

DIAMER-BHASHA DAM
DURING KHAN'S TENURE

THE ORIGINAL CONCEPT:

Diamer Bhasha is a multi-purpose mega-dam project planned to be developed on the Indus River near Chilas, in the Khyber PK and Gilgit-Baltistan regions of Pakistan. It is the biggest ever dam project undertaken in Pakistan. Standing 272m-tall, Diamer Bhasha is also expected to be one of the tallest dams in the world. Construction on the project was originally planned to be started in 2020 with completion expected in 2029.

Diamer Bhasha Dam Location: The Diamer Bhasha Dam, with a huge reservoir, is located on the Indus River, in the Diamer district of Pakistan's Gilgit-Baltistan province, approximately 315km upstream of the Tarbela Dam and 40km downstream of the Chilas town. The two power-houses of the project were proposed to be developed in Kohistan, in the neighbouring Khyber PK province. The project area encompassed around 110km², extending 100km from the dam site up to the Raikot Bridge on the Karakoram Highway. **A total of 32,139 acres of land including 31,977 acres in Gilgit-Baltistan and 162 acres in Khyber Pakhtunkhwa was acquired as of January 2019,** which comprises approximately 86% of the total land required for the project.

Controversy over Diamer Bhasha Dam: The Diamer Bhasha Dam project had drawn controversy because of its location in Gilgit Baltistan, allegedly a disputed territory between India and Pakistan. (*India calls Gilgit Baltistan as the Pakistan-occupied Kashmir (PoK) and alleges that Pakistan is illegally holding this territory that originally belonged to its northernmost state Jammu and Kashmir. India has voiced concern with Pakistan as well as with China, US and global financial institutions requesting not to fund any infrastructure project in the PoK.*)

Situated near the Himalayan peak Nanga Parbat, the dam project was also alleged to be in a high seismic zone. It was apprehended to have ecological fallout such as landslides and floods that might affect the adjacent areas in Pakistan as well as in India. Bilateral territorial dispute and the seismicity of the project area had refrained the World Bank, the Asian Development Bank (ADB), as well as other international donor agencies from providing financial assistance to the said project.

The Diamer Bhasha project had also triggered significant local resistance, as it was estimated to displace more than 4,200 families in nearby areas and submerge a huge part of the Karakoram Highway to China. Moreover, since part of the project area comes in Khyber PK, it had led to a domestic dispute between two Pakistani provinces Gilgit Baltistan and KP with both contesting for claims over the royalty from the dam. The boundary issues between the two provinces remained unsettled till later.

The Diamer Bhasha dam project was conceived as part of the Water Vision 2025 presented by WAPDA in July 2001. It was the first and the biggest among the five multi-purpose dam projects to be undertaken as part of the North Indus River Cascade scheme announced by the Pakistani Government in January 2006; the project, however, remained in limbo for a long time due to non-availability of funds.

The initiative received fresh impetus with the inauguration of China's Belt and Road Initiative (BRI) in 2017, as China expressed its willingness to support the North Indus River Cascade

projects under the Pakistan Economic Corridor (CPEC), a flagship framework under the BRI. ***Pakistan, however, withdrew the Diamer Bhasha Dam from the CPEC projects list in 2018, due to China's strict monetary conditions as well as its ambition to hold ownership of the mega project.*** Nevertheless, Pakistan was determined to proceed further.

The then Chief Justice of Pakistan, Saqib Nisar, initiated a crowd-funding campaign for the Diamer Bhasha Dam Project in October 2018. In August 2019, WAPDA received bids from two joint ventures, each comprising a Chinese and a local company, for constructing the dam. One joint venture included China Gezhouba Group Company and Pakistan's Ghulam Rasool & Company (GRC), while the other joint venture was between Power Construction Corporation of China and Pakistan's Frontier Works Organization (FWO).

Diamer Bhasha would be a roller compacted concrete (RCC) gravity dam with a crest length exceeding 1km and a maximum height of 272m. The RESERVOIR created by the dam would impound up to 7,500,000 acre-feet of water accounting for approximately 15% of the annual river flow. The GROSS STORAGE CAPACITY of the reservoir would be ten billion cubic metres (bcm), of which 7.9bcm would be the live storage capacity. SPILLWAYS of the dam would comprise of 14 radial gates, each measuring 16.25m-high and 11.5m-wide with maximum water discharge capacity of each gate being 18,128m³/s.

DAM's power plant: The Diamer Bhasha hydroelectric facility would consist of two underground power-houses on either bank of the Indus River, with an installed capacity of 2,250MW each. Each POWER HOUSE be equipped with six turbo-generator units of 375MW capacity each. The power intake structure for each powerhouse would include two surge tanks and two 15.3m-diameter headrace tunnels connected to three penstocks each. Each underground power-house would have separate transformer and switchgear caverns. Water from each power-house would be discharged back to the river through two 18.8m-diameter tailrace tunnels.

On 2nd April 2018; during the last days of PMLN government, a large chunk of land measuring 14,325 acres of the total 18357 acres of private land had been transferred finally to the Pakistan Water and Power Development Authority (WAPDA), paving way for the authorities to move forward for the execution of the 4,500MW Diamer Basha Dam project.

The dam's location is 40 km downstream of Chilas, the district headquarters of Diamer in Gilgit Baltistan. It displaced 30,350 people living in 4,266 households of 32 villages, situated above the dam site on both left and right banks of river Indus.

Total land required for the project was 37,419 acres which included 19,062 acres of state and 18,357 acres of private land under cultivation, barren and other uses. Wapda's one General Manager Shoaib Taqi told:

"We can say that we have completed 85 per cent of the total land acquisition and nearly 95 per cent of the land required for the reservoir alone. And since it was the long-awaited requirement for the project, we consider this a major achievement of Wapda during the last one year."

The land acquisition for the two of the total three proposed model villages and the piece of land along the disputed boundary of Khyber PK and GB was a major bottleneck in the way of execution of the project. Among three proposed villages, land (687 acres) for *Harpan Das* had already been acquired where WAPDA developed community infrastructure and was ready for plots allotment to the affected people. The land at other two sites for proposed villages was yet to be acquired due to certain issues affecting the pace of the project in this context. Development through providing community infrastructure / social services as schools, health facilities, roads access, mosques, community centre and market places had been completed. Layout plan for approximately 1,350 residential plots had also been developed.

The affectees of Khan Bari, Thor, Hudar and Chilas comprising 2,937 households wanted to be resettled in Harpan Das that was beyond the capacity of this village with 1,350 residential plots only. The other available option was to link resettlement of Harpan Das with the completion of other two model villages—Thak Das and Sagachal Das. The location at Thak Das was identified jointly by the Diamer Basha Dam consultants, WAPDA and respective district administration in 2009. Land for model village at Thak Das, 1522 acre, was yet to be acquired. The inhabitants of Thak Das were not ready to surrender land for the establishment of model village.

The location of other model village--Sagachal Das-- was about 80km away from the Chilas town. The site was communal land of inhabitants of Goharabad. Area of Sagachal Das was 526 acres (4207 Kanls). As the locals of Goharabad had refused to allow the affectees of downstream of Chilas settle in Sagachal Das model village, thus (1,068 households) were to be resettled at this site under the plan requiring 1,820 kanal for the development of infrastructure. The authorities succeeded in acquiring a major chunk of land (both public and private), were then ready for the acquisition of remaining land (model villages, reservoir etc). Though the land acquisition was responsibility of the government, the dam authorities were equally contributing to efforts to complete the entire process.

[A side-note: On 26th April 2018: The ECNEC in its meeting approved Mohmand Dam Hydropower Project at a total cost of Rs: 309.558 billion including FEC component of Rs:71.548 billion. The Project's financing plan, according to which the cost of dam attributable to water sector and agricultural benefits was Rs:114,285 million which required funding from the Federal PSDP as a grant whereas the remaining amount of the project which was Rs:195.273 billion for power generation component had to be arranged in the form of WAPDA's equity, local and foreign commercial financing.]

During the same month of April 2018, well before the 2018 elections, the Executive Committee of the National Economic Council (ECNEC) of the Government of Pakistan, approved £2.34bn (PKR474bn) for the preliminary dam construction phase.

The US Agency for International Development (USAID) had earlier approved \$20m for conducting a feasibility study for the project in 2013. The USAID contracted Mott MacDonald to review the dam design in June 2015. Malcolm Dunstan & Associates (MD & A) served as the RCC specialist for Mott MacDonald. MWH Global, in consortium with National Engineering Services Pakistan (NESPAK) and Associated Consulting Engineers (ACE), completed environmental and social impact assessment (ESIA) for the project in August 2016, under a \$17.9m contract awarded by the USAID.

- **On 1st September 2018:** the then Chief Justice Saqib Nisar ordered one of PTI's lawmakers from Sindh, Imran Ali Shah, to donate Rs:3 million for the construction of Diamer-Bhasha Dam as a fine; Shah had been involved in a controversy over the elections, when a video of him slapping and physically assaulting a man on the street during a heated argument surfaced online, sparking outrage on social media. Shah later apologised for his actions to the victim personally; his membership of PTI's Sindh chapter was suspended for a month, and he was also ordered by the party to pay Rs:500,000 in fines as well as bear the costs of medical treatment for 20 patients at an Edhi Foundation centre. The case was marked closed.
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- **On 9th September 2018:** PM Khan called for public donations for **Prime Minister – Chief Justice fund for Diamer Basha and Mohmand Dam**. The funds details made open to the public were: Bank: State Bank of Pakistan; Account Name: SUPREME COURT OF PAKISTAN; with general Account Number and of IBAN ending 0014; it was the link for online donation.
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- ***For the Diamer-Bhasha project; a revised initial cost of PKR479.68bn was approved in Nov 2018 by PM Imran Khan.***

PM KHAN BOOSTED THE PROJECT's WORK:

On 26th June 2019: In an annual coordination session of the federal and provincial authorities held under Federal Flood Commission, Ministry of Water Resources reviewed preparedness for 2019-Monsoon Season. PTI's Federal Minister for Water Resources, Faisal Vawda, noted with concern that the encroachments in the river waterways besides major nullahs by the public masses in provinces had gone so frequent and in such magnitude that even the low floods create havoc in the communities. The case of 105,000 cusecs outflow from Jhelum River at Mangla was before them. He urged the provinces and federal line agencies for prompt approval of their respective Flood Plain Management Acts and their strict enforcement to prevent the encroachment in the waterways on permanent basis.

On 11th May 2020: Prime Minister Imran Khan chaired a briefing on National water security strategy and construction of dams to meet agricultural as well as energy requirements of the country. The Prime Minister was briefed in detail about the progress of resolution of all pending issues related to construction of Diamer Bhasha Dam. The Prime Minister was informed that all issues related to this critically important project, including settlement, detailed roadmap for mobilization of financial resources etc. had been resolved and the project was ready for commencement of physical work; the said project had remained stuck for decades due to various reasons.

The construction project of Diamer Bhasha Dam created 16500 jobs and was aimed to utilize huge quantity of cement and steel and give boost to Pakistani industry besides its main purposes of water storage of 6.4 MAF and producing 4500 MW of affordable electricity. The 6.4 MAF water storage capacity of the dam could reduce the then apprehended water shortage in the country of 12 MAF to 6.1 MAF. It was designed to add 35 years to the life of Tarbela dam by reducing sedimentation. It was informed that an amount of Rs:78.5 billion would be spent for social development of the area around Diamer Bhasha Dam as part of the project. It could also be a major source of flood mitigation and to save billions worth of damages caused by floods each year.

PM KHAN expressed satisfaction over the progress made and directed to immediately start construction activities of the dam; ensuring water security was the foremost priority of the PTI government. The Prime Minister directed that use of local material and expertise be accorded priority during the construction work. Chairman WAPDA briefed the meeting about progress of ongoing construction of ***Mohmand Dam*** that had started a little earlier.

The Prime Minister was, inter-alia, apprised of the progress on resolution of pending issues related to ***Dasu Dam project***. He was briefed by WAPDA that funds had been arranged for ***Naulong Dam, district Jhal-magsi*** Balochistan and that the work could commence a year after. The Prime Minister emphasized on starting Sindh Barrage as a priority project; it had huge benefits of addressing agriculture needs of the province. PM Khan also reiterated his emphasis on keeping a close watch on quality of work.

On 13th May 2020: WAPDA signed Contract Agreement for construction of Diamer Basha Dam Project with ***Power China-FWO Joint Venture (JV)***. The worth of the agreement was Rs:442 billion then. The agreement included construction of diversion system, main dam, access bridge and 21 MW-Tangir Hydropower Project. Chief Executive Officer, Diamer Basha Dam Company, Mr Amir Bashir and Mr Yang Jiandu, representative of the JV signed the agreement on behalf of WAPDA and the JV respectively. Diamer Basha Dam Project, with a total financial outlay of about Rs:1406.5 billion, was scheduled to be completed in 2028. The

total financial outlay included land acquisition, resettlement, confidence building measures for social uplift of the locals, construction of dam and power houses.

The Project had a storage capacity of 6.4-million-acre feet (MAF) and power generation capacity of 4500 MW power, with annual generation of 18.1 billion units of electricity per annum. It is pertinent to mention that WAPDA had already awarded contract of Rs:27.182 billion, for consultancy services of the project to Diamer Basha Consultants Group (DBCG). The consultancy agreement included construction design, construction supervision and contract administration of Diamer Basha Dam Project.

The JV DBCG comprised of 12 top-ranked national and international consulting firms including NESPAK (Pakistan), Associate Consulting Engineers(Pakistan), Mott MacDonald (Pakistan), Poyry (Switzerland), Montgomery Watson and Harza (MWH) International – Stantec (USA), Dolsar Engineering (Turkey), Mott McDonald International (England), China Water Resources Beifang Investigation, Design and Research Company (China), Mirza Associates Engineering Services (Pakistan), Al-Kasib Group of Engineering Services (Pakistan), Development Management Consultant (Pakistan) and MWH Pakistan (Pakistan) with NESPAK as the lead firm. These firms had a vast experience of providing consultancy services for mega water projects the world over.

On 13th July 2020: A Memorandum of Understanding (MOU) was signed on water resources management between Government of Pakistan and Govt. of Hungary. The purpose of the MOU was to establish a framework for cooperation between the parties in the field of water management on the basis of equality, reciprocity and mutual benefits. The salient features of the MOU, inter alia, included cooperation on integrated water resources management, waste water management and water related education research and development. Both countries pledged to strengthen their partnership in the water sector to undertake mutually beneficial projects.

The Hungarian Ambassador & Minister for Water Resources applauded the efforts of the government officials and exchanged views regarding opening new horizons of technical and economic cooperation at length after the signing ceremony.

On 15th July 2020: Prime Minister Imran Khan kicked off the construction work at Diamer-Bhasha Dam at River Indus near Chillas. The 272-metre-high dam, having storage capacity of 6.4-million-acre feet of water (MAF) was the country's third big dam after Tarbela and Mangla dams when completed. It was fan-fared as ***'window of development and opportunities for the people of Gilgit-Baltistan'***. It envisaged a drastic change for locals and to bring immense development in the area - the PM said while addressing a public rally, after commencing the mega construction work of the dam.

PROJECT's BORDER DISPUTE RESOLVED:

On 11th January 2022; the long-standing dispute over the multibillion-dollar Diamer-Bhasha dam land site between two tribes of Khyber PK and Gilgit-Baltistan (GB) was finally resolved. The decision was announced by Thor-Herban grand jirga, entrusted with the task of resolving the festering dispute, in a ceremony. The 26-member grand jirga was constituted in 2019 to resolve the thorny issue of the boundary dispute between the two tribes and was fully facilitated by the civil administrations of GB, Khyber PK and WAPDA.

Soon after the announcement was made by the reconciliation committee, Prime Minister Imran Khan welcomed the settlement of the decades-old territorial dispute as a major development, saying it would allow smooth and timely completion of the dam. In line with the decisions made by the grand jirga, cheques worth about Rs:400 million were also distributed to

the affectees of the 2014 clash that broke out between the two tribes, which claimed many lives, had inflicted damage to properties and to the cause of that giant economic project.

Pertinent to mention here that the disputed land was hampering the project's progress. The boundary dispute had deepened with the passage of time, with both tribes refusing to budge from their stance. Both tribes had claimed ownership of a piece of land spanning over eight kilometres in the Gandlo Nala area. Although a one-member commission was constituted to find a solution to the dispute in the past but both sides had rejected its findings. The former CJP, Saqib Nisar, had also taken notice of the land dispute when he took the initiative to raise funds for the project and asked the ruling PTI to try for an out-of-court settlement of the issue.

On 7th April 2023: The PDM government headed by Shahbaz Sharif approved the Diamer Basha power generation project at a cost of over Rs:1.2 trillion, showing an increase of Rs:302 billion against the original price. The Executive Committee of the National Economic Council (ECNEC), which approved the 4,500MW power generation project, considered all the 10 summaries. Majority of those came before the forum due to years of mismanagement requiring further cost escalation.

Headed by Finance Minister Ishaq Dar, the ECNEC approved the project at Rs:1.24 trillion against the original estimates of Rs:933.6 billion, with a noticeable increase of one-third or Rs:302 billion of the project costs within a few years. The ECNEC had also discussed the initial cost a year before but with no further action. The said cost included a foreign loan of Rs:409 billion - which component had then increased to Rs:598 billion at the average floating exchange rate of January 2023 – Rs:234.13 to a US dollar.

The Cabinet Committee on Energy had split the construction into two phases; the dam and power generation facilities. The ECNEC approved the dam in 2018. The National Transmission & Despatch Company (NTDC) was chosen to ensure that construction of the power evacuation infrastructure was synchronised with the commissioning date of the project and was tasked to explore financing from foreign lenders. ***The projects were being approved at a time when there was acute scarcity of resources; the government was drastically reducing development spending, except on schemes recommended by parliamentarians.***

On 14th April 2023: just a year after IMRAN KHAN's departure, a resolution was tabled in the National Assembly, calling for ***the amount collected in the Diamer-Bhasha dam fund to be deposited in the national treasury*** - the resolution was presented by MNA Kesoo Mal Kheal Das. The resolution stated that:

".... former chief justice Saqib Nisar had violated judicial traditions and rules by collecting funds for the construction of new dams and water reservoirs, leading to the establishment of the Diamer-Bhasha and Mohmand Dams Fund."

The resolution also referenced to a news report stating a five-member bench headed by CJP Umar Atta Bandial was informed that as of January 2023, there were Rs:16.53 billion in the fund, with an expected increase to Rs:16.98 billion in the next quarter. The three-member bench directed the auditor general to review the entire record of the donations and capital disbursements together with the State Bank of Pakistan (SBP) and identify whether or not there were any irregularities in the documents.

- ***State Bank officials informed the court that the dams fund currently had more than Rs:16 billion but so far neither any withdrawal had been made from the fund nor any expenditure incurred from that money.***

The court was informed that the money deposited in the fund was invested in government securities such as T-bills by the National Bank. Sitting on the bench, Justice Ijazul Ahsan said

that the fund had Rs:10 billion which would become Rs:17 billion on 26th January 2023. The CJP said that the record of the donors of the dam-fund was available on the website of the Supreme Court; he stressed that the dams fund money would not be spent on repairing flood damage.

[On 10th July 2018; former CJP Nisar had established a Supreme Court of Pakistan Diamer-Bhasha and Mohmand Dams Funds to raise funds for the construction of both the dams. The State Bank of Pakistan website stated that the SC supervised the fund and its registrar directly operated its account. Imran Khan had also thrown weight behind Justice (retd) Nisar's call for donations and had urged overseas Pakistanis to contribute to the effort to raise funds via voluntary donations.]

The resolution in the National Assembly stated that former chief justice Saqib Nisar had violated judicial traditions and rules by collecting funds for the construction of new dams and water reservoirs. BUT the media and the civil society gurus both openly cursed the feudal lobby of parliamentarians which was always seen grinding axes against any good cause and its sponsors – just to create ill-will amongst the general masses.

- *The Mohmand multipurpose dam project was approved to enhance water and food security, and improve the standard of living for the people of Khyber PK, where almost 80% of the population resides in rural areas, boosting the region's socio-economic development by creating employment opportunities and reducing poverty levels. The project aligns with sustainable development goals of ensuring food security, clean water, and clean energy.*

11th December 2023: Water and Power Development Authority (WAPDA) Chairman Gen Sajjad Ghani visited the river diversion system, which had been operational for a week after partial diversion of the River Indus at the Diamer-Basha Dam Project site. The diversion system consisted of about one km - long diversion tunnel and two coffer (starter) dams - one at the upstream and other at the downstream of the main dam site.

A week earlier, WAPDA had succeeded in diverting the River Indus partially through the diversion system constructed for the purpose; the mighty River Indus was flowing mainly through diversion tunnel and diversion canal, while partly through its natural course. The Chairman was briefed about the test-run of the diversion system. The diversion tunnel and diversion canal were functioning on 13 sites simultaneously and satisfactorily.

The River Indus was successfully made flowing completely through the diversion system, bypassing the main dam site and re-joining its natural course after about a distance of 800 metres. The Diamer-Basha Dam was amongst 8 under-construction WAPDA projects, which were scheduled for completion from 2024 to 2028-29. These projects would add about 10,000 MW of environment-friendly electricity and store 9.7-million-acre feet of water.

On 13th December 2023: The Implementation Committee on Diamer Basha and Mohmand Dams (ICDBMD), constituted by the Supreme Court of Pakistan, convened to review the ongoing progress of both projects at its meeting in the ICDBMD Secretariat, Islamabad. Chaired by Chairman of Pakistan Water and Power Development Authority (WAPDA) and ICDBMD, Lt Gen Sajjad Ghani, the meeting brought together key stakeholders including the Chief Secretary of Gilgit Baltistan, Additional Secretary (Budget) from the Finance Division, and the Secretary / Senior Member Board of Revenue from Khyber PK and other officials.

Gen Ghani expressed satisfaction with the strides made by ICDBMD and its Sub Committees toward the expeditious execution of the Diamer Basha and Mohmand Dam Projects. In the meeting, Member (Finance) WAPDA presented an overview of the financial aspects of both projects. Detailed progress reports were also provided by the General Manager Land Acquisi-

tion & Resettlement, Chief Executive Officer of Diamer Basha Dam Company, and the General Manager of Mohmand Dam, outlining achievements and challenges encountered in the project development.

Updates highlighted substantial advancement in construction work for both projects. Till a week before, WAPDA accomplished partial diversion of River Indus at the Diamer Bhasha Dam Project, with plans to reach a crucial milestone in the coming days. Similarly, concerted efforts were underway to complete the diversion of River Swat for the Mohmand Dam during the current low-flow season. The Committee commended the progress made in land acquisition for both Diamer Basha and Mohmand Dams, lauding the collaborative efforts of WAPDA and district administrations. The meeting concluded with a positive outlook on the overall status of the projects, emphasising the collective commitment to their successful and timely completion.

26th December 2023: Pakistan was seen aggressively pursuing arrangements to secure \$1 billion promptly to progress towards achieving financial closure for the strategic Diamer Basha Dam project; sources indicated the country needed approximately \$3.5 billion for this purpose. During the visit of Caretaker PM Anwaarul Haq Kakar to Kuwait, Pakistan and the gulf state had signed an agreement to raise capital for the project. The project, in fact, was in its initial stages of construction and the said funding was required to achieve tangible progress, with a requirement of \$1 billion immediately.

Pakistan had been struggling to raise funding for this strategic dam since long. Multilateral donors had refused to give financing for this project due to lobbying by India that the project was being developed in a disputed area. However, during the recent years, Pakistan had been actively working on the project. For decades, Pakistan had not been able to complete its mega water projects like Diamer Basha. In addition to raising capital for the dam, Pakistan was also working on some other projects as well.

A CRITICAL NOTE ON DIAMER-BHASHA DAM:

In August 2018, newly sworn in Prime Minister Imran Khan declared that building dams was the only way to tackle Pakistan's existential water problems. Fast forward a few years, the Water and Power Development Authority (WAPDA) had started construction on two major hydroelectric projects: Mohmand in Khyber PK and Diamer-Bhasha in Gilgit-Baltistan. The latter, a 272-meter behemoth, was billed as the highest roller compacted dam in the world - with a storage capacity of 8.1 million-acre-feet.

On the face of it, with reports warning that the country could ***run dry by 2025***, an increase in storage capacity was imminently required, in theory, to increase the availability of freshwater during droughts. But experts disagreed – *'Nobody can deny this will increase storage but surface storage is the most inefficient kind and these dams don't increase year-on-year storage; they increase seasonal storage;'* **The DIPLOMAT** of 4th March 2021 is referred. It further argued:

"Pakistan's two largest dams – Tarbela and Mangla – are seasonal regulators; they are filled during the monsoon season and drained during the dry winter months for crop production. This means that while Diamer-Bhasha may increase storage capacity in the Indus Basin seasonally, it won't create a perennial reserve of water to draw on during lean years.

Then there is the price tag to consider. Pakistan has struggled to secure funds for the Diamer-Bhasha dam for years. The project was initially green-lit by President Pervez Musharraf's government in 2006, but both the World Bank and Asian Development

Bank refused to finance it, citing the dam's location in disputed Kashmir. A well-intentioned attempt to crowdfund the dam in 2018 by the CJP Saqib Nisar of the Supreme Court also failed to raise enough money. Finally, in May 2020, China stepped in to bankroll part of the project."

But even at \$14 billion, the estimated cost for Diamer-Bhasha might be too low. With inflation, debt servicing, and environmental externalities priced in, a dam could end up requiring twice its initial financial commitment with little chance of a return on investment. That meant that even if Diamer-Bhasha would be completed within the proposed nine-year timeframe, it would likely cost around 10% of Pakistan's GDP (in 2021).

Dam advertisements on WAPDA's official website ignored those nuances, perhaps because of the federal government's full-throated endorsement of Diamer-Bhasha and other hydroelectric projects. For Imran Khan in particular, a renewed commitment to massive infrastructure projects was a turn away from what the PM then described as **'a decade of darkness.'** Imran Khan had made the comments at a screening ceremony for **'Pani ke Pankh'** (Water's Wings), a 30-minute, borderline video-script explaining how Pakistan had first beaten back terrorism and was then building dams. Domestic support for hydroelectric projects was further bolstered by India's resistance to that particular dam construction in Pakistan – ***in fact the Diamer-Bhasha was a totally nationalist project.***

Growing support for dams reduced Pakistan's water challenges to a matter of scarcity and masking what experts sensed as the more acute problem of inefficient management – particularly in the agricultural sector. The western researchers held that *'the Indus Basin sits on a massive aquifer that was rapidly being depleted. This is because groundwater abstraction has been increasing in Pakistan since the 1960s.'* According to a 2021 World Bank Report, the number of reported tube-wells increased from around 98,000 in 1970 to over 1.3 million in 2017. The report estimated that groundwater was being pumped at a higher rate than could naturally be replenished through rain or seepage. Tracing it back to a colonial-era law known as the ***Canal and Drainage Act of 1873***, still in vogue for water rights in Pakistan: *'The idea was to take available water and spread it as thinly as possible, as widely as possible; all that changed in the 1970s, when farmers began to use tube wells to increase their yields.'*

The fact remains that ***without an overhaul of the legal framework and farm level practices, dams like Diamer-Bhasha won't address Pakistan's food insecurity problems.*** The upper Indus region already equipped to benefit from a vast network of link canals and dams, including Tarbela, which redirects river water southeast as it flows southwest toward the arid provinces of Sindh and Balochistan. According to the statistics, Punjab between 2011 and 2012 accounted for 83% of Pakistan's cotton, 63% of sugarcane, and 97% of aromatic rice – all major export crops. Thus, the political sloganeering that ***'Dams are a Punjabi obsession - that water is going to sugarcane, rice, and cotton.'***

After PTI government's practical support, the projects like Diamer-Bhasha and Mohmand kept developing during the next PDM and PMLN governments. They kept on moving as per availability of foreign funding despite India's desperate negative propaganda – AND the same are near completion now (in mid 2024).

Imran Khan's renewed emphasis on hydroelectric projects in Pakistan would continue to gain assent of the general populace – for all times to come.