

# SINO-PAK NUCLEAR AND MISSILE COLLABORATION IMPLICATIONS FOR INDIA

Interestingly, the 1963 Sino-Pak border agreement states that China would negotiate the border with the 'relevant sovereign authority' after India and Pakistan settle the Kashmir dispute. Given the strategic importance of the Karakoram Highway, it would not be in China's interest for the Indo-Pak dispute to be settled in India's favour and for the area to return to Indian control. Therein lies the rub. Beijing's assistance to Islamabad ranged from providing designs of a tested nuclear weapon to giving fissile material for putting together two nuclear bombs to assistance with the Chashma and the Khushab facilities.



Cost-benefit analysis is an intrinsic part of international relations and integral to understanding behaviour of states and the choices they make. Countries always try to find ways of maximising benefit while minimising their costs. China has put this strategy to good use while providing assistance to Pakistan in the nuclear and missile domain. By providing assistance to the Pakistani nuclear weapons programme, China – at least cost – has attempted to counter the Indian nuclear capabilities. The Chinese assistance can be seen as part of a larger attempt to tie down India to its Western neighbour, thereby thwarting New Delhi's regional ambitions. In doing so, China and Pakistan seem to have put into practice, Kautilya's maxim "the enemy of my enemy is my friend."

Relations between China and Pakistan were however not always this close. Though formal diplomatic relations were established between the two countries in May 1951, Beijing viewed Pakistan as being firmly entrenched in the Western camp. It was only with the worsening of Sino-Indian relations after the 1962 border clash and the

souring of Sino-Soviet relations that China and Pakistan began reaching out to each other.

Pakistani Prime Minister Zulfikar Ali Bhutto realised the importance of the Sino-Pak relations very early and worked hard to lay the foundations of this unique relationship. Bhutto described the Sino-Pak relationship as "my greatest achievement and contribution to the survival of our people and the Pakistani nation." Bhutto's perseverance over eleven years and his visits to China in February 1972, September 1974 and April 1976 led to the historic July 1976 Sino-Pak agreement.

Between 1963 and 1966 as Foreign Minister of Pakistan ZA Bhutto initiated the process of reaching out to Beijing. In March 1963, immediately after the Indian loss to China in the border clash, Pakistan signed a Boundary Agreement with China. Pakistan ceded about 5,000 square kilometres of Indian territory south of Mintaka Pass bordering Gilgit. This piece of territory proved crucial for building the Karakoram Highway which runs between Kashgar and Gilgit. The strategic importance of the highway can be

gauged from the fact that during the 1971 Indo-Pak War, China used the highway to transport military supplies to Pakistan. To date, China continues to spend enormous amounts of money to develop an 'economic corridor' between Kashgar and Gwadar which traverses through the Karakoram Highway.

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## Nuclear Weapons Collaboration

Gary Milholin, founder of the Wisconsin Project on Nuclear Arms Control, describes the importance of the Chinese assistance to the Pakistani nuclear programme in the following terms. He states, "... if you subtract Chinese help, there wouldn't be a Pakistani nuclear programme."

The nature and scope of Sino-Pak nuclear assistance mirrors the assistance provided by the Soviet Union to the Chinese nuclear programme in the initial years. Beijing's assistance to Islamabad ranged from providing designs of a tested nuclear weapon to giving fissile material for putting together two nuclear bombs to assistance with the Chashma and the Khushab facilities.

China is believed to have provided Pakistan with the design of the nuclear weapon (*Chic-4*) which it tested in 1966. Gordon Corera in his book *Shopping for Bombs: Rise and Fall of AQ Khan* has an interesting story to tell. He narrates how AQ Khan carried around papers relating to a nuclear weapons design in his briefcase. During one of his foreign trips, Western intelligence agents got access to Khan's briefcase. The spooks were shocked to find a drawing of simple yet effective design of a nuclear weapon and steps detailing how to make the bomb. Later, the Americans realised that the design provided in the early 1980s a proven design of China's fourth nuclear test. Also, China is believed to have allowed Pakistan to test its nuclear device at the Chinese Lop Nor nuclear test site in 1989.

If this was not enough, Pakistan is also believed to have received, weapons grade uranium sufficient to put together two nuclear devices. In addition, China also helped Pakistan build the unsafeguarded (50-70 MW) plutonium production reactor at Khushab. Beijing is suspect of having supplied excess heavy water to Kanupp could have been used by Pakistan to power up the unsafeguarded Khushab plant. Also, Pakistan is believed to have received assistance from China for completing the plutonium reprocessing facility at Chashma. The facility was originally to be completed by France but was suspended in 1979 with the French backing out of the agreement under American pressure.

In 1986, China is also suspected to have transferred tritium to Pakistan. Tritium is used to trigger hydrogen bombs and boost the yield of fission weapons.

Subsequently, in 1995, the news about transfer of 5,000 ring magnets hit the headlines. The ring magnets were destined for use in Pakistan's centrifuge enrichment plant at Kahuta. The news of the sale broke at a time when Pakistan was lobbying the Clinton Administration to push the Brown Amendment through the US Congress. The Brown Amendment sought to dilute the Pressler legislation and – despite the continued proliferation of nuclear technology – was to grant a one-time waiver of the Pressler legislation and authorise transfer of military supplies to the tune of US\$ 368 million.

News reports hinted at Chinese officials privately admitting to selling the 5,000 ring magnets to Pakistan. They however, claimed that the sale did not violate the Nuclear Suppliers Group (NSG) guidelines as the ring magnets were not magnetised. This is nothing but a convenient interpretation of the guidelines and Chinese obligation therein.

What was more surprising to many was the Clinton administration's response to the whole transfer of ring magnets. Both China and Pakistan got away very lightly as the US did not sanction either country for the transfer. The Clinton administration chose to turn a blind eye and was satisfied with a cursory statement from China to the effect that it would conform to nuclear non-proliferation rules and regulations.

However, as events a year later highlighted, not much changed. In 1996, China is believed to have sold a special industrial furnace to Pakistan. This furnace was an important component in Pakistan's progress towards building its nuclear weapons as the furnace could melt the fissile material into the shape of a nuclear bomb core.

## Missile Transfers To Pakistan

We now turn to the Chinese assistance towards Pakistan's ballistic missiles capability. The nuclear-capable ballistic missiles provided Islamabad with the wherewithal to effectively deliver its nuclear weapons. China has helped Pakistan's ballistic missile programme by transferring the mobile, solid-fuelled M-9 or DF-15 and M-11 missiles. Pakistan has modified these missiles into the *Shaheen-1* and the *Ghaznavi* missiles.

## Ghaznavi (M-11)

It is believed that China and Pakistan signed a deal for the transfer of over thirty M-11 missiles in 1987. These missiles were to be transferred in a completely built-up form, were solid-fuelled and could carry a nuclear warhead. The deal came to light in November 1992 and violated the Missile Technology Control Regime (MTCR) provisions given that the missile could transfer a 500 kg payload to a distance over 500 kilometres. China however contested this stating that the missile could travel only



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280 kilometers with a payload less than 500 kilograms which was allowed under the MTCR provisions. The MTCR allowed for transfer of missiles under 300 km range carrying less than 500 kg payload.

A technical analysis by Prof Chandrasekhar, Dr Arvind Kumar and Prof Rajaram Nagappa of the National Institute of Advanced Studies, Bangalore titled *Assessment of Pakistan Ballistic Missile Programme: Technical and Strategic Capability* has established that the Chinese did transfer a version of the *M-11* missile to Pakistan. The missile named as *Ghaznavi* was tested for the first time in May 2002.

In June 1991 the US imposed sanctions on China for the first time for transferring *M-11* technology to Pakistan. Following Chinese promises to abide by the MTCR in November 1991 and accession to the NPT in March 1992, US waived the sanctions on March 23, 1992. However, by the middle of next year, China was back to its old tricks. Thus on August 24, 1993, the US imposed new sanctions on China for again transferring *M-11* missile and related equipment to Pakistan. In August 1996, news reports indicated that China was believed to be helping Pakistan to construct an *M-11* production facility. Chinese technicians are also believed to have visited the Sarghoda and Tarwanah missile facilities to assemble these missiles and train Pakistani personnel on their handling.

### Shaheen-1 (M-9/DF-15)

China is also believed to have exported the *M-9* (*DF-15*) to Pakistan. A single-stage, solid fuelled missile, the *M-9* with a range of 600 kilometers was manufactured by the China Precision Machinery Import and Export Corporation (CPMIEC). The missile was first flight tested in June 1988 and is believed to be more accurate than the *Scud-B* missiles.

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The study by the National Institute of Advanced Studies mentioned above used openly available images to calculate the diameter of both the *Shaheen-1* and *M-9* missiles as 1 metre. This common diameter validates Chinese help with the *Shaheen-1* programme. However, this study also points out that the lengths of the *Shaheen-1* missile are greater than *M-9* missiles, thus implying that the missile parameters were modified. Similarly, the warheads of the *M-9* and the *Shaheen-1* had several similarities but differences exist like the absence of fins in the *M-9* missile's warhead. In late 2001, media reports indicated the China Precision Machinery Import and Export Corporation (CPMIEC) has been supplying Pakistan with components for *Shaheen-1* and *Shaheen-2*.

### Civil Nuclear Cooperation

China has also played an important role in the expansion of the Pakistani nuclear power sector. 2011 figures indicate that nuclear power contributed about 3.8 TWh or 3.8 per cent of the total Pakistan's energy matrix.

During the November 1989 visit of Chinese Premier Li Peng, it was announced that China would sell a 300 MWe nuclear power plant to Pakistan under a nuclear power agreement. Subsequently, in 1991 China and Pakistan signed a bilateral nuclear power agreement.

As part of this agreement, it was initially agreed to build two 300 MWe pressurised water reactor (PWR) nuclear plants at Chashma. These are called *Chashma-1* and *Chashma-2*. *Chashma-1* was designed by Shanghai Nuclear Engineering Research and Design Institute (SNERDI). It began commercial operations in May / June 2000. Construction of *Chashma-2* was started in December 2005.

Following the successful passage of the Indo-US nuclear agreement, the Pakistani and Chinese governments announced plans to build two 320 MWe nuclear plants (*Chashma-3* and *4*) at the same site. The nuclear plants were to be funded by China. Both governments claimed that *Chashma-3* and *4* were to be 'grandfathered' under the 1991 Sino-Pak agreement. This is contrary to China's disclosure to the NSG members when it joined the group in 2004 that the 'grandfather' clause would apply only to life-time support and fuel supply for the safeguarded *Chashma-1* and *2* nuclear power plants, supply of heavy water and operational safety service to the safeguarded Karachi nuclear power plant and the supply of fuel and operational safety services to the two safeguarded research reactors at PINSTECH. However, despite the reservations, construction at *Chashma-3* began in May 2011 followed by *Chashma-4* in December 2011.

Subsequently, in November 2010 the Pakistan Atomic Energy Commission (PAEC) reportedly signed a construction agreement with China National Nuclear Corporation (CNNC) for a fifth unit at Chashma. In February 2013 a further agreement was signed by PAEC with CNNC for supply of 1,000 MWe units.

At that time, it was not clear whether the 1,000 MWe unit would be commissioned at Chashma or elsewhere. In June 2013, it came to light that the CNNC 1,000 MWe class reactors would be used for *Karachi-2* and *3* (*KANUPP-2* and *3*). These were to be co-located near *Karachi unit 1* which is the oldest 125 MWe nuclear power plant in Pakistan commissioned way back in 1971.

As seen from the above discussion, Chinese assistance to the Pakistan military and civilian nuclear programme has been substantial. In addition, China has also sold the *M-9* and *M-11* missiles which Pakistan modified as the solid fuelled *Shaheen-1* and *Ghaznavi* missiles. In recent years, following the Indo-US nuclear deal, China is extending a similar nuclear power deal to its 'all-weather ally' Pakistan. As described by Chinese Premier, Li Keqiang, the sapling of Sino-Pak relations that Zulfikar Ali Bhutto planted decades ago is now "exuberant with abundant fruits." China has effectively used its assistance to the Pakistani nuclear and missile programme to counter India's rise at least cost to Beijing. 