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National cyber research, innovation centre opened in Hyderabad

Hyderabad: As part of efforts to fight cyber crimes, a dedicated National Cyber Research and Innovation Centre here was inaugurated by Union Minister of State for Home G Kishan Reddy on Monday. The government's aim was to anticipate new forms of cyber crime and prevent them and the centre here would play an important role in helping the nation face cyber threats besides promoting innovation to keep it ahead of others in the domain, he said. The centre, set up by the Bureau of Police Research and Development at its Central Detective Training Institute, would undertake research and training to check cyber crime. It was a critical part of the Indian Cyber Crime Coordination Centre (I4C) established by the Centre to combat cyber crime in a coordinated and effective manner, officials said. It was very important to ensure that cyber technology was not misused. Unfortunately, the response of the police always has been defensive which would not be effective given the fact that technology changes very fast, Reddy said. The Home Ministry conceptualised the cyber centre here appreciating the imperative of a dedicated centre that can carry out research and innovate new technology for making the lives of people better and to preempt the designs of those involved in cyber crimes, he added. The Minister said selection of Hyderabad for the centre was strategic as it figured among top world cities in information technology development with the presence of organisations like CSIR-Centre for Cellular and Molecular Biology (CCMB), IIT and a slew of defence establishments and a host of private IT companies. He emphasised on innovation in cyber crime research, highlighting that criminals who exploit the lacunae of smart devices and high-end technology were clever and crafty. Reddy urged the officials to make the centre a vibrant institution by augmenting resources and potential available in Hyderabad. Pacts with CCMB, IIT, DRDO and others and collaboration with private partners besides continuous exploration of new areas through partnership programmes will help promote innovation, Reddy said. He noted that Prime Minister Narendra Modi had also on several occasions highlighted that while cyber space was a source of great opportunity, cyber security has become a major concern. The government has anticipated the danger of cyber threat and in the recent past has taken several landmark steps, including setting up of a dedicated division in October 2017 under the Ministry of Home Affairs for addressing the problem, he added.

(Disclaimer: This story has not been edited by Outlook Staff and is auto-generated from news agency feeds. Source)

<https://www.outlookindia.com/newscroll/national-cyber-research-innovation-centre-opened-in-hyderabad/1743011>

Data | Is the Indian Army spending enough on modernising its equipment?

Pensions and salaries together form about 76% of the Army's budget, leaving little room for modernisation of weaponry and technology

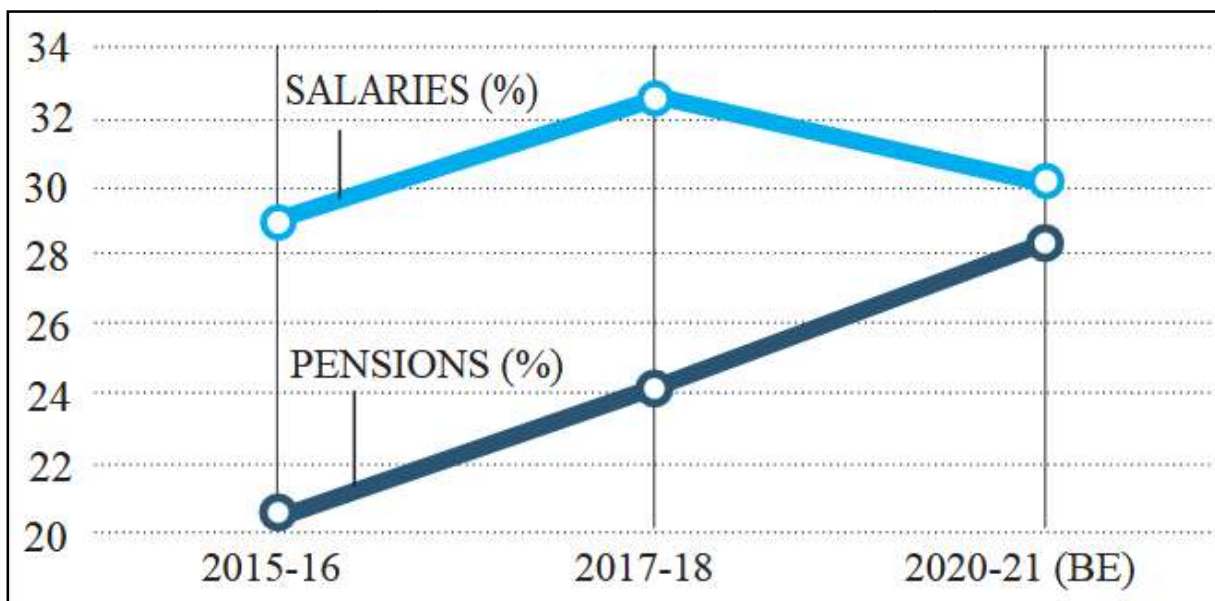
The Indian Army is estimated to spend more on pensions than salaries in FY21. Pensions and salaries together form about 76% of the Army's budget. Such a high wage bill leaves little for the Army to spend on upgradation of equipments and weaponry.

A slow-paced growth of the modernisation budget meant that only 8% of the Army's equipments were state-of-the-art as of 2018.

Wage bill

The share of pensions in the defence budget increased to 28.4% in FY21 from 20.5% in FY16. The share of salaries, the biggest component of defence expenditure, has see-sawed over the years. The graph traces the share of pensions and salaries in the defence budget.

Salaries vs Pensions



Share of pension

The table lists the share of various components in the FY21 budget for all the three armed forces. For instance, 38.1% of the Army's FY21 budget was allocated for pensions. The significant wage bill meant that only about 9% was set aside for modernisation of the Army.

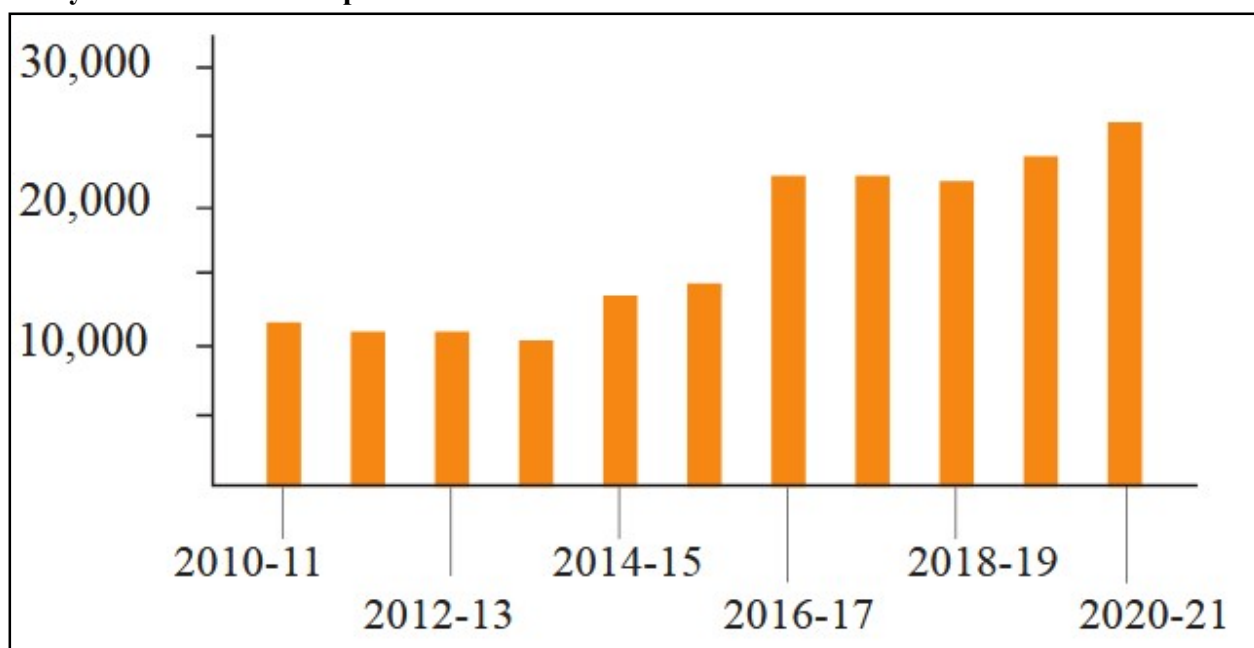
Breaking down the Defence Budget

Category	Army	Air Force	Navy
Pensions	38.1	15	12
Salaries	37.5	21	21
Modernisation	8.8	45	40
Maintenance	6.2	11	11
Others	9.5	8	16

Slow pace

The expenditure on modernisation of the Army has grown at an annual average rate of 8% between 2010-11 and 2020-21. The graph shows the Army's modernisation expenditure in ₹ crore.

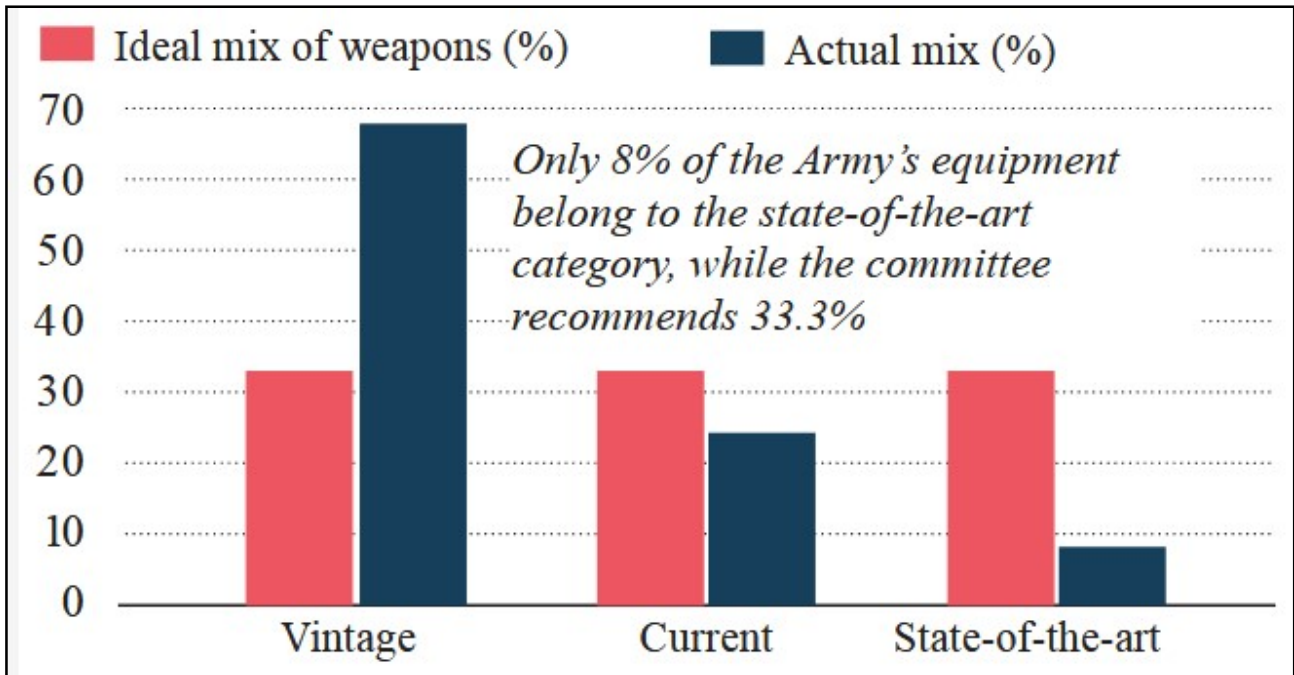
Army's modernisation expenditure



Age distribution of weapons

Close to 70% of the Army's equipments and weapons are "vintage", while the Standing Committee on Defence (2018) recommended that only 33.3% should belong to that category.

Vintage, current or state-of-the-art?



<https://www.thehindu.com/data/data-is-the-indian-army-spending-enough-on-modernising-its-equipment/article30914534.ece>

Business Standard

Wed, 26 Feb 2020

US, India now global strategic partners, to start quadrilateral initiative

Trump confirmed that India's military signed contracts with Boeing and Lockheed Martin on Tuesday for the purchase of military helicopters

By Ajai Shukla

New Delhi: Without any deadlock-breaking agreements on trade, or the sale of nuclear power reactors, much of the feel-good around the two-day visit of US President Donald Trump centred on the burgeoning US-India strategic and defence partnership.

“Today, President Trump and I have taken a decision to raise our partnership to the level of a comprehensive global strategic partnership,” said Prime Minister Narendra Modi, addressing the media after bilateral talks in New Delhi on Tuesday.

Modi and Trump agreed to galvanize the Quadrilateral Initiative (Quad), which could become an important element in the Indo-Pacific strategic architecture, bringing together democracies that are wary of a rising China.

“Together, the Prime Minister and I are revitalizing the Quad Initiative with the United States, India, Australia, and Japan. Since I took office, we have held the first Quad ministerial meeting -- I guess you would call it a meeting, but it seems like so much more than that -- and expanded cooperation on counterterrorism, cybersecurity, and maritime security to ensure a free and open Indo-Pacific,” stated Trump.

Over the preceding 15 years, New Delhi has avoided alienating China by walking a delicate line on initiatives like the Quad, and on exercises and operations with US military forces in the Indo-Pacific.

Modi abandoned some of that restraint on Tuesday, declaring: “In the last few years, there has been an unprecedented increase in interoperability between our armies.”

Trump confirmed that India's military signed contracts with Boeing and Lockheed Martin on Tuesday for the purchase of military helicopters. “Earlier today, we expanded our defense cooperation with agreements for India to purchase more than \$3 billion of advanced American military equipment, including Apache and MH-60 Romeo helicopters -- the finest in the world. These deals will enhance our joint defense capabilities as our militaries continue to train and operate side-by-side,” said Trump.

Importantly for Trump, who is critical of India’s \$24 billion trade surplus with the US, these contracts will take the total value of US defence equipment bought by India to over \$20-21 billion.

The Indian Army will get the Apache attack helicopter in its AH-64E configuration, with deliveries starting in 2023, according to the manufacturer, Boeing.

This is the latest version that entered service with the US Army in 2011. Boeing says it has 26 new advanced technologies, including more powerful engines, composite rotor blades and the capability to control unmanned aerial vehicles.

More than 2,400 Apaches are in service worldwide, with over 400 of them being the latest AH-64E model. The Indian Air Force (IAF) has already bought 22 Apache AH-64Es, which will all arrive by May.

Since the current army purchase of six Apaches does not meet the requirements of even one strike corps, more Apaches are likely to be procured in the future.

The Hyderabad-based firm, Tata Boeing Aerospace Limited (TBAL), already manufactures helicopter fuselages for multiple Apache operators around the world. TBAL is a joint venture between Tata Advanced Systems Ltd and Boeing.

Modi underlined the growing manufacture in India of advanced defence and aerospace components and systems for global vendors. “Cooperation in ultra-modern defense equipment and platforms will enhance India’s defense capabilities. Our defense manufacturers are becoming a part of each other’s supply chains,” he said.

Despite India’s growing purchase of US weaponry and the incorporation of Indian manufacturers into global supply chains, there is a worrying lack of movement in furthering the technology relationship that India wants – which involves co-design and co-development of equipment, so that Indian firms can absorb the “know how” and “know why” needed to build truly indigenous weaponry.

“The Defence Technology and Trade Initiative (DTTI) which New Delhi and Washington set up to align the two sides’ aspirations has not yet resulted in a single successful project,” points out an Indian defence scientist.

The Trump-Modi meeting was markedly silent on the flagship DTTI project: US assistance in designing India’s second indigenous aircraft carrier, INS Vishal. There are concerns on the US side that India’s static defence budget has little money to support such projects.

Nor was there any update on the long-running negotiation of a pending US-India foundational agreement – the Basic Exchange and Cooperation Agreement for Geospatial Cooperation (BECA) – which had been earlier stated to be nearing completion. Two other foundational agreements – the Logistics Exchange Memorandum of Agreement (LEMOA) and the Communication Compatibility and Security Agreement (COMCASA) have already been concluded, enabling the two militaries to work together.

https://www.business-standard.com/article/economy-policy/us-india-now-global-strategic-partners-to-start-quadrilateral-initiative-120022501283_1.html

Trump India visit: US, India agree to jointly develop arms

The joint statement noted the sale of advanced military helicopters to the Indian forces.

With India keen on the joint production of weapon systems, President Trump pledged to support the transfer of advanced military technology. India will be given the highest consideration when it comes to technology transfer.

by manu pubby

NEW DELHI: India and the US pledged to deepen defence and security cooperation by collaborating on the co-development and production of advanced military systems besides pushing ahead with a comprehensive global strategic partnership anchored in mutual trust and shared interests. A joint vision statement after bilateral meetings between PM Narendra Modi and President Donald Trump spelt out the way ahead to scale up relations in trade, security, technology sharing, regional stability and tackling new challenges such as the Covid-19 outbreak.

The two nations focused on taking forward the strategic partnership with closer cooperation in the Indo-Pacific region and increased defence ties, beyond a buyer-seller relationship.

The joint statement, in particular, mentioned closer collaboration on “co-development and coproduction of advanced defence components, equipment and platforms and partnership between their defence industries”. Transfer of Advanced Military Technology The joint statement also noted the sale of advanced military helicopters to the Indian forces. With India keen on the joint production of weapon systems, President Trump pledged to support the transfer of advanced military technology. India will be given the highest consideration when it comes to technology transfer,

he said. India and the US said there was strategic convergence in the Indo-Pacific region with support for safety and freedom of navigation.

Trump appreciated New Delhi’s role as a net security provider in the Indian Ocean Region. The two leaders also supported the early conclusion of agreements enabling defence cooperation, including the Basic Exchange and Cooperation Agreement that will give India access to advanced geolocation data. After bilateral discussions that lasted more than five hours, the leaders said they made “tremendous progress” in negotiations and were advancing toward giving legal shape to a high-profile trade deal. Negotiations will start in the near future on the “big trade deal”, which officials said, would be much higher than current levels in value terms and involve technology sharing on a bilateral basis.

Transfer of Advanced Military Technology The joint statement also noted the sale of advanced military helicopters to the Indian forces. With India keen on the joint production of weapon systems, President Trump pledged to support the transfer of advanced military technology. India will be given the highest consideration when it comes to technology transfer, he said. India and the US said there was strategic convergence in the Indo-Pacific region with support for safety and freedom of navigation. Trump appreciated

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Talks “As far as bilateral trade is concerned, there have been positive talks between our commerce ministers,” Modi said after the talks. “President Trump and I have agreed today that the understanding that has been reached between our commerce ministers lets our teams make it legal. We have also agreed to start negotiations for a big trade deal.”

The US President echoed this, saying that progress had been made. “Our teams have made tremendous progress on a comprehensive trade agreement and I’m optimistic we can reach a deal that will be of great importance to both countries,” he said. The US President also mentioned the Quad initiative in his remarks, saying that it was being revitalised with increased cooperation among the US, India, Australia and Japan. “Since I took office, we have held the first Quad ministerial meeting... and expanded cooperation on counterterrorism, cybersecurity, and maritime security to ensure a free and open Indo-Pacific,” he said.

Trump made a special mention of the 5G telecom network issue as well, highlighting the need for transparency without naming China. “During our visit, we discussed the importance of a secure 5G wireless network and the need for this emerging technology to be a tool MANU PUBBY Search for News, Stock Quotes & NAV's 2/26/2020 Trump India visit: US, India agree to jointly develop arms –

The Economic Times <https://economictimes.indiatimes.com/news/defence/trump-india-visit-us-india-agree-to-jointly-develop-arms/printarticle/74310419.cms> 2/2 for freedom, progress, prosperity — not to do anything where it could be even conceived as a conduit for suppression and censorship,” he said. While the joint statement did not specifically mention 5G, it emphasised that there was agreement the internet needs to be open and secure.

On the trade front, President Trump announced that Exxon-Mobil had signed a deal to improve India’s natural gas distribution network “so that the US can export even more LNG (liquefied natural gas) to India” and said that the US International Development Finance Corporation (DFC) will be establishing a permanent office in India. Foreign secretary Harsh Vardhan Shringla said the corporation would start by making “\$600 million available in terms of concessional financing”. Energy Cooperation Energy cooperation was described as a major takeaway from the visit, with the two sides agreeing to expand linkages with an increased engagement between industry and other stakeholders.

The two leaders “encouraged the Nuclear Power Corporation of India Ltd and Westinghouse Electric Co to finalise the techno-commercial offer for the construction of six nuclear reactors in India at the earliest date”. Modi said energy cooperation was on the upswing and that mutual investments had increased.

“Our strategic energy partnership established shortly before is becoming stronger. And mutual investment in this area has increased... Be it renewable energy or nuclear energy, our cooperation is getting new energy,” the PM said. At the global level, the US reaffirmed its support for India’s permanent membership of a reformed UN Security Council and entry into the Nuclear Suppliers Group without delay. Talks also revolved around Afghanistan with President Trump welcoming India’s role in providing development and security assistance. A strong line was taken on Pakistan with the two leaders condemning cross-border terrorism and calling on Islamabad to ensure that its territory was not used to launch terror attacks.

<https://economictimes.indiatimes.com/news/defence/trump-india-visit-us-india-agree-to-jointly-develop-arms/printarticle/74310419.cms>

Indian Army and Navy to get US choppers under the defence pact

New Delhi: India and the US on Tuesday closed defence deals worth \$3 billion during the two-day visit of US President Donald J Trump, which included the sale of state-of-the-choppers — six AH-64E Apache Helicopters and 24 MH-60R Sea Hawk helicopters to India under the Foreign Military Sales program of the US government.

While the Indian Army would get the advanced multi-role Apache helicopters whose fuselages and aerostructures will be locally made at Hyderabad, the MH-60 Romeo Sea Hawk choppers, which have anti-submarine capabilities are meant for the Indian Navy.

As per the contract, the six Apache choppers, costing \$930 million, would be made available to India by 2023. On other hand, MH-60R helicopters, designed to hunt down submarines and even attack ships, apart from taking up search and rescue operations would replace the Indian Navy's ageing fleet of British-made Sea King helicopters. While six of the Sikorsky-built choppers will be delivered early next year, the remaining 18 will join the fleet over two years in batches, according to reliable sources. They are said to cost \$2.6 billion in total.

An advanced attack helicopter, Apache is two-turboshaft attack chopper with a tailwheel-type landing gear arrangement and a tandem cockpit for a crew of two. It features a nose-mounted sensor suite for target acquisition and night vision systems and is capable of carrying chain gun, missiles and rockets. According to its makers, Boeing, manufacturing of Apache fuselages and aerostructures is outsourced to its Indian joint venture with the Tata Group, Tata Boeing Aerospace Ltd, which rolled out the first fuselage in 2018.

<https://www.thehindubusinessline.com/economy/indian-army-and-navy-to-get-us-choppers-under-the-defence-pact/article30914879.ece#>

India, US sign contract for additional Apache attack choppers

The FMS contract for the Apache includes munitions, training, aircraft certification, and components includes engines, EO sensors and the radar.

The direct commercial sale portion of the contract primarily consists of the aircraft (less engines/sensors), logistic support, spares and services

New Delhi: India and US have signed the contract for six Apache helicopters for the Indian Army which follows a contract for 22 helicopters ordered by the Indian Air Force in 2015. While 17 of 22 Apaches have been delivered to India, the remaining five will be delivered to the Indian Air Force by the end of March 2020.

Notably, the deliveries for the Indian Army Apaches are planned to begin in 2023.

The Apache sale is a hybrid procurement – Direct Commercial Sale (DCS) between Boeing and MoD and Foreign Military Sale (FMS) between the GoI and USG.

The FMS contract for the Apache includes munitions, training, aircraft certification, and components includes engines, EO sensors and the radar. The direct commercial sale portion of the contract primarily consists of the aircraft (less engines/sensors), logistic support, spares and services.

Indian Army will get the AH-64E Apache configuration – the latest attack helicopter version that the US Army first took delivery of in November 2011.

In terms of capabilities, the AH-64E Apache helicopters for the Indian Air Force and the Indian Army will be identical.

<https://economictimes.indiatimes.com/news/defence/india-us-sign-contract-for-additional-apache-attack-choppers/articleshow/74299279.cms>

THEWEEK

Wed, 26 Feb 2020

3 अरब डॉलर की डिफेंस डील से सहम जाएगा पाकिस्तान, भारत खरीद रहा ये हथियार

मंगलवार को भारत और अमेरिका के बीच 3 अरब डॉलर की दो डील साइन होगी। एक डील के तहत अमेरिका भारत को 24 MH-60R हेलिकॉप्टर देगा, जिसका इस्तेमाल इंडियन नेवी करेगी। इसके अलावा भारत इंडियन आर्मी के लिए 6 AH-64E अपाचे हेलिकॉप्टर भी खरीदेगा।

By Shankar Jha

हाइलाइट्स

- मंगलवार को भारत और अमेरिका के बीच मेगा डिफेंस डील होगी
- अमेरिका भारत को भारत को 24 MH-60R हेलिकॉप्टर देगा
- इंडियन आर्मी के लिए 6 AH-64E अपाचे हेलिकॉप्टर की खरीदारी होगी
- इंडियन नेवी के लिए मल्टी मिशन एयरक्रॉफ्ट को लेकर भी बातचीत संभव

नई दिल्ली: मंगलवार को भारत और अमेरिका के बीच 3 अरब डॉलर की मेगा डिफेंस डील होगी। डील को लेकर राष्ट्रपति [डॉनल्ड ट्रंप](#) ने कहा कि दोनों देश के बीच डिफेंस को-ऑपरेशन को मजबूती के साथ आगे बढ़ाते हुए मंगलवार को इस डील पर दस्तखत किया जाएगा। अमेरिका भारत को इस प्लैनेट का सबसे खतरनाक मिलिट्री इक्विपमेंट्स देगा। हम सबसे खतरनाक और सबसे अच्छा हथियार बनाते हैं और उसके लिए भारत से डील होने जा रही है।

ड्रोन, मिसाइल समेत कई हथियार देगा अमेरिका

इस डील के तहत अमेरिका भारत को स्टेट ऑफ आर्ट मिलिट्री हेलिकॉप्टर की बिक्री करेगा। इसके अलावा भारत को अमेरिकी ड्रोन, मिसाइल सिस्टम समेत अन्य सैन्य उपकरण की भी आपूर्ति की जाएगी। मोटेरा स्टेडियम में ट्रंप ने कहा कि मैं भारत को सबसे बेहतरीन सैन्य उपकरण उपलब्ध कराना चाहता हूं।

24 MH-60R हेलिकॉप्टर खरीदेगा भारत

भारत और अमेरिका मंगलवार को दिल्ली में दो डील साइन करेगा। एक डील के तहत अमेरिका भारत को 24 MH-60R हेलिकॉप्टर देगा, जिसका इस्तेमाल इंडियन नेवी करेगी। इसके अलावा इंडियन आर्मी के लिए 6 AH-64E अपाचे हेलिकॉप्टर की खरीदारी की जाएगी।

दिल्ली को अभेद बनाने पर भी होगी बात

24 MH-60 रोमियो हेलिकॉप्टर वाली डील 2.6 अरब डॉलर की होगी, जबकि 6 अपाचे हेलिकॉप्टर वाली डील 800 मिलियन डॉलर की होगी। अपाचे हेलिकॉप्टर की डील बोइंग के साथ होगी। सुरक्षा को लेकर कैबिनेट कमिटी पहले ही इसपर मुहर लगा चुकी है। इस डील अलावा इंडियन नेवी के लिए 8 Poseidon P8I मल्टी मिशन एयरक्रॉफ्ट को लेकर भी बातचीत हो सकती है। साथ ही दिल्ली को अभेद बनाने के लिए स्पेक्ट्रम मिसाइल शील्ड को लेकर भी मंगलवार को बात संभव है।

<https://navbharattimes.indiatimes.com/business/business-news/india-and-america-will-sign-3-billion-dollar-defence-deal-on-25-february/articleshow/74289921.cms>

THEWEEK

Wed, 26 Feb 2020

India, US seal \$3 billion MH-60 Romeo, Apache helicopters deal

By Pradip R Sagar

US President Donald Trump on Tuesday announced two deals for MH-60 Romeo and Apache attack helicopters worth \$3 billion with India.

Sale of 24 MH-60 Romeo Seahawk helicopters for \$2.6 billion was mentioned in the joint statement between Trump and Prime Minister Narendra Modi after the delegation level talks in Hyderabad House in the national capital along with six Apache attack helicopters.

In August 2018, days before the maiden 2+2 dialogue between India and the United States in New Delhi, the South Block gave the go-ahead to the Indian Navy to pursue the acquisition of 24 Sikorsky MH-60R helicopters.

The 24 MH-60 helicopters, built by Lockheed Martin's Sikorsky Aircraft, will be procured under the 'government-to-government' route. MH-60 is the US Navy's primary anti-submarine and anti-surface warfare helicopter and is capable of search and rescue and supply missions. These helicopters will come as replacement for 15 Sea King anti-submarine warfare helicopters deinducted from service in 1991 and one Sea King 42B MRH, lost in accident. The current MRHs (multi-role helicopter) in service—Sea King 42Bs—were inducted in the 1980s when Indian Navy got its aircraft carrier INS Viraat.

"With the finalisation of deal, the Navy is expected to get first six MH 60 helicopters by the end of 2020," said an official.

President Trump has said he will give the highest consideration to India for procurement, technology and joint development in defence.

The Apache contract for six helicopters for the Indian Army follows a contract for 22 helicopters ordered by the Indian Air Force in 2015. Boeing has delivered to the Indian Air Force 17 of 22 Apaches, and the remaining five will be delivered to the Air Force by the end of March 2020.

"All six Apache helicopters will be deployed in deserts of Rajasthan on the border with Pakistan on western sector," said an official. The AH-64E Apache helicopters for the Indian Air Force and the Indian Army will have identical capabilities.

An official added that fuselages and secondary aerostructures for the Army's Apaches will be manufactured at Tata Boeing Aerospace Limited (TBAL) in Hyderabad. TBAL is already manufacturing fuselages for multiple Apache operators around the world.

Deliveries for the Indian Army Apaches are planned to begin in 2023.

The Apache sale is a hybrid procurement—Direct Commercial Sale (DCS) between Boeing and MoD and Foreign Military Sale (FMS) between government of India and the US government.

The FMS contract for the Apache includes munitions, training, aircraft certification, and components including engines, EO sensors and the radar. The direct commercial sale portion of the contract primarily consists of the aircraft (less engines/sensors), logistic support, spares and services.

Official sources maintained that the letter of acceptance (LOA), as it is called under the foreign military sales (FMS) programme of the US government, and the contract between Boeing and the MoD are expected to be signed off since the validity of the two commercial offers expires in March.

The Apaches are produced in Mesa, Arizona.

The AH-64E Apache stands as the world's most advanced multi-role combat helicopter and represents the backbone of the US Army attack helicopter fleet, as well as a growing number of international defense forces. They incorporate 26 new technologies designed to enhance the aircraft's capabilities. To date, more than 400 AH-64E model Apaches have been delivered worldwide. The AH-64E features include advanced digital connectivity, joint tactical information distribution system, more powerful T700-GE-701D engines with upgraded face gear transmission to accommodate more power, capability to control unmanned aerial vehicles (UAVs) and new composite main rotor blade.

The US Army Apache fleet has accumulated more than 4.5 million flight hours.

"The FMS contract for the Apache includes munitions, training, aircraft certification, and components including engines, EO sensors and the radar," an official added.

<https://www.theweek.in/news/india/2020/02/25/india-us-seal-3-billion-mh-60-romeo-apache-helicopters-deal.html>

**INDIA
TODAY**

Wed, 26 Feb 2020

Navy MH-60Rs to be superior to US technology

India and the US signed a \$2.6 billion government to government deal on Tuesday for MH-60 'Romeo'

By Sandeep Unnithan

New Delhi: The MH-60 Romeo' for which India and the US signed a \$2.6 billion government to government deal on Tuesday is superior in certain aspects to the MH-60Rs operated by the US Navy.

Indian Navy officials told MAIL TODAY that India's MH-60s will have a total of four weapon stations, double those on the US helicopters, allowing them far more mission flexibility.

The Indian MH-60s will carry French FLASH' dunking sonar, which was judged by the Indian navy to be superior to the US Navy's HELRAS (Helicopter Long-Range Active Sonar).

The Folding Light Acoustic System for Helicopters' as it is called, is a low-frequency wideband sonar used by helicopters to detect, locate, track and attack lurking enemy submarines.

The first six MH-60s will be delivered to the Navy a year from now and will, however, be in the US Navy configuration. This is to enable the Navy to begin training its pilots and maintenance crews on the US machine.

The multi-role helicopter is one of the most capable machines that the Navy will operate; one officer called it the equivalent of going from an Ambassador to a BMW'.

Each MH-60 carries two Mark 54 lightweight torpedoes, currently one of the world's most advanced air-dropped torpedoes.

The Mark 54 which has a speed of around 40 knots and a range of 20 kilometres, are already operated by the P-8I Poseidons in the Indian Navy's inventory.

Another huge capability addition is the fact that the MH-60s can operate in concert with the P-8I Poseidons forming a lethal tag-team. The P-8Is can drop over 30 sonobuoys floating aircraft base sensors that listen for submarine activity.

MH-60s can access data from the sonobuoys. Multi-role choppers, thus called because of their abilities to attack warships, submarines and act as reconnaissance platforms.

They are embarked on frigates and destroyers each such vessel can carry two multi-role helicopters. The 24 MH-60Rs which will be delivered over the next five years will fill a major void in the Navy's anti-submarine warfare capabilities.

It comes at a time when both Pakistan and China have invested heavily in submarines. Pakistan has contracted to buy eight new Chinese Yuan class submarines, to add to its existing fleet of three submarines.

<https://www.indiatoday.in/mail-today/story/navy-mh-60rs-to-be-superior-to-us-technology-1650019-2020-02-26>

#SWARAJYA

Wed, 26 Feb 2020

India-US MH-60 helicopter deal: Why this is a critical purchase and what capabilities it brings for the Navy

By Prakhar Gupta

Snapshot

- *Indian Navy's long wait for new helos is over.*
- *Here's what these helicopters will bring for the Indian Navy.*

The Indian Navy's 14-year-long wait for new helos has come to an end today with India and the United States signing a \$2.6 billion deal for 24 MH-60R Sea Hawk helicopters which will replace its obsolete Sea King anti-submarine helos.

The first Sea King helos landed on INS Vikrant, the first aircraft carrier of the Indian Navy, in July 1971, just months ahead of the Bangladesh liberation war. Navy contracted for an improved version – Mk42B Sea King – in 1982, and 20 of these were delivered to it between 1988 and 1992. Nearly five decades since the first Sea Kings landed, less than 10 of these whirly birds remain operational.

The shortage is so acute that some of the Navy's warships go to sea without dedicated anti-submarine warfare (ASW) capability at a time when the presence of the People's Liberation Army Navy in the Indian Ocean is growing.

These warships instead depend on the Chetaks, Hindustan Aeronautics Limited's (HAL) licence-built version of the French Aérospatiale Alouette III light utility helicopter, which is even older than Sea Kings that the MR-60s will replace. Alouette IIIs were designed in the late 1950s and introduced in 1960. Without dedicated ASW helicopters, Indian warships are virtually blind to and defenceless against enemy submarines.

In one such instance, the navy had to send four warships — INS Sahyadri and INS Satpura, guided missile stealth frigates, INS Shakti, a fleet tanker, and INS Kirch, a guided missile corvette — on a two-and-a-half-month long operational deployment to the PLAN dominated waters of South China Sea and the Pacific in 2016 with just one ASW capable Sea King 42B and two Chetak utility helicopters.

The criticality of AWS capability for the Indian Navy can be gauged from the fact that the service wants submarine-hunting capabilities not only on its future 123 medium multirole helicopters, but also on the 111 light utility helicopters (approved in 2017) which will replace the nearly 40 HAL Chetak/Alouette IIIs utility helos in service with the Indian Navy.

The Navy will get six of the 24 MH-60Rs contracted for today early next year and the remaining 18 will be delivered over two years.

The helos come with transformative capabilities.

One, the MH-60s come with Telephonics APS-153(V) radar, which, among other things, has high-resolution Inverse Synthetic Aperture Radar (ISAR) imaging option. Using ISAR, Telephonics says, the helo can classify detected moving ship targets under night and restricted visibility and operate from outside the enemy's visual and lethal range.

The radar also comes with Automatic Radar Periscope Detection and Discrimination capability.

Submarines, when under water, raise periscopes above the water surface for safety sweeps, surveillance, and visual observation of targets, making themselves vulnerable to radar detection. Using this capability, the radar can spot and discriminate submarine periscopes. The detection of periscopes is difficult, especially in rough seas, as the periscopes are small and are raised above the water surface for a very short time.

Two, the Indian Navy's MH-60Rs will have AN/AQS-22 Airborne Low Frequency Sonar system as its primary undersea ASW sensor. According to Raytheon, this is the only in-service dipping sonar with multi-frequency operation, which helps it adapt its performance to varying environmental conditions.

Due to its rapid search rate and longer detection range, this system reduces the number of helicopters required to perform active ASW screening.

Three, these helicopters will come with the Advanced Precision Kill Weapon System (APKWS) laser-guided rocket, which BAE Systems has been pitching to the Indian forces for years.

APKWS, which the US Navy deploys on its MH-60 helos, helps in hitting targets with improved accuracy and minimal collateral damage. According to its maker, APKWS "redefines precision" and gives a "low-cost surgical strike capability".

The same system, Livelist says, has been pitched as an ammunition upgrade for India's AH-64E Apache, HAL Rudra and Light Combat Helicopter.

Four, apart from APKWS, the helos will also be equipped with AGM-114 Hellfire air-to-surface missiles, the Kongsberg Naval Strike Missile with proven sea-skimming capabilities for the anti-ship role and Raytheon MK54 torpedoes.

These helos (and the 123 medium naval multirole helicopters in pipeline) will operate off aircraft carrier INS Vikramaditya, three Shivalik-class stealth frigates (first stealth warships built in India), the

follow-on P-17A (or Nilgiri-class) frigates, destroyers of Delhi-class, Kolkata-class and Visakhapatnam-class, and future aircraft carriers, including INS Vikrant.

For the Navy, this deal could not have come a day later.

<https://swarajyamag.com/defence/india-us-mh-60-helicopter-deal-why-this-is-a-critical-purchase-and-what-capabilities-it-brings-for-the-navy>



Wed, 26 Feb 2020

India, US finalise defence deals, make progress on trade pact

By *Nirmala Ganapathy*

US President Donald Trump said India and the United States have finalised defence deals worth US\$3 billion (S\$4.2 billion). He added that the two countries have made "tremendous progress" on a trade deal during his visit to India that has reaffirmed India's closeness to the US, in contrast to a more hawkish China.

Mr Trump and Indian Prime Minister Narendra Modi met yesterday, a day after a mega "Namaste Trump" welcome rally attended by more than 100,000 people kicked off a state visit marked by pomp and pageantry.

Mr Trump praised Indian hospitality, and in remarks to the press, noted that he had been told no leader had received such a welcome before.

"We think we're at a point where our relationship is so special with India. It has never been as good as it is right now, and I think that's because of the two leaders of each country - really we feel very strongly about each other," said Mr Trump.

The two sides also announced that relations had been upgraded to a "comprehensive strategic global partnership", which officials said reflected the increase in cooperation in defence and security, flagged by both sides as a key aspect in ties.

"Earlier today, we expanded our defence cooperation with agreements for India to purchase more than US\$3 billion of advanced American military equipment, including Apache and MH-60 Romeo helicopters - finest in the world. These will enhance our joint defence capabilities," said Mr Trump in a statement after talks with Mr Modi.

The Indian Prime Minister called defence and security cooperation "a very important aspect of our strategic partnership".

Mr Trump was on a 36-hour, three-city tour of India, accompanied by First Lady Melania Trump as well as his daughter Ivanka and her husband Jared Kushner.

India and the US have been growing closer, with the US seeing India as a counterweight to a rising China, and India seeking greater cooperation with the US. Still, differences remain, particularly over trade. The US is pushing for greater access for US dairy products, among other areas.

Both sides said that they will work towards a bigger trade deal while concluding legal aspects of a mini deal related to US access to Indian agriculture, among other sectors.

Mr Trump, however, emphasised at a press conference that India was charging high tariffs, particularly on Harley-Davidson motorcycles.

"The US has to be treated fairly. India understands it," he said.

For its part, India is wary of US ties with Pakistan and past offers by Mr Trump to mediate on Kashmir, a disputed area between India and Pakistan. Mr Modi has also faced criticism in the US over

the Citizenship Amendment Act (CAA), which gives Indian citizenship to non-Muslim illegal immigrants from Afghanistan, Bangladesh and Pakistan.

Mr Trump said he had discussed religious freedom with Mr Modi, and hoped India "will do the right thing" with regard to the CAA, which he called an internal matter.

The two leaders also discussed cooperation on pandemics, in the light of the corona virus outbreak.

"There was some sense we need to work together on pandemics, including working on ways to control pandemics and protect our respective populations, particularly in connection with the coronavirus, which is a concern," said Indian Foreign Secretary Harsh Vardhan Shringla.

Analysts said the visit was important in growing ties. "These visits are building blocks and a signalling mechanism... India's neighbours Pakistan and China would be watching very closely," said former Indian foreign secretary Kanwal Sibal.

"Mr Trump will have a better understanding of India, and the rapport he has with Mr Modi is helpful. Of course, hardcore issues won't be decided on rapport. But in a lot of things, we see that the relationship gets pulled up or down because of lack of rapport between leaders."

Talks took place even as East Delhi was hit by the worst violence in recent years, with clashes

<https://www.straitstimes.com/asia/south-asia/india-us-finalise-defence-deals-make-progress-on-trade-pact>

THE ECONOMIC TIMES

Wed, 26 Feb 2020

India-US ties: Arming up arm in arm

By Subimal Bhattacharyjee

US President Donald Trump has just concluded his maiden visit to India. Clearly, the optics and optimism complement the opportunities that still define the growing bilateral relationship between these two countries. This relationship, as announced by Prime Minister Narendra Modi at the joint press conference with President Trump on Tuesday, will now be elevated to a comprehensive global strategic partnership (CGSP).

One of the key areas of this engagement is the defence and strategic partnership, which is centred around increased military exercises, selling of defence equipments and capacity building, strategic bilateral and multilateral cooperation in the Indo-Pacific region, and homeland security. The continuation of the '2+2 dialogue' — meetings between the foreign and defence ministers of India and the US — from the last one held in Washington in December 2019 (the first '2+2' having taken place in September 2018 in New Delhi, after Modi and Trump green-signalled the mechanism in August 2017), expanded to India's two other 2+2s (with Japan and Australia) are stepping stones towards CGSP.

During this presidential visit, defence deals worth \$3 billion were inked. These include the purchase of 24 Sikorsky MH-60 multi-role Romeo helicopters for the Indian Navy under the foreign military sales (FMS) route of the US, and six Boeing AH-64 Apache attack helicopters for the Indian Army, which would be a follow-on from 22 Apaches for the Indian Air Force, 17 of which have already been delivered.

With these deals, India's defence sales from the US have now surpassed \$20 billion in just over a decade. While most of the deals have been through the FMS route, other mechanisms like the direct commercial sale (DCS) route and hybrid procurements are also increasing — as is the case with the Apaches, a DCS between Boeing and the Indian defence ministry, and an FMS between GoI and the US government.

The fuselage and aerostructures of the Apache choppers will be manufactured by Tata Boeing Aerospace Limited (TBAL) in Hyderabad. Both TBAL and Tata Lockheed Martin Aerostructures Limited (TLMAL) manufacturing hubs are harbingers for more engaging and symbiotic relations, moving away from the buyer-seller relationship.

This also provides a fillip to the 'Make in India' and 'Make for the World' initiatives of Prime Minister Modi's administration. It will also take forward the recommendations made by the July 2015 Dhirendra Singh Committee report looking into 'Make in India' within the defence sector. The report emphasised on building India's defence manufacturing capacity at multiple tiers in its 43 recommendations.

In 2016, the US government declared India as a 'Major Defence Partner' (MDP). This allowed India to receive defence technologies at par with those provided to the US' closest allies in Natoplus-5. In the same year, India signed the Logistics Exchange Memorandum of Agreement (Lemoa), the first of the three foundational defence pacts that needs to be signed by a country to obtain hi-tech military hardware from the US.

In September 2018, the Communications Compatibility and Security Agreement (Comcasa) was also signed, and very soon, the remaining pact, Basic Exchange and Cooperation Agreement (BECA) for geospatial cooperation will also be signed. Simultaneously, the Defence Technology and Trade Initiative (DTTI) that was started in 2012 between the two countries has also set its target to look at avenues to facilitate a collaborative approach towards joint development, and then ultimately take it to production stage.

The four areas in the first phase and the next two have been now supplemented with the signing of another three projects during the 2+2 dialogue. Standard operating procedures for setting forth future implementation guidelines have also been finalised.

In December 2018, the signing of the memorandum of intent (MoI) between the US Defence Innovation Unit (DIU) and the Indian Defence Innovation Organisation-Innovations for Defence Excellence (DIO-iDEX) had also set the roadmap for possible defence research on a sustained basis. A further boost was provided with the signing of the Industrial Security Annex (ISA) during the 2+2 dialogue, which provides the framework for exchange and collaboration between private industries from both the countries.

Despite the steady progress in many areas, a remaining need was to optimise the possibilities with a more focused approach. Defence technology transfers from the US, and subsequent manufacturing in India under licensing, have to be fostered with the ISA signed. This is crucial to bring the Indian military industrial ecosystem to scale, and also to support the nascent and aspirational Indian private sector to invest further in the defence sector. Clearly, CGSP will have to factor all this in more closely. *(The writer is a defence and cybersecurity analyst, Views expressed above are the author's own.)*

<https://timesofindia.indiatimes.com/blogs/et-citings/india-us-ties-arming-up-arm-in-arm/>

The Tribune

Wed, 26 Feb 2020

Let's not pitchfork women into combat role

While successive governments have exercised a number of options to wreck the military, inducting women into the fighting arms may prove to be the proverbial last straw on the camel's back. Both during India's past, and more recently, during the conflict in Iraq and Afghanistan, women did take part in some manner of combat and acquitted themselves well. But when we call upon women to take part in a full-blooded infantry battle, it is a different ballgame

By Lt Gen Harwant Singh (Retd)

With the Supreme Court clearing the way for women officers in the military to permanent commission and command appointments, there is now a clamour for their induction into combat role. Earlier views on the induction of women into combat arms of the Indian Army, expressed by the Army Chief, had come under criticism from many quarters.

It's nothing new for women to be part of the military. They were there in large numbers during World War II, both in supporting role and in combat arms. The USSR deployed them as bomber pilots and in the allied forces, they manned anti-aircraft guns. Because of the requirement of soldiers in very large numbers, and consequently their shortage, some countries involved in World War II had to draw on women for combat role. Many desk jobs in the military, too, were manned by them.

In the Indian military, they have been holding various jobs, such as in the medical corps (doctors and nursing officers). Some time ago, they were inducted into supporting arms such as EME, ordnance, engineers, signals, artillery, education and legal branches etc, where they have performed well.

The Supreme Commander of the Armed Forces and the then Defence Minister pitched for their entry into all streams of combat elements. The then Defence Minister had also wanted an all-woman combat unit. While it may be interesting to know the reaction to such proposals by the Pakistan army, here the focus need be on the implications of their induction into the combat arms — infantry and tank units.

Women in submarines and as fighter pilots may fit in some manner, but women pilots bailing out over enemy territory, particularly Pakistan, has its own implications. Perhaps, the Supreme Commander and the Defence Minister may prefer to gloss over this pertinent issue, but the Air Chief is reported to have stated that they would not have to fly over enemy territory.

While successive governments have exercised a number of options to wreck the military, inducting women into the fighting arms may prove to be the proverbial last straw on the camel's back. Both during India's past— to an extremely limited extent — and more recently, during the conflict in Iraq and Afghanistan, women did take part in some manner of combat and acquitted themselves well, but when we call upon women to take part in a full-blooded infantry battle, it is a different ballgame.

Advocates of the idea of inducting women into combat arms are working on the false premise of the need for application of 'gender equality' in this field too. Such notions and illusions miss out on the nature of battle combat arms are called upon to undertake and the imperatives of winning a war. Political leadership in India, unlike some other democracies, has no experience of wearing a uniform or even marginally acquainting itself with the nature of combat and what all it involves. Their children and those of bureaucrats do not opt for the military service. The military's sole mission, when compelled to wage a war, is to win the same and vanquish the enemies of this nation. In war, there is no 'runners-up.' It cannot be used as a social engineering project by ill-informed politicians and self-proclaimed defence experts.

The Indian infantry, when deployed along the northern borders, has to carry out long-range patrols, some lasting as much as 14 days, where a woman will have to carry her weapons, ammunition, 21 days' ration (14 days, plus 50 per cent reserve), bedding and tent etc to cater for rain. This adds up to 50 kg. On occasion, she may even have to share a blanket with a man. During combat, injuries suffered by a woman may require first aid by her male colleague, maybe on her private parts. What if a good number are taken prisoner?

Women, as members of a tank crew, where space is extremely limited, will be in constant intimate body contact with another crew member, who could be a young male. Combat for an infantry soldier is an extreme form of violence, carried out without pity, remorse and contrition. How many know what it takes to get up and advance through a hail of bullets and exploding shells, with comrades to the left and right being blown to bits and ending up with hand-to-hand fighting with the enemy?

Women require long maternity leave which will impact the unit functioning. The Indian infantry soldier spends half his service in field areas and when in a peace station, there is little peace for him. For such women, bringing up children will have its own implications. Such problems are being faced, though to a much lesser degree even by women in the medical corps and others. One lady lieutenant-colonel of the medical corps had gone to court against far too frequent moves on temporary duties, while she had a young child to take care of. How will it impact the growth of children staying away from their mothers for long periods? Equally, how will these mothers take separation from small children?

It is nobody's case to deny women their right to equal opportunities. There is an all-women border police unit, because their range of duties are poles apart from that of an infantry soldier. In India, women have done exceedingly well in the civil services, police, judiciary, politics, medical services and a whole lot of other fields and it is here that they can be provided additional opportunities. More women must find place in boardrooms. We have very few women in parliament and state legislative assemblies, as ministers, both at the Centre and in states, and in the Supreme Court. So why not get them in equal numbers as there are men in these?

It is incumbent upon the military leadership to suitably advise the government and not be carried along by such outlandish proposals. The nation's military leaders have a moral duty to inform the political executive that some of the policies they advocate are not in the best interest of the military, and consequently, that of national security. It is not to be left to the women to take a call on whether to join combat arms or not, as being advocated by some. The chiefs of defence services must have the courage to stand up and the wisdom to advise the government where its policies can have an adverse impact on national security issues.

The nation's security scene is anything but reassuring. There is no compulsion to get women in combat arms and the same is not in the best interest of national security. There is no shortage of men; women need to be spared the ordeals of combat and instead avenues should be opened up for them across a range of other fields.

(The writer is Former Deputy Chief of Army staff)

<https://www.tribuneindia.com/news/lets-not-pitchfork-women-into-combat-role-47177>

Air Chief Marshal RKS Bhadauria: ‘Balakot strike redefined use of air power towards meeting national objective’

Balakot airstrike redefined the use of air power towards meeting the national objective and has changed the paradigm of sub-conventional action and response in the subcontinent, says Air Chief Marshal RKS Bhadauria.

By Sushant Singh

Air Chief Marshal R K S Bhadauria became the Indian Air Force chief on September 30, 2019, months after the IAF launched airstrikes at [Balakot](#), Pakistan. On the occasion of the first anniversary of the Balakot airstrikes, ACM Bhadauria speaks with [the Indian Express](#). Excerpts:

One year after the Balakot strike and subsequent air operations, how do you look back at the events from February 2019 till now?

The Balakot airstrike redefined the use of air power towards meeting the national objective and has changed the paradigm of sub-conventional action and response in the subcontinent. The event itself, and the subsequent air operations on February 27, 2019, have remained in public attention with the battle of narratives spreading out to the masses over all forms of media. But the fact remains that the Balakot airstrikes were the most significant air action by the IAF in over four decades, when our fighters penetrated deep into Pakistan airspace, executed a precise attack on the terror camp and returned home unchallenged.

Over the last year, we have continued to focus on our operational training and readiness, induction of enhanced BVR (Beyond Visual Range) missiles, stand off weapon capability and upgradation of secure communications. We have looked closely at our modernisation and acquisition plans for prioritisation in line with the changing threat scenario.

What were the big lessons from Balakot? How will it impact planning for future missions?

The Balakot strikes clearly demonstrated the IAF’s level of operational preparedness and capability. The package was precisely coordinated and comprised combat aircraft and enablers from many bases across the country. The men and women concerned performed their tasks admirably under challenging conditions which is a testimony to their planning and training. This complex plan was conceived and executed in full secrecy and the mission went unchallenged even when PAF was on full alert.

As in any military action, there were several lessons learnt which have been implemented in terms of capability enhancement and future plans. We have instituted measures covering the entire spectrum of induction of new capability, operational training and tactics, which will further enhance the IAF’s operational capability to undertake any such mission at short notice.

How do you plan to realistically overcome the challenge of shortage of fighter aircraft, considering the state of funds allocated for capital acquisition and IAF’s committed liabilities?

We are aware of the reducing strength of combat platforms for some time now. We have already put into place measures to overcome the shortfalls by a combination of capacity and capability enhancements. We have instituted a series of midlife upgrades and weapons integrations on legacy platforms. The LCA Mk1A and MRFA should serve to halt the reducing trend, and LCA Mk2 will thereafter boost the numbers once the upgraded platforms come to the end of their life cycles.

These inductions will be spread over a number of years which will help spread out the funding, as has been alluded to by the CDS.

Are there plans for buying more AWACS and mid-air refuellers, better weaponry for Su-30 and better air defence capability, with reports of S400 delivery being delayed?

We have plans in place for additional AWACS, both through the acquisition and development routes. We are also looking at various possibilities to enhance our refuelling capability, and these should be formalised soon. The Su-30 upgrade is on our priority list. The S400 is not delayed as has been reported, but the programme delivery schedule is being optimised in coordination with the Russian side to enable us to operationalise the weapon system quicker.

How prepared is IAF for the challenges on the northern borders? Any special plans in the offing?

The IAF, as does any armed force, continues to monitor threats and challenges across the geographical and strategic space that we operate in. With specific reference to our northern borders we are aware that matching numbers is a difficult proposition but we are adequately prepared. We are focussing on hi-tech weapons, force enablers along with emphasis on operational training.

Integrated theatre commands are in news, with CDS having it in charter, while IAF has long held that the whole of India is one theatre. How will this be resolved?

There is no doubt that our current setup, while time-tested, is old, and there is room for improvement. However, as the CDS has brought out, we need to guard against blindly following models adopted by different countries in a 'change for change's sake approach'. We need to clearly understand our unique situation, our resources, and develop solutions which fit our needs and requirements.

There is a clear case to enhance jointness at the operational level. Several studies are underway to resolve the practical issues of how this is to translate into deliverable and achievable actions on the ground. Our air power resources are highly inadequate to permit fragmentation into smaller theatres. We are studying methods to create joint structures and yet retain the ability to bring to bear the maximum possible firepower from air at the desired point of delivery across our entire national AOR (Area of Responsibility) in the shortest possible time.

<https://indianexpress.com/article/india/air-chief-marshal-rks-bhadoria-balakot-strike-redefined-use-of-air-power-towards-meeting-national-objective-6286787/>



Wed, 26 Feb 2020

Balakot airstrike anniversary: IAF Chief RKS Bhadoria to fly with MiG-21 pilots to Srinagar

Air Force sources told India Today TV that IAF chief RKS Bhadoria is expected to fly a MiG-21 Bison aircraft with the 51 Squadron of the Indian Air Force

New Delhi: Air Chief Marshal RKS Bhadoria is likely to fly with MiG-21 pilots to Srinagar tomorrow to mark the first anniversary of the Balakot airstrikes. Top sources in the Air Force told India Today TV that IAF chief Bhadoria is expected to himself fly a MiG-21 Bison aircraft with the 51 Squadron of the Indian Air Force.

This is the same unit that was activated following the Balakot airstrikes last year and Wing commander Abhinandan Varthaman was a part of it.

Sources said Mirage 2000 fighters may also be part of the display tomorrow.

Besides this, IAF chief RKS Bhadauria will also address a seminar titled 'Indian Air Force: No war, no peace' at the DRDO Bhawan on Friday. In the seminar, he is likely to speak about the Balakot airstrikes and the air skirmish on the following day (February 27, 2019).

In the wee hours of February 26 last year, the Indian Air Force carried out airstrikes on terror camps in Balakot inside Pakistan. These airstrikes were carried out in the aftermath of February 14 Pulwama terror attack where 40 CRPF jawans were killed when an IED-laden SUV rammed into a CRPF convoy.

<https://www.indiatoday.in/india/story/balakot-airstrike-anniversary-iaf-chief-rks-bhadauria-to-fly-with-mig-21-pilots-to-srinagar-1649946-2020-02-25>

THE TIMES OF INDIA

Wed, 26 Feb 2020

Defence Expo 2020: Showcasing the might and strategic importance of Indian defence ecosystem

By Abhishek Mishra

Lucknow was witness to the entire global defence ecosystem descending on the culturally-rich city. India has grown in stature globally as a military equipment manufacturer and our military prowess and high standards of professionalism of our defence forces are accepted worldwide.

Prime Minister Narendra Modi has set an ambitious target for India becoming an export powerhouse in the defence sector and Indian private sector companies entering sophisticated High-end defence equipment manufacturing is a key component of PM Modi's push. He said at his inaugural speech at the Expo that the transformation of Indian defence in line with the changing technology is paramount and that the country was trying to become a major defence export power which was also tied up with \$5 trillion economy ambition. He coined a new mantra, "Make In India, for India, and for the world," and said this policy is being adhered to by his government to prepare robust defence infrastructure in the country.

PM Modi stressed on his pet theme 'Digital India' and said, "Digital transformation of defence, this subject is very important for the future of the Indian military." He also signalled India's desire to lead the world and take on China in the artificial intelligence sector by adding, "Our aim is to develop 25 products based on artificial intelligence in the next 5 years. The Prime Minister said all the forces in the world are evolving in the light of technological challenges and India was trying to keep pace.

The key statistics of the DefExpo 2020 highlight its success. Defence Ministers and service chiefs from over 40 countries took part in the biennial military exhibition that showcased India's journey towards becoming a global defence manufacturing hub. Delegates from 70 countries along with 172 foreign military manufacturers attended the five-day mega exhibition. 856 Indian defence firms showcased their products, giving them an opportunity to showcase their ability and promote their export potential. In total 1028 companies registered for participating in this year's event as against 702 in the DefExpo 2018.

The main theme of the Expo was appropriately titled 'India: The Emerging Defence Manufacturing Hub' and focus remained on 'Digital transformation of Defence', keeping in line PM Modi's focus on 'Make In India' and his thrust on Digitalisation which clearly reflected in the Ministry Of Defence priorities while organising the DefExpo and illustrated how PM Modi has brought about transformational change in streamlining the focus of Indian Defence policy planners which was clearly stated in his words, "In the last five years India has made remarkable progress in indigenising the production of military equipment under the Make in India initiative."

The 11th edition of the expo brought in new technologies and solutions, Hindustan Aeronautics Limited displayed models of Light combat Aircraft (LCA) Tejas, Light Combat Helicopter (LCH), Advanced Light Helicopter (ALH), Do-228 and Hawk in its stall. Avionics, accessories, assemblies, products such as Indigenous Digital Map Generator (i-DMG), Engine and Flight Display Unit, gas Turbine Electrical Generator (GTEG)-60, Air producer Engine, Glass cockpit for Do-228, Automatic Target Recognition (ATR) were displayed.

The government has taken impressive initiatives while only 270 defence licenses were issued till 2014, the Modi government has taken it to 460 in the last five years. Artillery guns, aircraft carriers, frigates, submarines, light combat aircraft, combat helicopters are being manufactured and the domestic private sector was playing a key role in this along with state-run HAL. The current government has laid special emphasis on cutting down defence import and increase export. In this regard, PM Modi said, “India’s defence export is growing; it stood at Rs 17,000 crore in the last two years. The defence export target for the next five years is Rs.35,000 crore,”.

Indian industry can benefit free of cost from the relevant transfer of technology by the DRDO (Defence Research Development Organisation) due to initiatives of the government and licensing regime has been made liberal in PM Modi’s tenure so that Indian manufacturers, especially SMEs (Micro, small and medium Enterprises) can participate in the sector. The target of the government is to take number of MSMEs in defence production to 15,000 in the next five years. The govt’s target is to have 200 defence start-ups that can help in creating at least 50 new indigenous technologies and it plans to identify the most essential technological advancements and work towards it.

Foreign direct investment is another priority of the government. The Modi government has made FDI rules easy and liberal. “The path to 100% direct investment has been cleared and 49% of this can be done through the indirect route. This has the potential of inviting 17,000 crore in FDI in the near future,” said PM Modi.

The state of Uttar Pradesh also benefited from the DefExpo with twenty-three MOUs inked with the state government and proposals for investments worth Rs.50,000 crore were received which would generate employment opportunities for over three lakh youth in the state. Uttar Pradesh Chief Minister Yogi Adityanath termed it as a ‘mahakumbh’ gathering of defence equipment manufacturing companies and said through the event a strong base for the defence corridor had been laid and stated his vision to make Uttar Pradesh a “new hub” of defence production.

US and European defence firms made their presence felt at the Expo. Airbus SE and US-based Lockheed Martin Corp and Boeing Co. were present eyeing multi-billion dollar deals. Airbus is partnering with the Tata group to produce C295W military transport aircraft as a replacement for the Indian Air Force’s Avro fleet. The 85,000 crore Avro replacement has been planned for almost a decade. Airbus also signed an MOU with Adani Aerospace and Defence.

Boeing is competing with Lockheed Martin’s F-21 by pitching its F/A-18 Block III super Hornet fighter for the Indian air force and navy and is offering its suite of five products namely- the super hornet, KC-46 tanker, P-8I aircraft, AH-64E Apache and CH-47(I) Chinook Helicopters. Lockheed Martin signed an MOU with Bharat Electronics Ltd to explore industrial opportunities around its F-21 fleet.

Saab of Sweden in a statement said that at the DefExpo it demonstrated how its advanced technology and innovative thinking can deliver the best solutions for strong national defence and independent Industrial future for India. As part of its global supply chain Saab hopes to establish an industrial network that will be the heart of the Gripen programme for the Indian air force. “Saab will contribute to India’s vision of building a larger indigenous defence industry , and help build capability that will enable India to design and build its own next-generation defence systems,” said Mr.Ola Rignell, Chairman and Managing Director, Saab India. Saab AB with its Gripen fighter is competing with France’s Dassault Aviation SA Rafale, Boeing, and Lockheed.

Rajnath Singh, Union Defence Minister summed up the Modi government vision by stating that the Indian defence sector is exploring “mutually beneficial” partnerships with friendly countries to set up industries at home and abroad. “ We have achieved an export turnover of around Rs.10,000 crore in 2018-19, with the target of this year pegged at Rs.15,000 crore,” Singh said. In the end, it can be summarised India’s defence sector has matured and India’s defence ecosystem is showing its might to the world.

(Disclaimer : Views expressed above are the author's own.)

<https://timesofindia.indiatimes.com/blogs/always-right/defence-expo-2020-showcasing-the-might-and-strategic-importance-of-indian-defence-ecosystem/>

International Business Times

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SU-30MKI to become deadlier: New cockpit design to include Artificial Intelligence

Artificial intelligence has a major implication in global politics and the balance of power. State and business leaders have reiterated that AI has a potentially deterministic influence on global affairs

By Ashish Shukla

The India Air Force's (IAF) multirole air superiority fighter aircraft SU-30MKI to ready for major upgrades as the technological innovations become an integral part of the Armed Forces across the globe. State-owned Hindustan Aeronautics Limited (HAL) that is developing a new cockpit for SU-30MKI will also be including the Artificial Intelligence (AI) that would enable an aircraft to execute a command based on spoken words.

As per a report in Deccan Herald, HAL unit in Nashik has already begun to work on the "proof of concept" prototype. The project kicked off in November 2019 to show how the existing analogue cockpit of the Russian-made fighter aircraft could be upgraded. One of the scientists working on this project said, "The heart of the cockpit upgrade, however, is a new Artificial Intelligence system which can carry out commands said by the crew."

Indigenously developed cockpit for future wars

The new cockpit will be loaded with a number of analogue gauges and that will switch the cockpit's front panel, in favour of customizable digital screens. A key located on the left side of the cockpit activates the Voice Activated Controller System (VACS), a 2.7-kg unit which uses AI to understand verbal commands. The scientist further added, "For example, if the crew pressed the button and said 'altitude and position', the AI system would verbally inform the crew about their current altitude and position. The system has a set of pre-built commands, including weapons selection. The AI system has been indigenously developed and can understand various accents spoken in India with an accuracy of 98 per cent in speech recognition.

It is estimated that AI has the potential to add \$ 957 billion or almost 15 per cent of India's current GDP by 2035. However, the Indian defence forces, unfortunately, have been slow to adopt new technologies for a multitude of reasons. With its local defence manufacturing still to attain its potential, mostly the new technologies are either being ignored or imported paying thousands of crores of rupees. Artificial intelligence has been greatly ignored by the previous governments but the incumbent government has kicked off the process to include the technology in the Armed forces.

<https://www.ibtimes.co.in/su-30mki-become-deadlier-new-cockpit-design-include-artificial-intelligence-813919>

Wed, 26 Feb 2020

Isro to launch new-age sat Gisat-1 on March 5 for 24x7 monitoring

Indian Space Research Organisation (Isro) is set to launch a new-age geo-imaging satellite Gisat-1 from Sriharikota on March 5 with the capability to perform real-time and constant watch of the subcontinent. GSLV-F10 rocket will launch Gisat-1 at 5.43 pm, subject to weather conditions. Gisat-1 will apparently be in a fixed spot looking over the Indian continent at all times.

<https://www.pressreader.com/india/the-times-of-india-mumbai-edition/20200226/282183653084123>