

# IDSA

## *Issue Brief*

# China-Pakistan Water Axis on the Indus

*Priyanka Singh*

July 20, 2017

## **S***ummary*

Consisting of five major hydropower projects including the Diamer Bhasha Dam, the North Indus Cascade will cut across Gilgit Baltistan as well as Khyber Pakhtunkhwa. China has committed a whopping USD 50 billion for this cluster of projects on the transboundary River Indus, with a projected cumulative hydropower generation capacity of over 22,000 MW. Irrespective of China's and Pakistan's rationales for the North Indus Cascade, India must look at options that can diminish the challenges arising from what appears to be an emerging Sino-Pakistan axis on the Indus waters.

Before the Belt and Road summit held at Beijing in mid-May 2017, several memoranda of understanding (MoU) were finalised between China and Pakistan. Significant among these was an agreement to construct an array of hydropower projects, to be referred to as the North Indus Cascade. Consisting of five major hydropower projects including the much delayed and controversial Diamer Bhasha Dam (DBD), the Cascade will cut across Gilgit Baltistan, a part of Pakistan occupied Kashmir (PoK), as well as Pakistan's Khyber Pakhtunkhwa province. Notably, China has committed a whopping USD 50 billion for this cluster of projects on the transboundary River Indus, with a projected cumulative hydropower generation capacity of over 22,000 MW.

The MoU on these Indus projects was concluded between Yousuf Naseem Khokhar, Pakistan's Secretary of Water and Power Development Authority (WAPDA), and China's Ambassador to Pakistan, Sun Weidong, on the side-lines of a conference organised by China's National Energy Administration (NEA) on May 13. Prime Minister Nawaz Sharif, who was in Beijing to attend the BRI summit, was present on the occasion. Citing the critical importance of water and food security for Pakistan, Sharif expressed unequivocal gratitude for China's generosity and applauded the efforts made by Chinese agencies and representatives. He observed: "Development of the North Indus Cascade is a major focus of my government and the construction of the Diamer Bhasha Dam is the single most important initiative in this regard."<sup>1</sup> And he commended China's NEA for organising a separate session on DBD in the course of which various presentations were made by different companies and their assessment of the multibillion dollar project was also laid out.

Like the China Pakistan Economic Corridor (CPEC), the North Indus Cascade has gestated over a period of time. In August 2015, Pakistan held talks with China's NEA on several of these projects.<sup>2</sup> Subsequently, at a Joint Coordination Committee (JCC) meeting of CPEC in January 2017, it was stated that, on Pakistan's request, the Chinese side is willing to consider including the "non-controversial" projects under the Cascade in the CPEC scheme.<sup>3</sup> The 'non-controversial' here refers to those projects on which Pakistan's provinces have arrived at a consensus. Then, in April 2017, it was reported that Pakistan has urged the World Bank to support some of the hydropower projects including Dasu and Tarbela and that the bank's representative was positive towards the request.<sup>4</sup>

---

<sup>1</sup> Farooq Awan, "China to invest \$50bn for mega dams in Pakistan," *Daily Times*, May 14, 2017, at <http://dailytimes.com.pk/pakistan/14-May-17/china-to-invest-50bn-for-mega-dams-in-pakistan>.

<sup>2</sup> Zafar Bhutta, "Chinese firm willing to finance power projects," *The Express Tribune*, August 26, 2015, at <https://tribune.com.pk/story/944843/billions-needed-chinese-firm-willing-to-finance-power-projects/>.

<sup>3</sup> Khaleeq Kiani, "PM wants Indus projects included in CPEC," *Dawn*, January 5, 2017, at <https://www.dawn.com/news/1306528>.

<sup>4</sup> "World Bank assures financial and technical assistance for Pakistan's hydro-power projects," *The Express Tribune*, April 25, 2017, at <https://tribune.com.pk/story/1393027/world-bank-assures-financial-technical-assistance-pakistans-hydro-power-projects/>.

## String of Dams

The North Indus Cascade is envisaged to originate in Skardu in Baltistan before flowing into Khyber Pakhtunkhwa with a mammoth projected cumulative installed capacity of about 22,230 MW of hydropower. The string of projects include: Bunji dam (7100 MW), Diamer Bhasha dam (4500 MW), Dasu dam (4320 MW), Patan dam (2,400 MW) and Thakot dam (4000 MW).<sup>5</sup> River Indus's gross hydropower potential is estimated to be 40,000 MW and, through these projects, Pakistan and China aim to harness at least half of it.

**Bunji:** The 190 metre Bunji dam is located at Asmani Mor on the Gilgit-Skardu Road. The MoU for the project was inked in 2009 between China Three Gorges Corporation (CTG) and WAPDA.<sup>6</sup> Although initially categorised as a run-of-the-river project, the nature of the dam is, however, a matter of speculation given that the description provided includes a reservoir as well as the extent of inundation likely to be caused.<sup>7</sup> The project has been in the pipeline for long and the engineering design and tender formalities were completed in 2013.<sup>8</sup>

**Diamer Bhasha:** Each project in the North Indus Cascade is significant in its own right. However, DBD stands out considering that it has been inordinately delayed due to lack of funding. Pakistan's appeals for funding for the project failed to move the World Bank, the Asian Development Bank (ADB) and even its strategic partners, the United States and China. The World Bank urged Pakistan to procure a No Objection Certificate from India given that the dam is located in disputed Gilgit Baltistan. The donor conferences hosted by the US and China to secure funds also failed. Further, DBD is also embroiled in a domestic tug of war due to inter-provincial differences over the share of royalty. Finally, the negative consequence of constructing a huge dam in an ecologically fragile belt has also proved difficult to ignore.<sup>9</sup>

Now, however, China is stepping up to the plate. It is possible that DBD may become part of the CPEC stable as was speculated not long ago.<sup>10</sup> It has already been proposed that DBD be subsumed into CPEC and included thereafter in the subsequent phase of energy projects under that initiative. But, of late, there have

<sup>5</sup> Details available at <http://www.wapda.gov.pk/index.php/indus-cascade-vision>.

<sup>6</sup> Description the Bunji Dam Project, at <http://www.wapda.gov.pk/index.php/projects/hydro-power/future/bunji>.

<sup>7</sup> Claude Arpi, "China's dam projects in Gilgit Baltistan should worry India," *DailyO*, June 11, 2017, at <http://www.dailyo.in/politics/china-obor-cpec-gilgit-baltistan-indus-water-treaty-pakistan/story/1/17750.html>.

<sup>8</sup> "7,100MW project: Bunji clears design, tender hurdles," *Dawn*, May 7, 2013, at <https://www.dawn.com/news/1026554>.

<sup>9</sup> For details see, Priyanka Singh, "The DiamerBhasha Dam in Gilgit Baltistan: India's Concern," *Strategic Analysis*, Vol: 36 Issue 4, July-August 2012, at [http://www.idsa.in/strategicanalysis/36\\_4/TheDiamerBhashaDaminGilgitBaltistan\\_PriyankaSingh](http://www.idsa.in/strategicanalysis/36_4/TheDiamerBhashaDaminGilgitBaltistan_PriyankaSingh)

<sup>10</sup> Priyanka Singh, "Will DiamerBhasha Dam get a share in the CPEC Pie?" *IDSAs Strategic Comment*, January 18, 2016, at [http://www.idsa.in/idsacomments/will-diamer-bhasha-dam-get-a-share-in-the-cpec-pie\\_psingh\\_180116](http://www.idsa.in/idsacomments/will-diamer-bhasha-dam-get-a-share-in-the-cpec-pie_psingh_180116).

been conflicting signals on whether DBD will be part of CPEC or remain purely a part of the North Indus Cascade.<sup>11</sup>

**Dasu:** Equally critical is the Dasu Project, often pitched as an alternative to the long held-up DBD. In 2014, the World Bank agreed in principle to fund the project which lies 74 km downstream to DBD and 240 km upstream of the Tarbela dam.<sup>12</sup> Unlike DBD, Dasu has so far steered clear of controversy. It is a comparatively smaller project, to be built in two phases, without boundary/territorial issues and largely free of inter-provincial dissonance that patently impedes Pakistan's development projects. The first phase of the project with a capacity of 2160 MW is under way. The cost of this phase is estimated at approximately USD 4.2 billion, with the World Bank as the lead donor.<sup>13</sup>

**Patan:** Like the DBD, the Patan project would also use roller-compacted concrete (RCC) technology. The project is located four kilometres upstream of village Patan in Kohistan, Khyber Pakhtunkhwa. An underground powerhouse is being planned downstream of the dam on the left bank of River Indus. The dam's height is expected to be 104 metres and the feasibility study for the same is being prepared by Lahmeyer International consultancy, a Germany based organisation.<sup>14</sup> In the past, this consultancy firm has collaborated with WAPDA on several projects in Pakistan and PoK, including on DBD in the initial phases.

**Thakot:** The project built on a narrow stream of the Indus will be situated upstream Besham Qila and the power house is planned 15 km downstream of the Thakot Bridge on the Karakoram Highway. It is slated to be completed in December 2017, with the feasibility study having been completed in December 2015.<sup>15</sup> But the project is mired in controversy. Residents of Lahore-Besham have reservations about the name of the project given that the 26 km long power tunnel traverses through Shangla district and ends at Sarkool in the same district.<sup>16</sup>

Having conducted a preliminary survey of the various projects in the North Indus Cascade, Chinese agencies and companies will spend the next few months ascertaining further details of each. Pakistan's Minister for Water and Power, Khwaja Asif, noted the completion of feasibility studies by the Chinese on the Indus Cascade

---

<sup>11</sup> "China could include Diamer-Bhasha dam project under CPEC," *The Indian Express*, June 20, 2017, at <http://indianexpress.com/article/pakistan/china-could-include-diamer-bhasha-dam-project-under-cpec-4713583/>.

<sup>12</sup> "Press Release: World Bank Approves Dasu Hydropower Stage I Project," June 10, 2014, at <http://www.worldbank.org/en/news/press-release/2014/06/10/world-bank-approves-dasu-hydropower-stage-i-project>.

<sup>13</sup> "Dasu Hydropower Stage I Project," at <http://projects.worldbank.org/P121507?lang=en>.

<sup>14</sup> Description of the projects available at <http://www.wapda.gov.pk/index.php/projects/hydro-power/future/patan>.

<sup>15</sup> Projects details available at <http://www.wapda.gov.pk/index.php/projects/hydro-power/future/thakot>.

<sup>16</sup> "Wapda urged to rename Thakot hydropower project," *Dawn*, August 25, 2016, at <https://www.dawn.com/news/1279821>; <https://tribune.com.pk/story/1408444/mega-deal-china-invest-50b-develop-indus-river-cascade/>

as an “achievement” and emphasised that hydropower projects in Pakistan could benefit a great deal from Chinese technical expertise.<sup>17</sup> It is widely reported that CTG is the frontrunner among various Chinese companies.<sup>18</sup> China’s NEA will be the lead agency and administer the finances of the Cascade. This is said to be the first occasion when Pakistan’s hydropower sector has been thrown open to the private sector, which till now was completely administered by WAPDA. Besides, China is also engaged in resettlement work and the contract for the same has been awarded to the Zhongmei Engineering Group.<sup>19</sup> This has been occasioned by the fact that both the DBD and Bunji projects are slated to cause large scale inundation and usher in massive displacement of population along the Karakoram Highway.

Besides alleviating Pakistan’s energy crisis, the range of dams including DBD have been projected as an essential silt trap for the Tarbela dam where the Cascade will merge. The Tarbela hydropower project in Khyber Pakhtunkhwa is currently Pakistan’s largest dam and faces an imminent challenge from silting. There is, however, a view that trapping the silt/sedimentation thus could impact the quality of soil downstream and deprive agricultural lands of their source of nourishment.<sup>20</sup>

### **CPEC, North Indus Cascade and India: Contention Redux**

There are striking parallels between CPEC and the North Indus Cascade, apart from the fact that both run through PoK. Both are massive projects supported by China and vouch to end Pakistan’s energy woes. CPEC’s budget has been revised from USD 46 billion earlier to USD 57 billion. At USD 50 billion, the North Indus Cascade is the second largest Chinese commitment towards Pakistan in terms of the volume of proposed aggregate investment.

Both projects have geopolitical underpinnings, given the India angle.<sup>21</sup> Lately, India has been vocally assertive about its claim on PoK. India’s objection to the DBD in the past, and presently on CPEC, is based on its claim of sovereignty over PoK. It follows that the proposed North Indus Cascade originating in Baltistan is likely to be similarly contentious. India refused to participate in the BRI summit in Beijing owing to territorial sovereignty claims over Gilgit-Baltistan through which the CPEC arm of BRI is slated to proceed. But ignoring India’s objections to projects in PoK, Pakistan

---

<sup>17</sup> “Feasibility studies being conducted on Indus Cascade,” July 5, 2017, at <http://www.cpecinfo.com/cpec-news-detail?pid=MzM4MQ==>

<sup>18</sup> “Pak-China to invest \$50 bn on Indus Cascade to generate 40,000 Mw power,” *Business Standard*, May 13, 2017, at [http://www.business-standard.com/article/international/pak-china-to-invest-50-bn-on-indus-cascade-to-generate-40-000-mw-power-117051300288\\_1.html](http://www.business-standard.com/article/international/pak-china-to-invest-50-bn-on-indus-cascade-to-generate-40-000-mw-power-117051300288_1.html).

<sup>19</sup> Gregory B. Poindexter, “China and Pakistan sign US\$50 billion MoU earmarked for Indus River Cascade”, May 15, 2017, at <http://www.hydroworld.com/articles/2017/05/china-and-pakistan-sign-mou-for-us-50-billion-earmarked-for-indus-river-cascade.html>.

<sup>20</sup> Joydeep Gupta, “Indus cascade a Himalayan blunder,” *Third Pole.net*, May 22, 2017, at <https://www.thethirdpole.net/2017/05/22/indus-cascade-a-himalayan-blunder/>.

<sup>21</sup> “Against India’s Wishes, Pakistan Hopes To Construct A Chinese Funded Dam On Indus,” *The Huffington Post*, June 13, 2016 at [http://www.huffingtonpost.in/2017/06/13/against-indias-wishes-pakistan-hopes-to-construct-a-chinese-fu\\_a\\_22139699/](http://www.huffingtonpost.in/2017/06/13/against-indias-wishes-pakistan-hopes-to-construct-a-chinese-fu_a_22139699/).

and China are brazenly determined to go ahead with their agenda. With the contentions on CPEC yet to be settled, the North Indus Cascade is likely to cause further discord between the three countries.

### **China a Party to the Dispute over the Indus**

The Indus Waters Treaty (IWT), which defines the parameters of water sharing between India and Pakistan, is one agreement that has weathered the vagaries of wars and persistent bilateral disputes. However, in the wake of the September 2016 terrorist attack on the Uri military base, IWT came under close scrutiny as public opinion in India became severely polarised against Pakistan. Revising/revoking the IWT was one of the options that the government is noted to have explored in order to deal with an errant Pakistan continuing to perpetrate cross-border terrorism.

Similar to the Kashmir problem where China is incrementally seen as the third party because of its stakes in PoK and control over portions of the territory of the former princely state ceded to it by Pakistan, the North Indus Cascade is likely to make China the third actor in the Indus framework. Besides CPEC, India will now have to contend with the emerging Sino-Pakistan collaboration on the Indus. It has no choice but to proclaim its sovereignty and territorial concerns in this regard as well.

### **Sino-Pakistan Water Axis in the making**

Some recent overtures from Pakistan and China have tangentially proposed an Indian role in CPEC. China's Ambassador to India had recently noted that CPEC could be renamed if such a move would mitigate India's concerns. Similarly, it has been reported that China is insisting on renaming DBD (already renamed once in 2004 to include Diamer in the wake of popular demand), which is now a part of the North Indus Cascade.<sup>22</sup> It has urged that the name Diamer be dropped since it is part of disputed Gilgit Baltistan. But merely altering the name would tantamount to trivialising a complex and sensitive issue concerning territoriality and sovereignty. Further, China has tried justifying CPEC as a livelihood project and it could certainly articulate a similar rationale for the North Indus Cascade as well. India's strategic challenges will only intensify with the coming up of the North Indus Cascade.

In J&K, which is currently under turmoil, a prevalent sentiment among the people is that the central government sacrificed the legitimate share of the Kashmiris on the Indus in Pakistan's favour.<sup>23</sup> It is widely argued in the state that IWT is unfairly skewed in Pakistan's favour and this has adversely impacted the livelihood of Kashmiris. It is natural that once the North Indus Cascade fructifies India may have to further contend with popular misgivings that stem from looking at the other side

---

<sup>22</sup> Ghulam Abbas, "Pakistan may change name of Bhasha Dam," *Pakistan Today*, June 19, 2017, at <https://www.pakistantoday.com.pk/2017/06/19/pakistan-may-change-name-of-bhasha-dam/>.

<sup>23</sup> Based on several interviews undertaken by the author during a field visit to J&K in May-June 2014.

of the LoC and the development prospects that Chinese-aided projects are expected to augur in due course.

India is yet to fully harness its permissible share for storing water up to 3.6 MAF (million acre-feet) under IWT in the western rivers (Jhelum, Chenab and Indus) allotted for its use.<sup>24</sup> Besides, in comparison to Pakistan's tally of dams on the eastern rivers including those on the Indus, India has so far built only a small number of run-of-the-river dams on the western rivers. Even small-scale efforts such as the 330 MW Kishanganga Hydro Electric Plant (KHEP) in Bandipore have been challenged by Pakistan in international tribunals. Whereas Indian projects have been stymied by Pakistan's repeated challenges, India has so far not sought either the opinion of neutral experts or international arbitration on DBD or Bunji projects. Instead, it has simply limited itself to making ritual objections. China's involvement in the construction of mega dams on the Indus and its increasing presence in Gilgit Baltistan will further accentuate India's concerns. Given this, India needs to explore ways to deal with these concerns.

### **What lies ahead?**

High profile projects such as CPEC and North Indus Cascade will enable China to exploit resources under Pakistan's control. However, before looking at what China is doing in cahoots with Pakistan, certain domestic realities within China must be accounted for, foremost being the saturation levels in the manufacturing sector, idle machinery, labour, etc. The same could be partially, if not wholly true, with regard to China's dam construction industry. A report prepared by Urgewald, an environmental lobbyist group based in Germany, shows how China's state-owned enterprises – China Datang Corporation, China Huaneng Group, and State Power Investment Corporation (SPIC) – are involved in the majority of overseas coal-fired power projects in contravention of China's stated commitment on climate change.<sup>25</sup> The same report also notes that the state-owned Shanghai Electric Group plans to undertake the construction of coal-fired power plants in Pakistan, Egypt and Iran despite coal, volume-wise, being responsible for the largest share of carbon emissions.<sup>26</sup> China is facilitating its idle state-owned companies to find overseas projects due to a steep fall in domestic demand.<sup>27</sup> The same logic of limited domestic options and the consequent focus on projects and investments abroad could be applied to powerful state enterprises like CTG which may well lead the envisaged projects on the Indus. Perhaps, this would also partially answer puzzling questions

---

<sup>24</sup> For the text of IWT, see *Indus Waters Treaty*, September 19, 1960, at <http://mea.gov.in/bilateral-documents.htm?dtl/6439/Indus>.

<sup>25</sup> "China backs hundreds of global coal power projects: report," PTI, July 5, 2017, at [http://www.ptinews.com/news/8859876\\_China-backs-hundreds-of-global-coal-power-projects-report](http://www.ptinews.com/news/8859876_China-backs-hundreds-of-global-coal-power-projects-report).

<sup>26</sup> Hiroko Tabuchi, "As Beijing Joins Climate Fight, Chinese Companies Build Coal Plants," *The New York Times*, July 1, 2017, at <https://www.nytimes.com/2017/07/01/climate/china-energy-companies-coal-plants-climate-change.html>.

<sup>27</sup> Ibid.

as to why China plans to funnel more than USD 100 billion into Pakistan (approximately a third of Pakistan's GDP) – a country plagued by domestic turmoil, militancy and a sagging economy.

China's approach towards transnational rivers has been erratic and bullish. It has no regard for ecological concerns, which was clearly evident during the construction of the Three Gorges Dam — a project that continues to raise critical questions concerning its ecological impact. China's recent decision to go ahead with the construction of the DBD and Bunji dams as part of the North Indus Cascade further demonstrates its disregard for ecological implications. Both projects are located in ecologically fragile seismic belt.

Irrespective of China's and Pakistan's rationales for the North Indus Cascade, India must look at options that can diminish the challenges arising from what appears to be an emerging Sino-Pakistan axis on the Indus waters. It needs to evolve a calibrated and robust response that comports with its legitimate sovereign territorial interests and corresponds with its previously stated positions on projects such as DBD and Bunji. The North Indus Cascade violates India's territorial sovereignty and poses another collusive China-Pakistan challenge.

## About the Authors

Dr. Priyanka Singh is Associate Fellow at the Institute for Defence Studies & Analyses, New Delhi.

**The Institute for Defence Studies and Analyses (IDSA)** is a non-partisan, autonomous body dedicated to objective research and policy relevant studies on all aspects of defence and security. Its mission is to promote national and international security through the generation and dissemination of knowledge on defence and security-related issues.

*Disclaimer:* Views expressed in IDSA's publications and on its website are those of the authors and do not necessarily reflect the views of the IDSA or the Government of India.

© Institute for Defence Studies and Analyses (IDSA), 2017