

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Hydro-diplomacy to Address the Transboundary Water Issues between India & Pakistan

***By:
Ashfaq Mahmood***

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Scope of Presentation

- **Background of Indus Waters Treaty**
- **Water Issues Between Pakistan and India**
- **Natural Factors----Climate Change**
- **Hydro-diplomacy to Address Water Issues**
- **Institutional arrangement for Hydrodiplomacy**
- **PCIW---Capacity Building**

Historical Perspective -- Indus Waters Treaty

1. In 1947, division of the sub-continent amidst one of the bloodiest riots in the world (killing, migration, loss of property, misery). **Tensions and Mistrust**
2. Out of 20 basins, only Indus basin, partially, fell in Pakistan. Upstream control structures on Ravi, Beas and Sutlej fell in Indian Territory. The boundary commission **assumed** that the existing arrangements will continue.
3. India stopped water flowing to Pakistan on 1 April 1948 affecting 1.7 mAcre of land, millions of people and immediate slaughter of thousands of animals.
4. Restored through **interim** agreement on payment-- **time bomb was ticking**
5. **Two sides locked horns:**
 - i. Pakistan's Stand based on international principles:
 - a. Existing (Historical) uses be protected
 - b. Additional water to be divided according to future irrigation potential and population etc.
 - ii. India's Stand: Upper riparian has the prior right. Sovereignty over water flowing through Indian or Indian held territory.

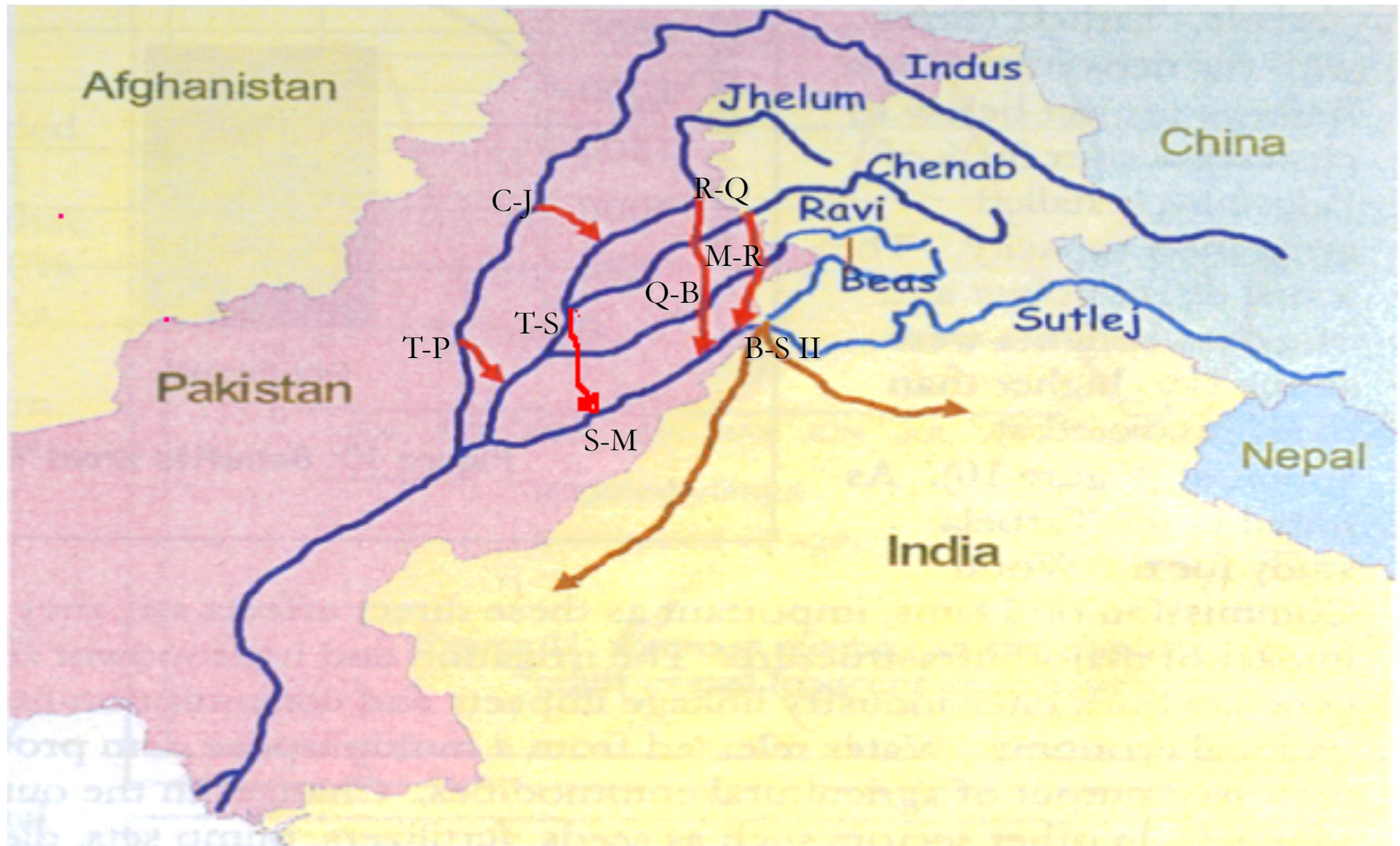
Settlement of Dispute

1. Dispute settlement under the aegis of World Bank:
 - a) Lilienthal's Article : *“Another “Korea ” in the Making?”* in Collier Magazine in 1951
 - b) Eugene Black's Proposal
2. Initial effort was for **co-operative use** (contemplating diversion of some water from Chenab to Sutlej while Sutlej continue to meet the needs of lower riparian (Pakistan). However, ultimately the principle of **division** of waters was adopted. IWT signed in 1960.
3. For Pakistan: **Western Rivers**, Indus, Jhelum and Chenab.
For India: Eastern Rivers, **Ravi, Sutlej and Beas.**

Basic Principles of Indus Waters Treaty

- Division of Waters: (a) Fixing and delimiting the rights and obligation, (b) most complete and satisfactory utilization of waters in (c) cooperative spirit
- Eastern Rivers: Unrestricted use for India except Limited Pakistan Agri use.
- Western Rivers: 1. Unrestricted use for Pakistan and India under obligation to let flow all the waters and not permit any interference with the waters of Western Rivers EXCEPT for following uses:
 - (A) Domestic use
 - (B) Non-consumptive use
 - (C) Agricultural use (limited)
 - (D) Run of River Hydropower Projects , as per design criteria in IWT
 - (E) Storage works (limited)
- 3. India to inform Pakistan 6 months in advance of construction of Power Plant
- 4. Formation of Permanent Commission
- 5 Dispute Resolution: Commission (for question), N.E. (for Point of Difference on engineering matters), CoA (for Dispute---legal matters)

1960



INDUS BASIN REPLACEMENT WORKS

Link Canals (9 No)	Barrages (6 No)	Storage (3 No)
Trimmu-Sidhnai	Sidhnai on Ravi	Mangla
Sidhnai-Mailsi	Mailsi Siphon on Sutlej	Chashma
Mailsi-Bahawal	Qadirabad on Chenab	Tarbela
Rasul-Qadirabad	Rasul on Jhelum	
Qadirabad-Balloki	Chashma on Indus	
L.C.C Feeder	Marala on Chenab	
Balloki-Sulemanki-II		
Chashma-Jhelum		
Taunsa-Panjnad		

Water Issues With India

Trust ---The Fundamental Issue

- **Pakistan Side Apprehensions:**

*India wants to interfere and attain more **control and storage** on the waters of the Western Rivers under the garb of, most complete and satisfactory utilization of waters, tech design of projects and operational requirements.*

- **Indian Mindset(upper riparian) :**

i. India is right -- Project Designs are Treaty compliant. Pakistan objects for the sake of objecting.

ii. India can start projects unilaterally (Disregard to Pakistan's objections)

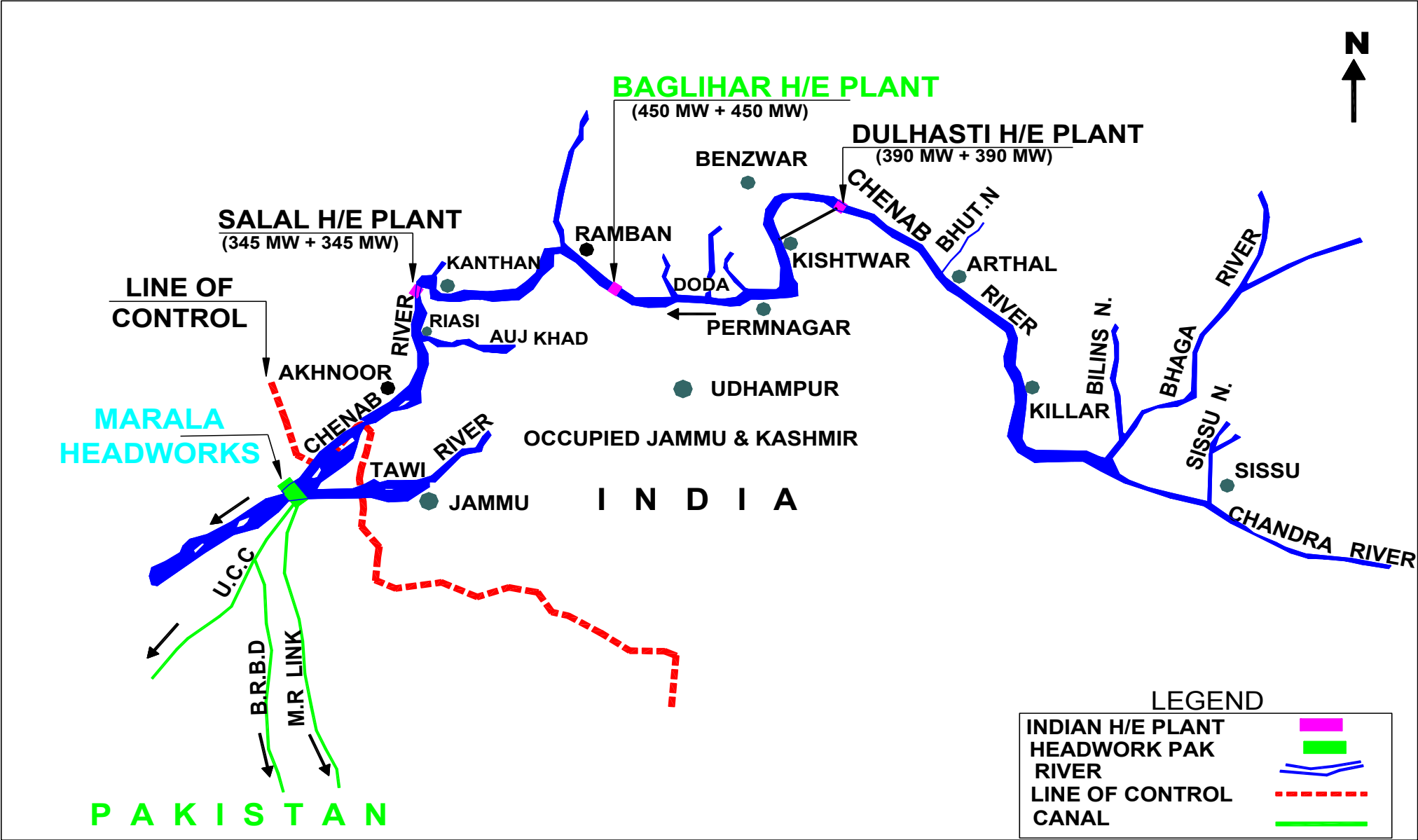
iii. India knows which data to share.

iv. Bilateral dispute resolution rather than a neutral party

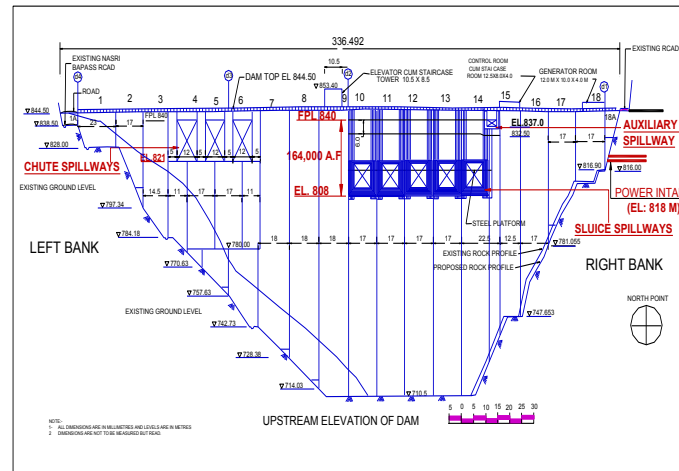
. Both Sides spread misinformation, make provocative statements

. Both Sides adherence to positional stances, arrogance.

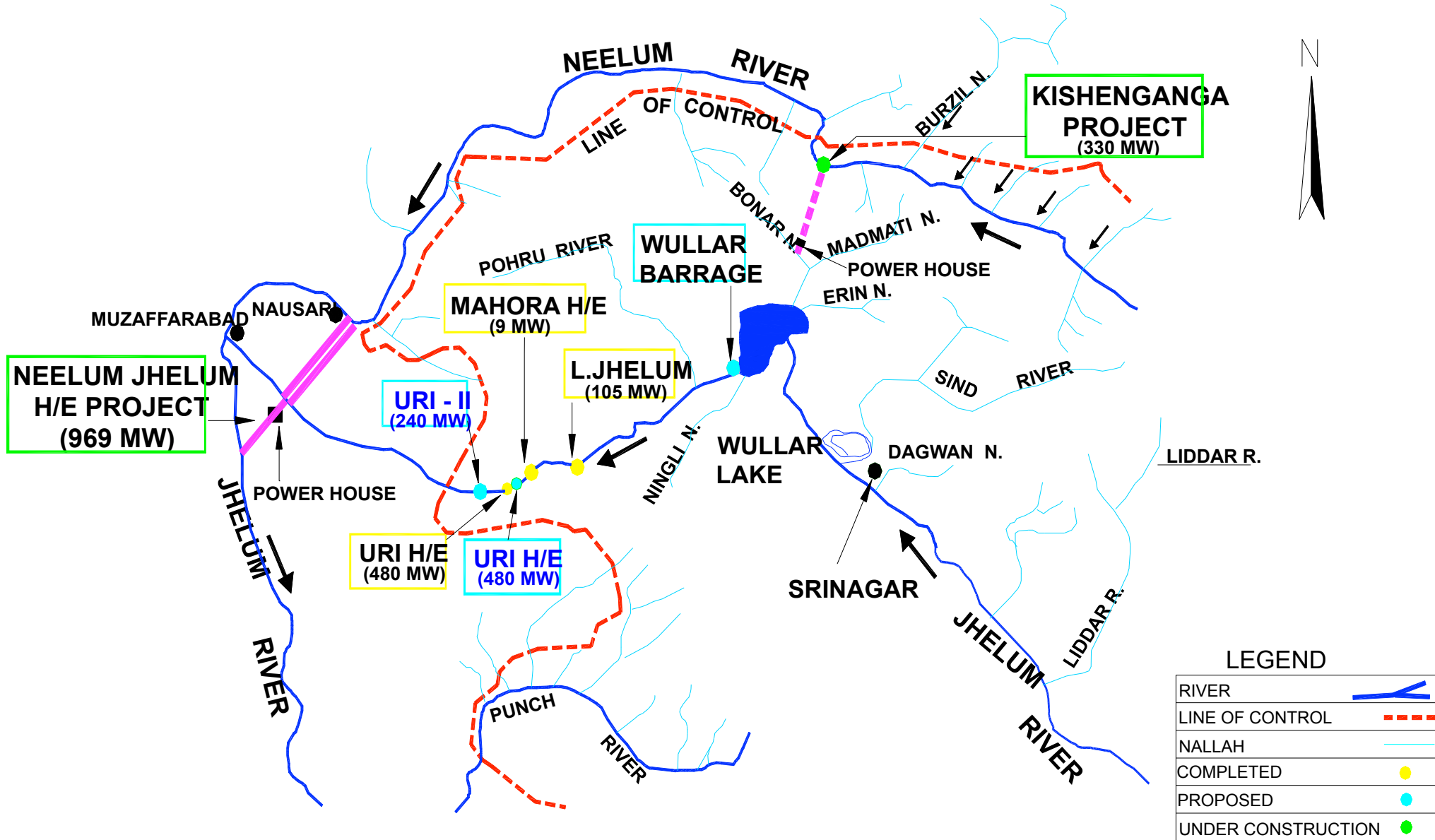
Baglihar Dam on River CHENAB



UPSTREAM ELEVATION OF BAGLIHAR



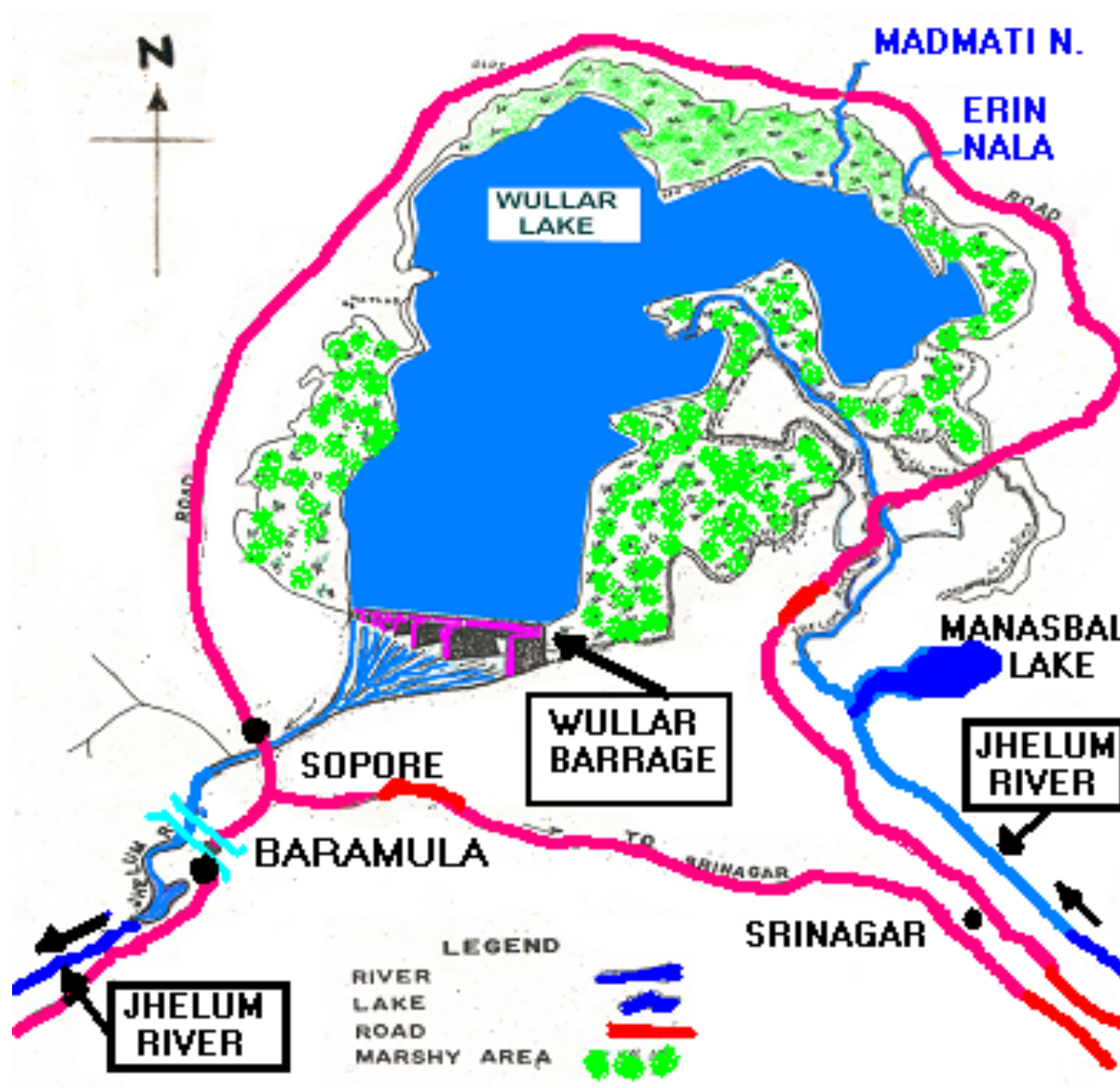
Kishanganga HEP on JHELUM RIVER



Decision of Court of Arbitration (CoA)

1. India allowed to Divert Water, as they were adjudged to be ahead of Pakistan. (*Comment: Pakistan's Case was not presented well due to institutional disharmony !*)
2. India to ensure minimum flow of 9 Cumecs (317 cusecs) at all times. (net loss of about 10 % of hydroelectricity generation at NJ)
3. Draw Down Below DSL not permissible as sediment flushing is not an unforeseen emergency. (**Pakistan Vindicated**. India cannot justify construction of orifice spillways on Western Rivers in future).

Foot Note: KHEP design be modified. Case to N.E under study



INDEX PLAN OF WULLAR BARRAGE

EL. (FT.)	AREA (ACRES)	VOL. (A.F.)
5167	14172	-
5170	22874	61500
5174	32365	168500
5180	48031	422500
DESIGN RES. LEVEL		
5178.2	42809	328,000

Issues--Points of View on Wullar Barrage and Storage (Tulbul Navigation) Project

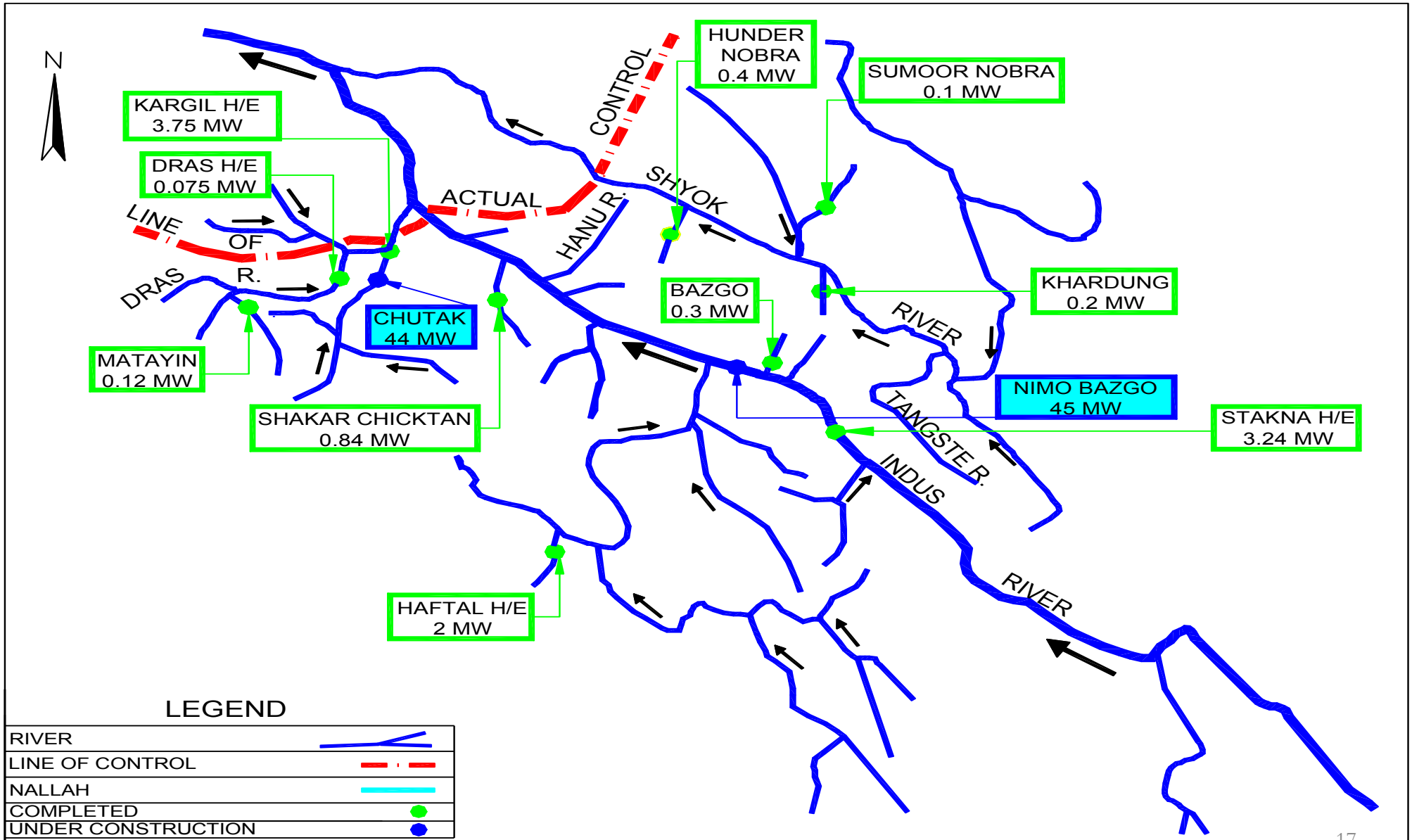
INDIA

- (1) Navigational control structure not a barrage.
- (2) No man made storage
- (3) Non-consumptive use.
- (4) The Project is techno economically feasible .

PAKISTAN

- (1) The structure is that of a barrage with storage.
- (2) It will become a man-made storage of **0.395 bcm (0.324 MAF)**. No storage is allowed on the main stem of river Jhelum except for that incidental to the barrage **0.01234 bcm (0.01 MAF)**.
- (3) The Treaty forbids India from any **interference, control** or restriction in the flow of Western Rivers.
- (4) Project feasibility not justified (navigation with modern boats possible, Wullar Srinagar winter water data not supportive and other means more economic)

LOCATION OF PROJECTS ON RIVER INDUS



Other Issues

1. **Sharing of Shortages: Dry year flow is less than half the wet year**
2. **Transboundary Aquifers:**
 - Indus Basin losing 10 km³ per year
 - Water levels falling in Punjab, Haryana, Rajasthan and Dehli by 0.3 m /Yr.
 - Subsidized electricity rates for tube-well pumping in India
3. **Pollution of Rivers (discharge of industrial waste, chemicals/ fertilizers and domestic effluent)**
4. **Watershed Management**
5. **Apprehensions of water thefts—telemetry.**
6. **Reservoir Operation and filling**
7. **Environmental Flows in Eastern Rivers**
8. **Basha Dam**

Effects of Climate Change

- Shrinking Glaciers Glaciers in the Pamir and Hindu Kush mountains) **shrunk by 30 %** in the last half century
- Rising temperatures/global warming will result in at least **10% reduction in precipitation** in the next 50 Years.
- Increased summer flows in shorter time spans accentuating **floods** in next few years. It will be followed by shortages in the long run.
- Greater Frequency of floods .
- **Poverty**, food and electricity prices, urban migration affecting millions of people on the cards.
- At present severe **drought** at least once in 10-15 years. This frequency will increase.

Hydro-diplomacy

- **Why Hydro-diplomacy?**
 - To make a paradigm **shift from repetitive action—reaction approach**, positional fixations, blaming, sloganeering, misperceptions, time consuming dispute settlement to :
 - i. Bring cooperation at the centre stage.
 - ii. Maximize benefits for the people connected with water.
 - iii. Settle principles of future engagements
- **Concept:**
 - Integrate multiple perspectives within the ambit of the IWT(different perspectives: hydrologists, engineers, politicians, economists, sociologists, environmentalists, and people connected with water)
- **Approaches:**
 - Bilateral
 - Third party, neutral broker
 - Multilateral and donors
 - International political maneuvering
 - Track II diplomacy

Framework of Water Cooperation

1. Cooperation within the ambit of IWT
2. Setting the stage: Build Confidence and Trust
 - i. No emotive statements
 - ii. No political mileage
 - iii. Educate and regulate media
 - iv. Propagate benefits of water cooperation
3. Approach : **step by step**—Relation building and joint studies first

Avenues of Cooperation:

- i. Improve data sharing, telemetry**
- ii. Climate change studies and measures**
- iii. Watershed management**
- iv. Transboundary aquifers studies and management**
- v. Water pollution studies and management**
- vi. Sharing knowledge and experiences in water management**
- vii. Mechanisms of monitoring compliance with IWT**
- viii. Exploring mechanisms for avoiding repetitive issues**
 - a) Engineering matters: Design of infrastructure**
 - b) Legal matters: Interpretation of IWT**
 - c) Unilateral start**
 - d) Data**
- ix. Exploring further avenues of cooperation with mutual consent**

Drivers of Cooperation

- **Primary Drivers:**
 - Permanent Indus Commission
 - Governments
- **Secondary Drivers**
 - Media
 - Thinkers, opinion makers,
 - NGOs, Civil Society
 - Research , Academic and other water institutions

Permanent Indus Commission (PIC)

- **Pakistan & India to create permanent posts of Commissioners and appoint Engineers—competent in hydrology/ water use as Govt’ s Rep.**
- **The two Commissioners together form PIC.**
- **Purpose and Functions:**
 - 1. Cooperative implementation of IWT and promote cooperation**
 - 2. To serve as regular communication channel**
 - 3. To make efforts to resolve questions interpretation/application/ breaches of IWT**
 - 4. Hold at least once a year meeting**
 - 5. Inspection tours once every 5 years or as requested by either Commissioner**
 - 6. Submit annual report to the two governments.**

Note: Mismatch of qualifications with functions

Deficiencies of PCIW

- i. Very lean organization with engineering focus**
- ii. Lack of functional classifications**
- iii. Low salaries**
- iv. Career suffocation**
- v. Lack on skills in communication , hydro diplomacy and promotion of cooperation**
- vi. Lack of opportunities for widening and deepening knowledge.**

Capacity Building of PCIW

- **Organize PCIW along functional lines with increased manpower.**
- **Improve salaries**
- **Improve career development prospects within PCIW and opportunities in other organizations.**
- **The post of Commissioner should be tenure based (3 Yr) preferably on deputation.**
- **Develop knowledge base and skill set--- hydro engineering, management, climate change, ground water, environments, water laws, sociology, economics, diplomacy and communication.**
- **Advisory panel of experts**
- **Decent and IT enabled state of the art office, digitization of record.**
- **Provide adequate funds.**

Complimentary Support

- **Set up water chair, HEC to provide scholarships, promote scholarship in various water related disciplines**
- **Support and outsource to specialized consultants, legal experts and other consultants**
- **Patronage of the Government with a cell focused only on promoting cooperation with finances.**

Conclusion

- **Cooperation be brought on the centre stage**
- **Build mutual trust and relationships by bringing the stake holders together**
- **Restructure strengthen and support PCIW**
- **Promote scholarship in all water related disciplines.**
- **Allocate funds for activities for promoting Cooperation**

THANK YOU



Main Features of TOR of Study

- **Collect, review and analyse the data and information to document:**
 - **opportunities for water diplomacy to accomplish water cooperation in addressing trans-boundary water issues**
 - **trans-boundary water issues related to Indus Water Treaty (with India) and opportunities for water cooperation in sharing benefits**
 - **trans-boundary water issues related to Kabul River basin and opportunities for water cooperation between Afghanistan and Pakistan**
- **Development of the capacity of PCIW in water diplomacy and to facilitate the IWC to initiate the dialogues among the stakeholders**