



Consultative Workshop
**Upper and Lower Riparian's
Issues and Options**

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Selected Topics

- **Indus Water Treaty and Managing Shared Water Resources for Benefit of Basin States**
- **Beyond Indus Water Treaty: Groundwater and Environmental Management**
- **Towards Kabul Water Treaty: Managing Shared Water Resources**
- **Pakistan Water Apportionment Accord for Resolving Inter-provincial Water Conflicts**

Policy Brief #1

Indus Water Treaty and Managing Shared Water Resources for Benefit of Basin States

Issue: Indus Water Treaty under Strain

- ❑ Treaty and conflict resolution – over 30 years
- ❑ Increased water stress since 90s
- ❑ Treaty difficult to survive in next decade
- ❑ No exit clause in Treaty
- ❑ Treaty silent for sharing water shortages by India – dry years and Rabi season
- ❑ Strategy for sharing water shortages

Issue: Water Entitlements of India and Interpretation of Treaty

- ❑ Treaty permitted India for storages on Western Rivers of 1.54, 1.98 and 0.93 km³ for general, power and flood – total of 4.45 km³ (3.6 MAF)**
- ❑ Annexure D and E illustrate utilization of waters by India – while designing new schemes to ensure agreement of Pakistan**
- ❑ Conflict arises on interpretation or violation of provisions of Treaty**
- ❑ India's entitlement and sharing shortages**

Issue: Water Scarcity and Emerging Conflicts

- ❑ Climatic variability and change
- ❑ Rising water demand and environmental issues
- ❑ Impacts of Water Development by India on Flows of Western Rivers to Pakistan
- ❑ Decline in flows of Chenab River
 - ❑ Wet years - annual flows reducing since 1958-59
 - ❑ Droughts - frequent and severe since 1937-38
- ❑ Reactive Stance of Pakistan
- ❑ Awareness of trans-boundary water issues – a recent phenomenon
- ❑ Studies needed - beyond Newspaper Articles

Options

- **Building Areas of Cooperation**
 - ❖ Joint watershed management
 - ❖ Joint hydrologic studies
 - ❖ Comprehensive planning to optimize water use
 - ❖ Resolve conflicts through cooperative programmes
 - ❖ Manage water as a shared resource/commodity
- ❖ **Support Paradigm Shift in Mindset of People of Basin States**
- ❖ **Managing water for benefit of people of basin states**

Options

❑ **Restructure and Strengthen Pakistan's Chapter of Indus Water Commission**

- ❖ High performance institution
- ❖ Developing capacity in diplomacy, conflict resolution, entitlements, legal and technical issues

❑ **Establish Tri-partite Water Forum**

- ❖ Basin states and a developed country having strength in water (i.e. Netherlands)
- ❖ River basin management/development without water politics between experts of basin states
- ❖ Provide knowledge and backstop support
- ❖ Extend Forum to address regional water issues – Afghanistan, Bangladesh and Nepal.

Way Forward

Who will be the Champions of building a booming future for the indigent population of the basin states and make it happen for the benefit of Pakistanis and Indians – on the Indus?

Policy Brief #2

Beyond Indus Water Treaty: Groundwater and Environmental Management

Issues

- ❑ **Depletion of Aquifers in Northern India – Evidence generated under NASA study**
 - ❖ Extended effect on aquifers of Pakistan
 - ❖ Rising demand of groundwater abstractions
- ❑ **Entry of Effluents to Western Rivers**
 - ❖ Extensive development of chemical agriculture in India
 - ❖ Domestic effluents - rapid urbanization
 - ❖ Drainage water flowing to Pakistan having higher concentration of chemicals – environmental impacts
 - ❖ Mortality of livestock reported

Issues

❑ Growing Demand of Surface Water to Recharge Aquifers of Indus-India

- ❖ Recharging or supplementing groundwater
- ❖ Diversions to support shortages of water

❑ Seepage Losses in Lakes and Reservoirs

- ❖ Large heads of water in reservoirs induce recharge to groundwater and reduce flow of water to Indus-Pakistan
- ❖ True for hydro-projects – Wular Lake, Kishenganga, Salal and Baglihar dam projects

Options

□ Dialogues for Transboundary Aquifer's Management

- ❖ Sharing information – aquifer abstraction, policies encouraging over-abstraction, efficient use of surface water under *Warabandi*
- ❖ Developing capacity for use of remotely sensed data

□ Managing Groundwater as a Resource as well as Trust

- ❖ Joint organisation to identify short- and long-term supply capacity of basin and its integrated development
- ❖ Setting up of infrastructure and coordinating activities
- ❖ Groundwater as a trust - a demand based system
- ❖ Larger impacts on productivity of irrigated agriculture

Options

□ Support Paradigm Shift in Mindset of People

- ❖ Support paradigm shift in mindset of people
- ❖ Settlement in letter and spirit
- ❖ Trans-boundary water and aquifers as an opportunity to manage water while developing future plans

□ Monitoring of Hydro-power Projects on Western Rivers

- ❖ Monitor river flows and seepage losses
- ❖ Water apportionment to India on western rivers in terms of storage induced seepage losses
- ❖ Exchange data and information to formulate options for benefit of basin states

Way Forward

Who will be the Champions of creating a shift in the mind set of the experts and people to consider environmental concerns and groundwater issues and to formulate detailed provisions on trans-boundary aquifers and environmental pollution so that dialogues can be initiated to address emerging issues and formulate plans for benefits of basin states – on the Indus?

Policy Brief #3

Towards Kabul Water Treaty: Managing Shared Water Resources

Issue: Kabul River Transboundary Water

- ❑ New water development in Afghanistan – International support
- ❑ Historic rights of Pakistan
- ❑ Pakistan - upper and lower riparian of Kabul River
- ❑ Afghanistan - middle riparian
- ❑ Regional cooperation requires political will
- ❑ Mistrust and political considerations – perceived national interest hampered potential for cooperation

Issue: Trends of Flows of Kabul River

□ Sharp decline in annual flows of Kabul River at Attock from 34.6 to 23.5 km³

- ❖ climatic variability or change or persistent drought or enhanced use of water by Afghanistan.

□ Probability analysis of annual flows

- ❖ Lowest and highest annual flows - 13.82 km³ and 42.94 km³ based on historical data of 1937-07
- ❖ Ratio of lowest and highest annual river flows is 1:3
- ❖ Highest compared to any river of Indus-Pakistan – why?
- ❖ Decline in Kharif season river flows – changes in monsoon rainfall in last 70 years

Option: Resolving Conflicts on Shared Water

- ❑ Reframe perceptions of national water security
- ❑ Reversing stereotypes surrounding water
- ❑ Creating political will and increasing people's participation
- ❑ ECO, SARC and other forums to serve as a fertile ground for regional and bilateral water diplomacy
- ❑ Initiate dialogues and support Kabul Water Treaty using principles of International Water Law of:
 - ❖ Negotiations in Good Faith
 - ❖ Maintaining Historical Rights
 - ❖ No Harm to Anyone
 - ❖ Ensuring Equitable Utilization of Waters

Option: Regional Cooperation on Water

- ❑ Create transparent and shared repository of hydrological data on Kabul river basin
- ❑ Establish a Regional River Basin Management Commission with offices in each of the basin states
- ❑ Launch a multilateral dialogue process to build confidence and establish an agenda for trans-boundary river basin management mechanism and inter-governmental river-basin based water security watchdogs
- ❑ Encourage informal gathering of scientists from Pakistan and its neighbours

Way Forward

- **Change must start in Pakistan to develop a mindset to assist neighbour in building infrastructure and leading towards Kabul Water Treaty:**
 - **Courageous and open-minded Pakistanis and Afghanis – water Treaty an existential issue**
 - **Resolving pending issues of mistrust using principles of International Water Laws for a win-win situation**
 - **Good will and multiple ways for Treaty Negotiations**
 - **Discussions on Kabul waters be de-linked from historic grievances – Durand Line**
 - **Statesmanship, not weakness, to acknowledge past and then move beyond it**

Policy Brief #4

Pakistan Water Apportionment Accord for Resolving Inter- provincial Water Conflicts

Issues

❑ **Inter-provincial Disputes**

- ❖ Division of water and sharing of shortages
- ❖ Entitlement to market unutilized share of water
- ❖ Transport of effluents to downstream and impacts

❑ **Water Apportionment Accord and Water Entitlements**

- ❖ Lack of enforcement of water distribution as per ten-daily average use – system- and season-wise
- ❖ Lack of trust of lower riparian (Sindh) on equitable distribution of water
- ❖ Impact of reduced flows below Kotri on livelihood of delta ecosystems - visible and significant impacts

Issue: Water Entitlements and Availability

- ❑ Water availability is less than water entitlements
- ❑ Accord distributes 141.1 km³ of canal water supplies
- ❑ Maximum water diverted to canals during post-Tarbela period was 137.15 km³ with mean supplies of 122.2 km³ - 13.4% less than entitlements
- ❑ Variability in canal water supplies ranges 98.3 to 137.15 km³ - 30.4 and 13.4% less than entitlements
- ❑ How to share water shortages among provinces
- ❑ Why water entitlements are higher than availability
- ❑ Entitlements are based on additional storages to transfer water of a wet year to a dry year

Issue: Need for Storages and Opposition from Provinces

- ❑ Storage on Indus Main to regulate water supply – ensuring surpluses are used in times of shortage
- ❑ Serious inter-provincial disputes on construction of Kalabagh dam since last 25 years, with Punjab on one side and rest of provinces on other side
- ❑ Royalties for power generation go to province where they originated
- ❑ Basha is first what out of five dams government planned to built in next decade

Options for Resolving Inter-provincial Water Conflicts

- ❑ Amendment in Accord allowing provinces to market excess water
- ❑ Develop reliable system of water measurement
- ❑ Build consensus for construction of carryover dams
- ❑ Implementing Accord in full
- ❑ Giving power to CCI to resolve water disputes
- ❑ Feasibility studies for alternatives to controversial dams projects
- ❑ Seek consensus through open and informed policy dialogues
- ❑ Compensation and resettlement provisions for affected communities
- ❑ Allocate more resources for water infrastructure
- ❑ Strengthen water management for optimal water use

Options for Resolving Inter-provincial Water Conflicts

- ❑ Developing carry-over dams on Indus Main for adaptation against expected shrinkage of glaciers and changing precipitation patterns due to climate change
- ❑ Storages Outside Indus Basin – not a substitute for Indus Main but needed for livelihood
- ❑ Resolving conflicts on large dams on Indus Main - IRSA and Punjab to demonstrate transparency in operation of river flows in upper basin to built trust
- ❑ Income from hydro-power generation be distributed to all provinces as per their rights under Award
- ❑ Water entitlements for AJK, GB, FATA , ICT

Thanks