justice, it was clearly showed that international court has no jurisdiction in this regard, because there is no such provision to deal with the situation. 28

In Baglihar dispute it became clear that in IWT India had given the authority to use the western rivers. But the point about the level of water during winter season is unclear, as the flow level almost reached to dead storage. It is also not mentioned in the treaty that what will be the level for power generation projects on run on river projects. If India wants to build a project having the capacity of more than 1000 mw nobody can stop them as there is no limitation for power generation project under IWT. 29

**Case IV, Kishanganga Hydroelectric Project**

Next step taken by the India after Baglihar project was Kishanganga hydroelectric project situated 5 kilo meters to the North of Bandipora in Jammu and Kashmir. The installed capacity of the project is 330 megawatts. Initially Pakistan received information in 1988 that was about the run on river project but formally in 1994 Pakistan came to know the intention of India that the project is used for storage work. Initially Pakistan raised three objections. Kishanganga project will be constructed by diverting water of Neelum River to Waller lack, so the objection was against the diversion of water. According to Indus water treaty if the water is diverted for irrigation purpose it must be returned to the main stream, while in this case India will divert the natural flow of water and will pass it through a tunnel for about 100 kilo meters which will directly affect the Neelum valley and will convert it into desert as the valley is directly dependent upon Neelum river. By diverting the water flow Pakistan will receive 27 per cent less water than natural flow, which will damage not only the irrigation of Neelum valley but also it will damage the effeminacy of Neelum Jehlem hydroelectric project downstream. Lastly the design of the project is against the article III, annexure D of treaty. 30

By raising objection against the project India promised that they will stop construction on project until they satisfy Pakistan about the design. Successive meetings were held but India failed to convince Pakistan on their objection till 2005. Further India did not provide the written data regarding the project. Continuously India is going against the article VI of the treaty that is about the exchange of date. 31 In 2005 Pakistan started negotiation for resolving the issue under article ix (2,3,4 and 5) of Indus basin agreement and raised 6 points in which three were about the dam design, two were concerning power generation and last one was about the diversion of natural flow of water. In 2006 India submitted a revised plan under which height from 75.48 meters was reduced to 35.48 meters. Other points about the diversion and power generation are still pending.

The court of arbitration granted stay order on the construction of kishanganga project on 25 September 2011, yet India had passed bill from its senate about the construction and 330 mg power energy against the law of arbitration. Under Indus water treaty India is free to construct dam on western being the upper riparian and no one can stop them which is the failure of the treaty.32

**Dul Hasti, Uri II, and Nimoo Bazgo Hydroelectric Projects**

Dul Hasti dam is located on Chenab near Kishtwar in district Doda. It has the capacity to generate 390 megawatt of electricity. The construction on dam started in 1989. In Dul Hesti dam India once again kept Pakistan in the dark and did not give any documents about the said project. The second issue in this dam was that when Pakistan was given the documents about the dam it was for irrigation purposes not for power generation but India constructed it for power generation. 33

Uri II dam is located in Baramulla district. Pakistan asked for information about the project in 2002 for the first time; again in 2004, and for the third time in March 2005, on this reminder India gave partial information about the ongoing project first in December 2005 and then in April 2006. Pakistan raised objection on the design as it was constructed against annuxure E of the treaty. The objection was about the height of the dam and Pakistani experts asked India to stop the construction until the objections were solved. But without any hesitation about the notice India started work on the project. 34

In Nimoo Bazgo Pakistan raised objection on the point that the project will obstruct the smooth flow of water to Pakistan. A team consisting of water experts from Pakistan visited Nimoo project but they were not allowed to visit the site of project. 35

In all these projects Pakistan was neither informed before starting the work nor Pakistan was given any information about the dams and projects. There is no article or clause about the reminder about request for getting information, yet Pakistan requested for getting documents related Uri II project. In the case of Nimoo hydroelectric power project Pakistani water experts were not allowed to visit the project site. According to article VI of Indus water treaty frequent visits would be done at regular interval while India did not allow Pakistani experts to visit.

From the above discussion it is concluded that India is violating Indus water treaty on every point. Up to now India has violated article III and IV in case of Baglihar, kishanganga and Salal hydroelectric project. Article VI, exchange of data in almost all the projects is violated; India had never provided information of projects in advance as mentioned in the treaty. Article VII, future cooperation, we see no cooperation in the above projects or any other issue that arose because of projects. In some cases that had even violated the decisions taken by the court of arbitration and neutral experts. In a nutshell almost every article of the treaty is violated by the India.

**Indian View about the Dam Construction**

India has given baseless views about the construction of dams on the western rivers: firstly they say that almost half of water is flowing to Arabian sea without any use by Pakistan, they give the arguments that up to now Pakistan has never build big dams nor any hydroelectric power project after Mangla and Tarbela. The second reason for construction of dam is that they are utilizing the water to supply electricity and store water for the irrigation purpose in Kashmir. Currently the total required electricity for Kashmir is 5000 MWs and land for irrigation is very little as most of its land is arid. 36

**Shortcomings in Indus Water Treaty**

1. **Projects on Western Rivers**

India has constructed up to 62 hydroelectric projects on western rivers, they can constructs as they have the right under article III of IWT and further freedom has been given in annexure D of the said treaty. Construction of dams on western rivers leads to two drastic situations: first, using water for generating purposes and irrigation, they will stop the regular flow of water as they are continuously doing. In summer season when the level of water is high, no hard difficulty will be faced by the lower riparian but in winter season when the flow almost reaches to dead storage, the lower riparian will suffer a lot. Due to low outlet the downstream dams will receive less water and will directly affect the power production. Also it will badly affect the irrigation canals and agricultural products, secondly constructing more and more dams also leads to shortage of water and a time will come when all the water will be used for storages and flow to lower riparian will stop due to which Pakistan will be converted to desert.

In annexure D of IWT, there is a provision and list of plants that upper riparian can construct projects but there is no such provision or clause regarding the number of future projects. In the absence of such provision in IWT there is no limitation on India to construct a specific number of dams and international court of arbitration will have no choice but to give permission to upper riparian to go ahead. 37

1. Article IV (8) of IWT, the use of natural channels of rivers for the discharge of flood or other excess water shall be free and not subject to limitation by either party, neither any party shall have any claim against the other in respect of and damage caused by such use” (IWT)

According to this article during rainy season either side can release water during flood season if dams are filled with mud and water so India being the upper riparian can open any time according to the need also there is no limitation on the water release from any store house, so this article can only be used by India and she can use this point as a “water bomb” against Pakistan. By release of water she can easily damage the canal system, downstream dams, and agricultural land. 38

In the same article it is mentioned that before releasing water one party must have to inform the second one, but during the recent flood no such prior information were provided to Pakistan and water from Indian dams was released which resulted in causalities, crop damage and loss of animals e.t.c. so the clause related to the release of water should be replaced as it could only be used by upper riparian India, and Pakistan will always be in danger in future.39

1. **Height Of Dams And Limitation On Electricity Production**

Under article III, annexure D, India has given the right to construct run on river projects on western rivers before entering to Pakistani territory, but there is no such clause or article in the treaty about the height of dams. India is constructing different dams with different heights, one bigger than the other, so a limit should be kept about the height of the dams as we have a clause about the design of dams on western rivers. Also there should be limitations on the production of electricity value, if India wants more power generation, they must have to construct big dams and will stop more water for production. If the height and power generation would be kept on low level then objection on the project from Pakistan side will automatically be less which will directly affect confidence building measure.

1. **Sharing of Data**

Article VI of IWT is about the sharing of data at regular intervals. Both the parties have to provide written data about the upcoming projects, also daily water flow. If any party is going to start any projects especially on Western River they must have to provide information six months before the starting of work. But there is no such article or clause about the non-availability of date, or providing information to the second party. As India has violated this article many times in the Baglihar, Sala, kishanganga and other projects, they continuously keep Pakistan in dark, so there should be some punishment if such crime was committed by any party, or their projects should be demolished from the base and further they should be banned from constructing the same projects.40

1. **Climate Change**

According to new study, per year increase in atmosphere temperature is 0.4 c due to which Himalayan glaciers will continue to retreat over the next 50 years. This will lead to low flow of fresh water in long running, as Indus River is heavily dependent on threw glacial and snow melting and Pakistan will face the impact in near future. The treaty had not explained such situation faced by any party in the future. Because of melting glaciers, Pakistan will suffer more than India as it is lower riparian and water flows to Pakistan after passing from India. Melting glaciers also affect the flora and fauna which will lead to heavy floods and erosion from hills. Due to erosion dams will be filled with mud regularly which will affect the natural flow and quantity of water. 41

1. **Water Level**

India has the right to construct dams under treaty but there is no such provision in the treaty about the level of water in the dams. Pakistan demanded 500 cusec of water in August and September and 400 cusec in October in kishanganga dam project while India said only 100 cusec of water would be released to Pakistan, at last, court of arbitration granted 318 cusecs water to Pakistan. About the level of flow of water Pakistan can never get the support of Indus water treaty. 42

1. **Issue of Drawdown Flushing**

Indus water treaty is silent about the drawdown flushing. In all Indian projects rivers that are entering Pakistan having drawdown flushing above the dead storage. In kishanganga dam project the issue of drawdown flushing was solved by the court of arbitration. Court issued a principle that drawdown flushing will be always below dead storage for all the dams that are being constructed on river Jehlem and Chenab. Initially there was no provision about the issue, now question arises that India had already constructed 62 dams where the drawdown flushing is above the dead storage, what will be the legal aspect of those projects? 43

**Conclusion**

After partition Pakistan faced serious issue of water. Being an agricultural state Pakistan is always in need of water but due to some misfortune it got a very little amount of water. For uplifting the economy, a fertile land was available but for water resources we pleaded India. Indus water treaty was signed by both the parties to solve the issue once and for all. It provided opportunity for cooperation in future between India and Pakistan, but due to some flaws within the treaty India once again started aggression in one way or another. Initially India started using the weak points in the treaty and constructed a number of dams by violating the treaty. As lower riparian we started sending massages and only objected to the acts but no fruitful results came out because of shortcomings of the treaty.

Due to climate change in near future the water level would reach dead level and we will be still objecting and resolving the issues. In 1947 Pakistan possessed 5600 cubic meters of water and now 1100 cubic meters of water per person. For saving Pakistan from more havoc situation and to stop Indian aggression Indus water treaty must be revised so that Pakistan can get its due share of water. The defects in the treaty will always be cashed by India, and Pakistan will only knock at the door of the court of arbitration from where it would be difficult to receive a good share as they are also bound to obey Indus water treaty. So a new revised version of IWT should be implemented to save our next generation.