

Floods and KALABAGH DAM

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Kalabagh has taken its revenge by inflicting death and destruction on the country through a great deluge in the form of devastating floods for repeatedly going back on the promises by the rulers for building the dam as early as possible. The damage was colossal. Death toll was 1600, flood victims amounted to 2 crores, 46 lacs were rendered homeless, 80 lacs needed food and medical assistance, \$ 525 billion worth of crops damaged, 170 million fertile crop land submerged, 200,000 heads of cattle lost and 260 bridges destroyed in Swat alone. The idea of the dam was conceived in 1953, its design was finalized in -----quite a number of feasibility reports ere drawn up from time to time duly approved by the World Bank, building costs going up from year to year but our leaders . . . A few vested interests are always ready to play with the fate of the nation and suck the blood of the poor masses. Many of these vested interests in the form of "Veders" are concentrated in the smaller provinces. These "Veders" could never see that the economic plight of the "Haris" and "Kisans" should improve with the availability of much needed water for their agriculture at appropriate times from the storage reservoir like Kalabagh Dam. Hence the alliance between General Zia and these "Veders", for their own existence made a project like Kalabagh Dam a controversial one. It is a pity that the poor people of Pakistan engaged in agriculture have been denied their access to a

valuable resource like water. About 35 million acre feet of water, on the average, is allowed to go into the sea every year while the poor people are starving and dying due to non availability of much needed water for their use.

This drama must end. Exploitation of the people must cease. We must do everything possible to preserve what nature had gifted us with. We must conserve our water resources by building storage reservoirs without losing any more time. It is heartening to see that the President, who is at the highest pedestal of fame and importance internationally, has decided to reach out to the people and himself lead the march towards successful implementation of the much needed storage reservoir in the order of preference of Kalabagh Dam, Basha Dam and others. Some of the important and vital issues relating to this project are:

NWF Objection: Nowshera Town will be flooded with the construction of Kalabagh Dam

Fact: Exhaustive studies both on computer and physical models confirm that the flood risk to Nowshera does not at all aggravate with the construction of Kalabagh Dam. The highest top level of water in the reservoir, when fully filled, will be 915 ft. above sea level, whereas the level of the lowest point in Nowshera area is 935 ft., which means that the water level of the reservoir will be 20 ft. lower than the lowest point level in Nowshera. The maximum reservoir extent will remain 10 miles downstream of Nowshera. Hence no flooding of Nowshera. The sedimentation in Kalabagh Dam reservoir will be controlled by sediment sluicing every year for 50 days at the minimum operating level, which will ensure that there is no flooding of the Nowshera area. Chinese as well as other international experts appointed by the World Bank have endorsed this conclusion.

Objection: Fertile land of NWFP will come under water

Fact: Review of recent survey of Pakistan topo sheets shows the maximum reservoir level of Kalabagh (E1.915) is 55, 45 & 85 feet, lower than the lowest areas of Mardan (970 ft.), Pabi (960 ft.)

and Swabi (1000 ft.) Plains respectively. Moreover during most of the period of the year, the reservoir level of Kalabagh will be lower than E1.915. There is no chance of Kalabagh creating water logging in these plains. The outlets of the drains, Hazara and Mardan, from Mardan scarp have inverts such higher than the maximum level of water in Kalabagh reservoir.

Objection: A large number of people of NWFP will be displaced.

Fact: It has been estimated that about 83,000 persons will have to be resettled, out of which 48,500 relate to Punjab and 34,500 to NWFP. WAPDA will prepare a detailed resettlement plan for the displaced persons. 27 new villages will be constructed and 20 existing villages will be extended for this purpose. All modern facilities like water supply, electricity, schools, dispensaries, community halls and roads will be provided as part of the Kalabagh Dam.

Objection: Kalabagh Dam will result in the silting of Swat River which in turn will cause flooding in upstream areas.

Fact: This is a true concern, which can be mitigated by building a dam on River Swat at Monda, so that occasional regulated flows can be used to desilt the Swat River.

Objection: The fertile land of Sindh will become barren and whole of Sindh will become desert.

Fact: The real facts are totally different. Sindh complains that they need water during April, May while storage in the reservoirs at Mangla / Tarbela is down during the same period. In reality prior to the construction of Mangla & Tarbela, Sindh used to get 35 MAF of water annually. After the construction of these dams Sindh gets 44.5 MAF. In our river system 82 percent of the available annual flow is in the summer months while only 18 percent is in the winter season. The Kalabagh Dam will store only surplus water during the flood season between July to October and deplete during October to July.

The clearly means that Sindh will get the much needed water during drought period. In winter and early summer months additional quantity of 6.1 MAF will be available for Sindh which

will not only ensure regulated water supplies for crops in Sindh but also millions of acres of barren land could be brought under cultivation in Sindh. In the revised design the planned Right Bank and Left Bank canals from the dam have been eliminated. Hence Sindh will be the main beneficiary of Kalabagh Dam. The availability of water from the storage reservoir, when actually needed, will help convert the deserts of Sindh into cultivatable green pastures.

Objection: Sailaba cultivation in Sindh will be seriously affected.

Fact: Within the riverain belt of Sindh, about 86,000 acres are dependent on Sailaba cultivation out of 5 lac acres of culturable land. Studies have indicated that flood peaks of 300,000 CFS required to inundate the sailaba area will be available after the construction of the Kalabagh Dam. Therefore, Kalabagh will have no significant adverse effect on sailaba cultivation in Sindh. Further, tubewells could be installed to compensate marginally affected area and with water from these tubewells farmers can have two crops annually.

Fact: The total intrusion effect in the Indus estuary is dissipated below Aghimani, about 90 miles downstream to Kotri and it is independent of the quantum of river flows. Thus salt intrusion from the sea to inland Sindh will not occur. It must be remembered that the tide level is determined by nature and has its limits. It is also a fact that groundwater below Hyderabad is already saline. Regulated flows from Kalabagh will help improve the situation in every aspect.

Objection: Mangrove forest, fish culture and drinking water supply will be adversely affected in lower Sindh.

Fact: As regards the mangrove forest in Sindh, studies indicate that it has reduced due to over exploitation without planned regeneration. Kalabagh will not have significant effect. Moreover, fish culture has increased in the past in spite of variation of floods in different years, and it will not be significantly affected with Kalabagh, particularly when winter supplies of river would

increase with Kalabagh. Kalabagh will also assure more supplies for drinking water.

Objection: There will not be enough water for filling the reservoir.

Fact: Reservoir filling studies using 65 years historic flows indicate that surplus water would be available during 53 years to fill the Kalabagh after meeting 100 percent irrigation demand of Indus canals. In the remaining 12 years, Kalabagh reservoir will be partly filled, the average percentage volume filled would be about 76 percent.

Objection: High level outlets will deprive Sindh of its due share of water.

Fact: The Governments of 'Punjab and NWFP' had asked for provision of high level outlets for withdrawals of water from the reservoir. The consultants, however, found that construction of these outlets were extremely uneconomical and, thus, they are not provided in the detailed design and tender documents for Kalabagh project or in WAPDA's planned developed programme.

Objection: The dam site is located on faults and salt formation and therefore not suitable for the construction of the dam.

Fact: The dam site has been located away from major faults. All the structures have been founded on firm rock and adequately designed for seismic events. Salt formation is quite away from the dam.

Objection: The power station will not be able to generate during the summer months while the reservoir is being sluiced.

Fact: The power station is designed to generate at all levels between the maximum retention level and the minimum (sluicing) level. It will generate almost continuously during the sluicing period also.

Objection: Bhasha is a better alternate than Kalabagh from cost and power generation point of view.

Fact: Basha dam needs a lot of investigations at the dam site before bringing it to the design level of Kalabagh dam. According to the recent report from international panel of experts, it could not be possible to start its construction before year 2006 while

Kalabagh could be started in 2004. Its cost would not be less than Kalabagh while installed capacity of Kalabagh is more than Bhasha. The infrastructure of transmission will be very difficult and expensive.

Balochistan

Even the province of Baluchistan will highly benefit from the construction of Kalabagh Dam. The Katchi canal, which at present has water for 100 days only, will become a perennial canal. We as a nation have to remember and realize that national interests must always be supreme. We must not allow ourselves to be distracted by petty politics or ill intentioned vested interests. Let it be known that as per International Standards successful and sensible nations of the world have developed storage capacities up to 200 percent of the available river flows whereas in Pakistan we have only about 16 percent storage capacity (from 142 MAF of river flows we have only 17-1/2 MAF storage capacity, which is further reducing due to silting). If we want to survive as an independent and respectable nation we must harness all resources for our prosperity and well being.

It is heartening to see that out of the overall Kalabagh package in which incentives had been planned for all the provinces such as Gomal Dam for NWFP, Katchi Canal and Mirani Dam for Baluchistan, Rainy Canal & RBOD for Sindh and Thal canal for Punjab. Work has already started on these periphery projects and now the President himself has taken upon him to move the nation towards the main objective of construction of Kalabagh Dam. On 11Jun 98, the PM Muhammad Nawaz Sharif declared a National Agenda, a program of action, to make the country self-reliant. The most important measure announced was the construction of Kala Bagh Dam, which in fact was long overdue. Had this decision been taken earlier, our economic condition would have been strong enough to face the consequences of international economic sanctions. The tragedy is that it has been made a political issue and opposed on baseless objections. Its construction has been held

up for the last 10 years due to some unfounded fears on the part of a few political parties from NWFP, Sindh and Baluchistan.

The fact is that there is serious shortage of irrigation water in Pakistan. The Indus river is the primary source of water. Its supply for irrigation purposes can be increased by conserving the flood discharges, which otherwise pass unused to the Arabian Sea. The loss of water as such is estimated to be 35 million acre feet (maf—one acre-foot is equivalent to one foot of water spread evenly over an area of one acre).

The Kala Bagh Dam has been under consideration since 1953. It is a multipurpose project for irrigation, hydropower and flood control. It is for the benefit of the whole country and not only for a particular province. It has been found feasible by world's top experts and approved by the World Bank for financing.

Vital Statistics Concerning the Dam

Location: 15 miles above Kala Bagh on the Indus River.

Height: 260 feet above the water bed of the river.

Length: 11,000 feet.

Storage capacity usable: 6.1 maf.

Irrigation: About 24 lac acres additional area to be cultivated. Under the 1991 Water Accord, between the provinces, each province is to receive additional water from the Kala Bagh reservoir as follows: NWFP_ 1.1 maf; Punjab _ 2.1 maf; Sindh _ 2.1 maf; Baluchistan _ 0.7 maf.

Hydropower: Number of units: initial 8 Nos ultimate:12 Installed 3600 MW (mega watts). Initial 2400 MW. Annual generation 11,750 MW that will be fed into WAPDA grid for use by all provinces.

Reservoir: Gross storage: 7.9 maf; Usable storage: 6.1 maf; Retention level: 915 Ft ; Minimum reservoir level: 825 Ft ; Area at retention level: 110,200 acres.

Main Dam: Crest elevation: 940 Ft ; Maximum height: 260 Ft ;
Length: 4375 ft
Cost: Estimated Total investment (July 1997): US \$ 5.7 billion.
Implementation of the project would take 7 years for the first power unit to come into operation. But now costs have gone up multifold.

Project Objectives

1. To Provide additional storage and regulation on the Indus for management and timely supplies of water for the crops.
2. To compensate for the storage loss due to silting up of existing reservoirs.
3. To generate large amount of low cost hydroelectric power.
4. To increase the power output of Tarbela power station as a result of conjunctive operation of Tarbela and Kala Bagh reservoirs.
5. To regulate and control the extreme flood peaks of the Indus to eliminate flood damage down stream.

Why Kala Bagh Dam ?

Indus is one of the largest rivers in the world and for Pakistan it is the only river with surplus water. The construction of the Dam at Kala Bagh has taken more than 40 years to get its feasibility confirmed. It is not possible to drop this project at this stage and take up other suggested sites at Skardu and Basha for no obvious justification. If the Dam is not built it will have fearful consequences as under:

Pakistan on the Verge of Disastrous Water Crisis

If the Dam is not built, there will be a shortfall of 40 maf of water by the year 2000 and 108 maf by 2013. The corresponding shortage in the production of the food grains would be 6 and 12 million tones (mt) respectively. Power shortage up to 11,750 Mkw per year would result. Load shedding would hamper industrial and agricultural production. The supply available from independent thermal power plants, is very costly. We cannot afford it.