

## India's Agni vs China's Dongfeng missile: Which is more powerful

By: Vikas

*War is the worst possible outcome of a diplomatic fallout between two countries and any nation would like to avoid it all costs. It not only results in massive loss of lives but also drains a country economically, pushing its development back by decades.*

When two nuclear powers with sufficiently developed ballistic missile programs lock horns over an issue that can potentially spiral-out into a military conflict, all diplomatic options must be explored to ensure that peace prevails. India and China are involved in a standoff at Doklam, near Sikkim, for close to two-months now. Both sides, despite being engaged in talks at different levels, are also indulging in a fair bit of chest thumping which is not sending a good signal to the international community.

China's statement hinting that military action could be considered if India does not pull back its troops from Doklam has left many people wondering whether India and China will go to war. Well, it seems highly unlikely as both nations have matured leadership, but it wouldn't do any harm to try and understand India and China's ballistic missile capabilities.

### **Agni missiles: How far can they strike in Chinese territory?**

Agni series has five missiles with varying strike capabilities and ranges. Agni 1 is a single stage solid fuel missile with a range of 1250 kms while Agni 2, an improvement of Agni 1, is a two-stage missile capable of striking targets 2000 kms away. Agni 2, if launched from a strategic location, can target western, central, and southern China.

### **Agni 4 has a range of close to 4,000 kms**

Agni 4, however, can strike targets in nearly all of China, including Beijing, provided they are launched from the northeast. All the missiles in the Agni series are capable of carrying nuclear warheads. On 19 April 2012, India made its entry into the Intercontinental ballistic Missile (ICBM) club after the successful test launch of its indigenous Agni V missile. Time and again International defence experts, especially the Chinese, have claimed that India has been understating the range of its intercontinental ballistic missile Agni-5. India initially did not divulge the exact range that the missile can strike but later DRDO hinted that it has the capability to reach 5,000 kms.

### **China has accused India of understating Agni 5's actual range**

Chinese experts say that the missile actually has the potential to reach targets 8,000 kilometres away and that the Indian government had deliberately downplayed the missile's capability in order to avoid causing concern to other countries. If the 8000 kms theory is true then India can strike whole of China even if the missile is launched from Southern India. Agni-V also features Multiple independently targetable reentry vehicle (MIRVs) with each missile being capable of carrying 2-10 separate nuclear warheads. Each warhead can be assigned to a different target. One of the main advantages of Agni missiles are that they all use solid fuel which greatly reduces their launch time. If the missile is fitted to a mobile launcher, it can be launched within minutes. Some of the Chinese missiles use liquid propellant, which take time to launch compared to solid fuelled missiles because of the time needed to fuel the missile.

### **China's Dongfeng: Lethal missiles that can reach even the United States**

Dongfeng is a family of missiles developed by China consists of short, medium, intermediate-range and intercontinental ballistic missiles. Development of Dongfeng missiles started in the 1950s with Soviet assistance after signing of Sino-Soviet Treaty of Friendship, Alliance and Mutual Assistance in 1950. Dongfeng 1 and Dongfeng 2 were the first two developed in this missile family with ranges of 500 kms and 1,250 kms respectively. Both were in use in the 1960s but are not in operation anymore. Dongfeng 3 or DF 3, considered to be a copy of soviet R-14 Chusovaya missile, had a range of 2,500 kms, but even this has been

retired from the service and replaced by DF 21. Dongfeng 4 and 5 were also developed, while the former will be replaced by DF-31 and the latter has an improved version, DF-5A, that can carry nuclear warheads over 12,000 kms. Several other missiles in the series also exist but our concerns are DF-21, DF-26 and DF-31.

### **Dongfeng missiles at a military parade in Tiananmen Square**

China has reportedly admitted that India's Agni-V is comparable to its DF-26 ICBM which is also nicknamed Guam Killer. The IRBM, with a reported range of 3,500 km, has the ability to reach a major US base in Guam in the western Pacific. DF-26, a two-stage solid fuel rocket IRBM, measures 14 meters long with a diameter of 1.4 meters and a launch weight of 20 tonnes. It can carry a nuclear or conventional warhead that weighs 1,200-1,800 kilograms and has an estimated maximum range of more than 5,000 km. Image courtesy:

### **Is India developing a 12,000 kms range missile - Surya?**

Well, there is no confirmation from DRDO as of now but many are speculating that India is working on a long-range ICBM capable of striking targets 12,000 kms away. Some say that it is Agni-6 while others say it might be named Surya. It is likely to be a three-stage missile with first stage being borrowed from ISRO's PSLV. If this is true, then it is sure to send shivers down enemy's spine.

### **Conclusion:**

So, Chinese missiles can reach whole of India and what goes against India is that it is not accurately known how many Agni 4 or Agni 5 are in service. We must understand that test firing a missile is totally different from it being ready for deployment. One also has to bear in mind that before comparing missile development programs, we must consider where the starting line was. China's program began way back in 50s with Russian help while India's program is totally indigenous.



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## **DRDO Signs 96 TOT Agreements with Private Sector**

Defence Research and Development Organisation (DRDO) has entered into Technology sharing agreements with private Indian industries with total of 96 Licensing Agreement for Transfer of Technology (LAToT) have been signed for worth Rs 22.36 Cr, Defence Minister Arun Jaitley informed the Lok Sabha on Friday.

He said presently MoUs have been inked with major industrial groups including PHD Chambers of Commerce & Industry (PHDCCI), Confederation of Indian Industry (CII), National Research Development Corporation (NRDC) and Associated Chambers of Commerce and Industry of India (ASSOCHAM).

To a question, Mr Jaitley said the Transfer of Technology (ToT) for DRDO developed products to other countries can be done only after meeting the requirements of Indian Armed Forces and export policy of the country.

“ToT of Explosive Detection Kit Technology developed by DRDO has been done with M/s Crowe & Co., USA and has been evaluated by US Armed Forces,” he said.