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APPLYING THE JOINT DOCTRINE TO WIN THE AIR DEFENCE WAR

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The Intent

On April 22, 2017, the highlight of closing address of the Chief of Army Staff (COAS) General Bipin Rawat—after the Biannual Army Commanders' conference—was an emphasis on the Indian Army's (IA) modernisation plan. The plan which gives high priority to the three elements viz. Air defence (AD), aviation and its combat and manoeuvre arms.¹ The Indian Air Force (IAF) is a stakeholder in at least two of these with the responsibility of AD of the Indian airspace presently entrusted to the IAF as per the Union War Book.² As a part of this modernisation plan, approval for induction of the Medium Range Surface to Air Missile System (MRSAM) into the Indian Army's arsenal was granted with the signing of a contract with Israel Aircraft Industries (IAI).

The Contract

On April 06, 2017 Israel Aerospace Industries (IAI) announced a contract worth \$1.6 Billion for a supply of the MRSAM system to the IA.³ The

decision to award this contract is significant as besides Defense Research & Development Organisation (DRDO), Bharat Electrical Limited (BEL), Larson & Toubro (L&T), Bharat Dynamics Limited (BDL) are among several public and private sector stakeholders in this collaborative effort with the IAI and this is likely to translate into influx of funds into the domestic defence manufacturing sector. The cost of the present system is close to the Rs 10075.68 Crore MRSAM contract for IAF inked on February 27, 2009 for nine systems with 432 missiles.⁴

The system which has been under development since 2009⁵ was successfully tested thrice on June 30, and Jul 01, 2016 against a Pilotless Target Aircraft (PTA)⁶, low flying target⁷ and a maneuvering target⁸ and is likely to be operationalised by the IAF. These trials would have tested the capability of the system especially the phased array radar called the Long Range Detection and Tracking Radar (LBMFSTAR) with a detection range of 250

Kilometers.⁹ Theoretically 18 such radars would amount to a total horizontal (azimuth) coverage of 4500 Kms (Assuming zero overlap) and an envisaged vertical (elevation) coverage of 20 Kms. Within this area the missile kill range would be 70 Kms from the launch point.

However, the kill envelope of these highly capable systems and their availability with both IAF, IA and the shipborne version of Indian Navy (IN) designated the Long Range Surface to Air Missile System (LRSAM) are likely to bring out unique challenges in terms of their operational control and designing of procedural protocols to avoid fratricide during actual operations.

The Future

While the commonality of indigenously manufactured equipment within the armed forces is highly desirable, the actual deployment of the MRSAM/LRSAM system would invariably depend upon the requirement and tasking by the individual service.

While the IAF would be deploying the system to defend its assets located primarily in an airbase, the IA and IN would be looking to deploy these to protect their strike formations/ships whose position would change as per the progress of an operation. This would pose a complex challenge to the synergistic use of the available AD assets.

Bharat Electronics Limited (BEL) is already working on many such systems to aid in

achieving such integration such as the Integrated Air Command and Control System (IACCS), the Air Defence Control and Reporting System (ADC&RS) and the Command Information and Decision Support System (CIDSS).¹⁰ These systems should be able to ensure centralised command and control of the entire airspace and prevent fratricide while ensuring necessary freedom available to field formations/ships to defend themselves from aerial threats. The effectiveness of the overall AD plan would therefore depend on complete integration of all available AD systems with IAF, IA and the IN which in addition to the MRSAMs, are also likely to consist of Very Short Range Air Defense Systems (VSHORADS). This makes this to be a fit case for implementing precepts specified in recently issued Joint Doctrine of the Armed forces especially in Chapter 6 titled “Tech Orchestration & Capability Development”.¹¹

IAF’s years of accumulated experience and the entrusted responsibility for the AD of Indian Airspace must therefore be effectively utilised to evolve an integrated AD setup along with IA and IN. This process of dovetailing of various weapon platforms and assets—catering to their tactical applications—needs to be undertaken after a careful analysis of threat perception, available technology and comprehensive vulnerability analysis. The aim must be to plug the identified technological gaps along with a careful consideration to

requirements of system redundancy, battlefield survivability and above all command & control.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])

Notes

¹ PIB “Army Commanders Conference Concludes: Army Chief stresses on need to Push modernisation and inclusive HR Poicies April 23, 2017 14:11 IST”, <http://pib.nic.in/newsite/erelease.aspx> accessed on April 24,2017

² Air Mshl (Retd) VK Bhatia, “Air Defence - Defending India’s Airspace”, <http://www.sps-aviation.com/story/?id=825> accessed May 29, 2017

³IAI, “IAI Signs Contracts In India Worth Nearly \$2 Billion April 06,2017” , <http://www.iai.co.il/2013/32981-48461-en/MediaRoom.aspx> accessed on May 29,2017

⁴ BS Nijjar, “MR-SAM Test: A Much Awaited Boost For India’s Air Defence Capability” http://capsindia.org/files/documents/CAPS_Infocus_BSN_07.pdf accessed on May 29, 2017

⁵ Vivek Raghuvanshi, “India, Israel To Build Missile Defense System

By: Vivek Raghuvanshi, February 26, 2015” <http://www.defensenews.com/story/defense/land/weapons/2015/02/26/india-israel-mrsam-missile-army-air-force-air-defense/24050363/> accessed May 29,2017

⁶PIB, “MRSAM Successfully Test Fired :Ministry of Defence 30-June, 2016 14:57 IST” <http://pib.nic.in/newsite/AdvSearch.aspx> accessed on May 29,2017

⁷PIB, “Second Launch of MRSAM Successful Ministry of Defence 30-June, 2016 19:16 IST” <http://pib.nic.in/newsite/AdvSearch.aspx> accessed on May 29,2017

⁸ Third launch of MRSAM successful Ministry of Defence 01-July, 2016 17:21 IST <http://pib.nic.in/newsite/AdvSearch.aspx> accessed on May 29,2017

⁹PIB, “YEAR END REVIEW - 2016 - Press Information Bureau” pib.nic.in/newsite/PrintRelease.aspx?relid=156049b accessed on May 29,2017

¹⁰ BEL, “C4I Systems”, <http://bel-india.com/Products.aspx?Mid=13&Lid=1&link=61> accessed on May 29,2017

¹¹ HQ IDS, *Joint Doctrine of Indian Armed Forces* (New Delhi: Directorate of Doctrine Integrated Defence Staff,2017), p.51