



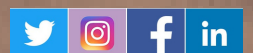
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# MODERNISATION OF INDIAN ARTILLERY: CHALLENGES AND OPTIONS BY LT GEN TARUN CHAWLA, PVSM, AVSM (RETD)

ORGANISED BY CENJOWS  
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# **MODERNISATION OF INDIAN ARTILLERY: CHALLENGES AND OPTIONS**

**BY**

**LT GEN TARUN CHAWLA, PVSM, AVSM (RETD)**

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Artillery has changed the outcome of many wars and hence is considered crucial for the military. It was effectively used by the Moghuls and then the British. In India, it has been the main stay of wars so much so that shortage of artillery fire support forces changes in the battle plans. In the recent past, Artillery has been used extensively and effectively during Kargil. It is no wonder that the Kargil war is also called 'the Artillery's war'. During this war, large quantum of rounds was fired that eventually changed the outcome of the war. This increasing requirement of the Artillery in war and its recent outcome in the Russia-Ukraine war has led to some serious debates about how and what of the Artillery is to be used in the Indian context where the threat is primarily in the mountainous region.

It is with this thinking that the speaker eluded upon the need for modernisation of the Indian Artillery. The speaker provided a brief outline of where India began its journey with the Artillery, where it is now and where we plan to be 15 to 20 years from today keeping in mind our quest for Athmanirbharta.

The speaker eluded that the Artillery was inherited from the British in the form of 25 pounder guns which was the main stay of the Indian Army then. Subsequently, India acquired guns from Russia and Sweden. Indigenisation of these guns happened in the 1970s in the form of Indian Field Gun (IFG) and the Light Field gun. The FH77B (Field Howitzer 77B also called the Bofors), acquired in the 1980s, is a great gun. It continues to perform well and is the go-to weapon for the Indian Artillery. Similarly, both the indigenous guns and those from Russia continue to be used by India. Of these, the Russian guns are the most accurate.

At the turn of the century, there was a plan to modernise the Indian Artillery as most of the existing foreign hardware was old and the indigenous ones had a range problem. This required procurement of nearly 3000 guns. The resulting specifications were – larger reach, lethal shell that can destroy the enemy, high precision, able to shoot and scoot, and battlefield transparency. This led to standardisation of the guns

to 155mm gun with various calibres. Based on this requirement India began searching for suitable guns in the international market.

Owing to the hilly terrain of the Eastern sector, the Ultra-Light Howitzers M777 (ULH M777) were procured from the US and subsequently assembled in India by Mahindra. To optimise cost, existing hardware was modified from 130mm to 155mm first by a foreign firm and then by the Indian Ordnance Factory. In the early part of 2010, the ToT of Bofors was relooked and an indigenous version of Bofors called Dhanush that was mechanically and electronically upgraded was developed. In 2012-2013, DRDO developed an all-electric drive gun called the Advanced Towed Artillery Gun (ATAG) wherein the private sector was involved. This gun is soon to be inducted. Today, some units are being looked at for being equipped with the mounted category for shoot and scoot capability as well. The self-propelled guns were procured from South Korea and these are being manufactured by L&T under the name K9-Vajra.

Like the guns, the speaker also discussed the rockets (Grad, Smirch and Pinaka), missiles (Brahmos) and radars (battle surveillance and weapon locating) used by the Indian Artillery and the UAVs which were earlier part of the Artillery but cease to be their part now. On the shell side, 155mm shell is more lethal than others. The shells from the US are also used that can be fired only from the ULH M777 guns. Efforts to fire it from the K9 Vajra are being made but there are some challenges which the US and South Korea need to resolve. These shells have seen a major evolution. Today the brass shells have been replaced with charged bags thereby easing the efforts of the soldier. These charge bags are being produced within the country.

These requirements have their own challenges, of which indigenisation is the major one as the requirement is huge and the present capacity is limited and the required components are numerous and cannot be indigenous in full in immediate timeframe. These items will need to be imported till they are indigenised. Similarly, legacy equipment has to be maintained till these are replaced with indigenous components. Advancing technology is yet another issue since the procurement periods are usually long and by the time the item is delivered, the technology has moved ahead. This requires procurement cycles and procurement procedures to be improved to ensure that this gap can be bridged. Intra and inter services issues are also a challenge.

When firing a precision missile on the targets, coordinates are provided by sister services that sometimes can be challenging for the required precision.

To address these issues, we need to encourage public and private partnerships that would ensure reduced procurement cycles and availability of equipment within the country. For this it is essential that the order quantity is substantially high for achieving scales of production. This requirement of increased order quantity can also be addressed through export which needs to be encouraged. Finally, we need to diversify procurement so that the supplier is able to meet our requirements and we do not get caught in a geopolitical lock jam for spares and support with one supplier nation.