

## Why Kalabagh Dam?

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It has been effectively 36 years since a major dam was built on the Indus System. Pakistan has one dam on Indus Main (Tarbela) one dam on the Jhelum Main (Mangla) and one dam on the Kabul River (Warsak). Besides, the Chashma Barrage on the Indus River has a reservoir with storage capability of around 1MAF. The cumulative storage in the Indus Basin had by 1974 reached a maximum level of 18MAF with a live useable capacity of nearly 16.5MAF. More than half was a result of Tarbela dam. The live storage available in 2010 is now around 11MAF for a population that has doubled to 180mn since 1974. While Warsak storage capacity is now negligible the Mangla dam has been recently raised by about 40 ft but the benefits are very doubtful due to decreasing flows in the Jhelum River. Due to the present drought cycle Pakistan is struggling to reach the annual target of 20mn tons of wheat. Poverty has driven large ethnic groups of its population to extremism, militancy & insurrection. By not building new reservoirs in Pakistan, the upper riparian (India) now starts to claim legal rights over Pakistan's Waters from the three Western rivers that flow through Indian Held Jammu & Kashmir. Pakistan does not agree with this contention as it considers the Indus Waters Treaty 1960 having given it till eternity, perpetual water rights over the Western rivers. Indian actions show that she does not consider the IWT 1960 as sacrosanct. Indeed India will never include the sharing of the three Eastern rivers she was given under the IWT 1960. The glacier melted waters bring enormous quantities of sedimentation into the Indus Basin. The Tarbela reservoir receives over 160mn tons of sand / silt / sedimentation every year. Its 20% loss of capacity is due to this so called Delta nearly 100kms long which has formed in its reservoir. One dam in the Indus Basin is now required merely as a replacement reservoir. To offset & recover the storage lost since 1974 due to silt, sand and sedimentation. The construction of Kalabagh dam (KBD) is a survival issue due to the following:

- 1) KBD can provide over 6MAF lost storage within five years construction time. Its design was completed in 1984. World Bank also funded the ISO 14000 environmental studies by 1987. Water logging of Mardan – Pabbi – Swabi areas upstream of KBD was always a bluff just like flooding of Nowshera town due to KBD. Under which scientific logic can a reservoir with a possible short period level of 915 feet flood an area whose minimum level is 962feet? The concern in Sind of KBD's influence on Sailaba cultivation, survival of mangroves & sea-water intrusion have all been addressed within the studies leading to ISO 14000 certification.
- 2) KBD installed capacity of 3,600MW can provide over 11,500 GWh (11.5bn very low cost electrical units) every year. Pakistan is today at the mercy of the oil import lobby. At least 1bn units & 1000MW of additional peak power could be generated due to conjunctive operation of KBD & Tarbela. Besides utilization of Tarbela tunnel # 4 for a 960MW HPP becomes feasible.
- 3) KBD hydraulic flows make it a never silting dam. Low level orifices have been integrated in its design so that sedimentation can be pushed downstream using the flow of the river. KBD is worldwide recognized as an ideal site & technically classified as a 100 years + dam.
- 4) KBD is a least cost solution & repays its entire cost within the first operational year.
- 5) KBD will become a downstream dam for Tarbela. It will therefore enhance Tarbela's efficiency & output. Dams working in conjunction realize operational advantages. A big step to enhance Pakistan's irrigated area from the present 42mA. At least 34mA remains fallow.
- 6) KBD is the point of maximum flow of Indus Waters. Snow melt & rain water converge. Every additional MAF delivered to the Indus Basin Irrigation System (IBIS) is +USD 2bn/year.
- 7) KBD would allow double cropping to local farmers in riverine (katcha) areas. Most of these would keep their land-titles inspite of possible flooding every 5 years. This flooding would also recharge aquifers in an arid zone of West Punjab & South NWFP. KBD together with the proposed Munda dam on the Swat river would dramatically moderate serious flood situations. It is an inherent feature of large dams that they absorb flood shocks & moderate the peaks.
- 8) KBD reservoir location allows a gravity flow irrigation canal to South NWFP. A long delayed project required to neutralize extremism and militancy. NWFP has a negligible share of Indus waters since the Pehur high level canal from Tarbela is non-perennial. The prosperous landlords of Mardan & Charsada are one of the major factors for KPK youths' extremism & militancy. The NWFP leftist movement (in sympathy with Afghan politics of the 70's) was widespread. The farms in Peshawar & Kohat valleys were disturbed. Ground water resource has depleted. KPK must be made self sufficient in wheat & corn. KBD would in fact stimulate the entire PAK economy through its irrigation, energy & employment possibilities.