

मार्च

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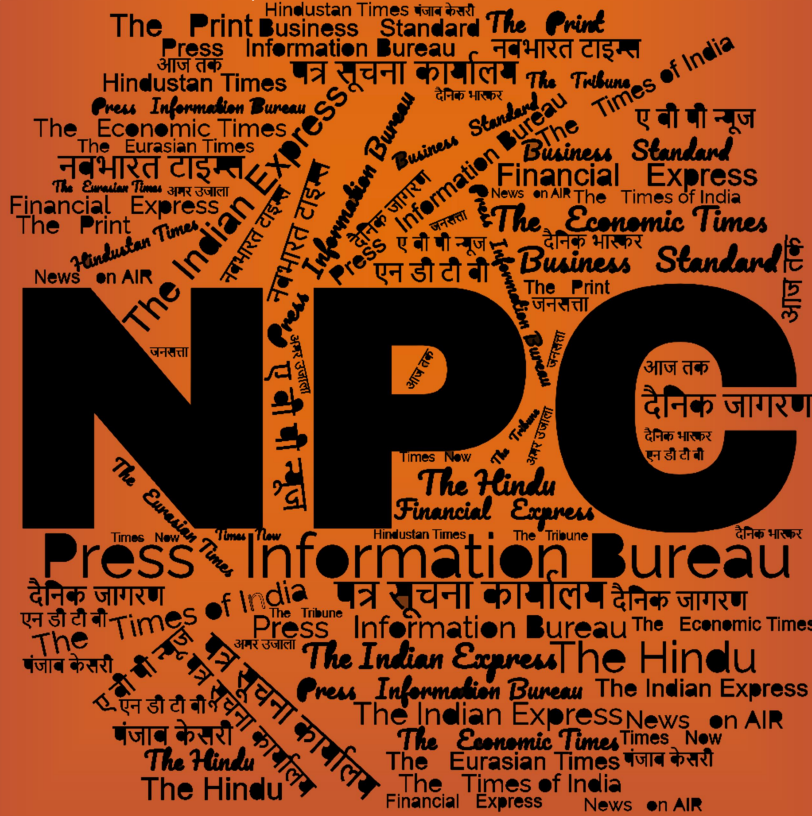
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समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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Tue, 07 Mar 2023

एक-दो और तीन...गिनते ही दुश्मनों का काम तमाम कर देगी ये मिसाइल, जानिए MRSAM के सफल परीक्षण से समुद्र में कैसे बढ़ी भारत की और ताकत

भारतीय नौसेना की समुद्र में और ताकत बढ़ गई है. जी हां, नेवी ने आईएनएस विशाखापट्टनम से मध्यम दूरी की सतह से हवा में मार करने वाली मिसाइल (MRSAM) का सफल परीक्षण किया है. परीक्षण के दौरान MRSAM ने टारगेट पर एकदम सटीक निशाना लगाया. MRSAM एक एंटी शिप मिसाइल है जो दुश्मनों के जहाज को एक, दो और तीन...गिनते ही मार गिराएगी.

मिसाइल पूरी तरह से भारत में निर्मित

MRSAM मिसाइल पूरी तरह से भारत में निर्मित है. इसके निर्माण के साथ ही देश आत्मनिर्भर भारत की दिशा में एक कदम और आगे बढ़ गया है. इस मिसाइल को रक्षा अनुसंधान और विकास संगठन (DRDO) और इजराइल एयरोस्पेस इंडस्ट्री (IAI) ने मिलकर BDL हैदराबाद में विकसित किया है. परीक्षण के विवरण को साझा करते हुए भारतीय नौसेना ने कहा, MRSAM को DRDO और IAI द्वारा संयुक्त रूप से विकसित किया गया है. BDL में उत्पादित भारतीय नौसेना की आत्मनिर्भर भारत के प्रति प्रतिबद्धता को दर्शाता है.

ये है खासियत

MRSAM को सितंबर 2021 में भारतीय वायुसेना में शामिल किया गया था. यह मिसाइल हवा में एक साथ आने वाले कई टारगेट या दुश्मनों पर 360 डिग्री घूम कर एक साथ हमला कर सकती है. मिसाइल 100 किलोमीटर के दायरे में आने वाली किसी भी मिसाइल, लड़ाकू विमान, हेलीकॉप्टर, ड्रोन, निगरानी विमानों और हवाई दुश्मनों को मार गिराने में माहिर है. दुश्मन की

सही जानकारी के लिए इसमें कॉम्बैट मैनेजमेंट सिस्टम, रडार सिस्टम, मोबाइल लांचर सिस्टम, एडवांस्ड लांग रेंज रडार, रीलोडर व्हीकल और फील्ड सर्विस व्हीकल आदि शामिल किया गया है.

16 KM तक के टारगेट को मार गिराने में सक्षम

MRSAM इजरायल की खतरनाक मिसाइल बराक-8 पर आधारित है. यह मिसाइल लॉन्च होने के बाद धुआं कम छोड़ती है. एक बार लॉन्च होने के बाद MRSAM आसमान में सीधे 16 KM तक टारगेट को गिरा सकती है. अगर रेंज की बात करें तो यह आधा किलोमीटर से लेकर 100 किलोमीटर तक है. इसकी रफ्तार 680 मीटर प्रति सेकेंड यानी 2448 किलोमीटर प्रतिघंटा है. इसका वजन लगभग 275 किलोग्राम है.

भविष्य की चुनौतियों से निपटने के लिए तैयार रहने की जरूरत

हमें उत्तरी और पश्चिमी सीमाओं के साथ-साथ पूरे समुद्र तट पर लगातार निगरानी रखनी होगी. रक्षा मंत्री राजनाथ सिंह ने सोमवार को नौसेना के कमांडरों से यह बातें कहीं. उन्होंने कहा कि कहा कि हमें भविष्य की सभी चुनौतियों से निपटने के लिए तैयार रहने की जरूरत है. रक्षा मंत्री राजनाथ सिंह ने 06 मार्च को भारत के पहले स्वदेशी विमान वाहक आईएनएस विक्रान्त पर आयोजित नौसेना कमांडरों के सम्मेलन के दौरान भारतीय नौसेना की परिचालन क्षमताओं की समीक्षा की. उन्होंने कहा कि अगले 5-10 वर्षों में, रक्षा क्षेत्र के माध्यम से 100 बिलियन से अधिक के ऑर्डर दिए जाने की उम्मीद है और यह देश के आर्थिक विकास में एक प्रमुख भागीदार बन जाएगा. आज हमारा रक्षा क्षेत्र रनवे पर है, जल्द ही जब यह उड़ान भरेगा, तो यह देश की अर्थव्यवस्था को बदल देगा. अगर हम अमृत काल के अंत तक भारत को दुनिया की शीर्ष आर्थिक शक्तियों में देखना चाहते हैं, तो हमें रक्षा महाशक्ति बनने की दिशा में साहसिक कदम उठाने की जरूरत है.

<https://www.gnttv.com/india/story/indian-navy-successfully-test-fires-medium-range-surface-to-air-missile-mrsam-from-ins-visakhapatnam-523464-2023-03-07>

THE HINDU

Tue, 07 Mar 2023

Indian Navy Successfully Test-fires Indigenous Surface-to-Air Missile from INS Visakhapatnam: Officials

The Indian Navy on March 7 carried out a successful test-firing of a Medium Range Surface-to-Air Missile (MRSAM) from frontline warship INS Visakhapatnam, officials said.

The test firing validated the capability to engage the weapon as an anti-ship missile, they said.

The MRSAM has been jointly developed by the Defence Research and Development Organisation (DRDO) and the Israel Aerospace Industries (IAI), and produced at Bharat Dynamics Limited (BDL), reflecting the Navy's commitment to Atmanirbhar Bharat.

The Indian Navy said in a statement, “#IndianNavy successfully undertook MRSAM firing from #INSVisakhapatnam validating capability to engage Anti-Ship Missiles. MRSAM jointly developed by @DRDO_India and #IAI, and produced at #BDL reflects #IndianNavy's commitment to #AatmaNirbharBharat.”

#IndianNavy successfully undertook MRSAM firing from #INSVisakhapatnam validating capability to engage Anti Ship Missiles.

MRSAM jointly developed by @DRDO_India & #IAI, & produced at #BDL reflects #IndianNavy's commitment to

#AatmaNirbharBharat.@DefenceMinIndia@PMOIndiapic.twitter.com/I8LwCV2WWH

— SpokespersonNavy (@indiannavy) March 7, 2023

<https://www.thehindu.com/news/national/indian-navy-successfully-test-fires-indigenous-surface-to-air-missile-from-ins-visakhapatnam-officials/article66590763.ece>



Wed, 08 Mar 2023

Women's Day 2023: Saluting the Women behind India's Missile Programme

By Girish Linganna

India's missile programme is one of the most advanced in the world, and it owes much of its success to the contribution of women scientists and engineers. Women have been involved in India's missile program since its inception, and their role has only grown over the years. Today, women occupy key positions in various organizations that are involved in missile development, such as the Defense Research and Development Organization (DRDO) and the Indian Space Research Organization (ISRO).

On International Women's Day, let us celebrate some of the women who have been instrumental in India's missile programme.

Tessy Thomas: Also known as the "Missile Woman of India," Tessy Thomas is the first woman scientist to head a missile project in India. She played a crucial role in the development of the Agni-IV and Agni-V missiles, which are long-range nuclear-capable missiles.

Geeta Varadan: Geeta Varadan was the project director for the development of the inertial navigation system for India's first intercontinental ballistic missile, the Agni-V. She was also involved in the development of the Avionics system for the Light Combat Aircraft (LCA) Tejas.
R Radhika: R Radhika was a scientist with the Defence Research and Development Organisation (DRDO) and was part of the team that developed the anti-tank guided missile (ATGM) Nag. She also contributed to the development of the Pinaka multiple rocket launcher.

Subha Varier: Subha Varier was a scientist at the DRDO and was part of the team that developed the K-15 submarine-launched ballistic missile (SLBM). She was also involved in the development of the Avionics system for the LCA Tejas.

Lalithambika VS: This scientist contributed significantly to India's space and missile technology. She was part of the team that developed the Polar Satellite Launch Vehicle (PSLV), which is used to launch satellites into orbit. She has also worked on various other missiles.

Dr Shubha Tole: This neuroscientist has worked on developing guidance systems for missiles. She has also been involved in developing unmanned aerial vehicles (UAVs) for military applications.

Anuradha TK: She was part of the team that launched India's first navigation satellite, IRNSS-1A. She has also worked on various missile projects in India.

These are just a few examples of the many women who have contributed to India's missile technology field. Their contributions have been instrumental in making India a self-sufficient and self-reliant country in missile technology.

<https://newsable.asianetnews.com/india-defence/womens-day-2023-saluting-the-women-in-india-s-missile-programme-rr73m4>

Defence News

Defence Strategic : National/International



Press Information Bureau
Government of India

Ministry of Defence

Thu, 09 Mar 2023

Theatre Level Operational Readiness Exercise (TROPEX-23) Indian Navy's Largest War Game

Indian Navy's major Operational level exercise TROPEX for the year 2023, conducted across the expanse of IOR over a duration of four months from Nov 22 - Mar 23, culminated this week in the Arabian Sea. The overall exercise construct included Coastal Defence exercise Sea Vigil and the Amphibious Exercise AMPHEX. Together, these exercises also witnessed significant participation from the Indian Army, the Indian Air Force and the Coast Guard.

Set in the Indian Ocean including the Arabian Sea and the Bay of Bengal, the theatre of operations for the exercise extended approximately 4300 nm from North to South upto 35 deg South Latitude and 5000 nm from Persian Gulf in the West to North Australia coast in the East,

spanning an area of over 21 million square nautical miles. TROPEX 23 witnessed participation of approximately 70 Indian Navy ships, six submarines and over 75 aircraft.

The culmination of TROPEX 23 brings to an end an intense operational phase for the Indian Navy that commenced in Nov 2022. As part of the final Joint Phase, the Hon'ble Raksha Mantri spent a day at sea onboard the newly commissioned Indigenous Aircraft Carrier Vikrant on 06 Mar 23. He reviewed the Indian Navy's operational preparedness and material readiness wherein the Navy demonstrated operational manoeuvres and various facets of combat operations, including deck operations of indigenous LCA and live weapon firings. While addressing the Fleets, he lauded the Operational preparedness of the Indian Navy and emphasised that the country looks up to the Navy to ensure that the economic lifelines and military capabilities of our adversaries are disrupted to the extent where their warfighting endeavours can no longer be sustained. He also stated that he is fully reassured that Indian Navy is wholly capable of safeguarding India's national interests in the maritime domain and will thwart the diabolical designs of any potential adversaries who seek to threaten India's peaceful existence. The Hon'ble RM complimented the Indian Navy for being at the forefront of the 'Make in India' Initiative and leveraging the path of Aatmanirbharta to be 'Combat Ready, Credible, Cohesive and Future Proof'.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1905198>



Tue, 07 Mar 2023

HAL, Defence Ministry Finalise Rs 6,800 Crore Deal for 70 Basic Trainer Aircraft – Details here

Aerospace company Hindustan Aeronautics Limited on Tuesday bagged a Rs 6,800 crore contract from the defence ministry for 70 HTT-40 basic trainer aircraft for the Indian Air Force. Additionally, the ministry has also inked a pact with Larsen & Toubro (L&T) to acquire three cadet training ships worth over Rs 3,100 crore.

Both the procurement proposals were cleared by the prime minister-led Cabinet Committee on Security (CCS) on March 1.

The Ministry of Defence signed a contract with HAL for procurement of 70 HTT40 Basic Trainer Aircraft in the presen... t.co/IXmvMecwP3

— ANI (@ANI) Mar 7, 2023

"The ministry of defence on March 7 signed contracts with Hindustan Aeronautics Limited (HAL) and Larsen & Toubro Limited (L&T) for procurement of 70 HTT-40 basic trainer aircraft and three cadet training ships respectively in the presence of Defence Minister Rajnath Singh," the ministry said. As part of the deal, HAL will give 70 HTT-40 aircraft to the ministry over a period of six years while the delivery of ships is scheduled to commence from 2026. The HTT-40 is a turbo prop aircraft possessing good low speed handling qualities and offers better training effectiveness.

It contains approximately 56 per cent indigenous content which will progressively increase to over 60 per cent through indigenisation of major components and subsystems, according to officials.

The aircraft will meet the shortage of basic trainer aircraft of Indian Air Force for training of newly-inducted pilots. The procurement will include associated equipment and training aids including simulators, the ministry said in a statement.

The procurement of 70 HTT-40 basic trainer aircraft from HAL has a potential to provide direct and indirect employment to thousands of people spread over more than 100 MSMEs, according to the defence ministry.

On the cadet training ships, the ministry said they will cater to the training of officer cadets, including women, at sea after their basic training to meet the future requirements of the Indian Navy. "The ships would also provide training to cadets from friendly countries with the aim to strengthen diplomatic relations," it said.

The ships can also be deployed for evacuation of people from distress areas, Search and Rescue and Humanitarian Assistance and Disaster Relief (HADR) operations. They will be indigenously designed, developed and constructed at L&T shipyard in Kattupalli, Chennai.

<https://www.timesnownews.com/business-economy/industry/hal-defence-ministry-finalise-rs-6800-crore-deal-for-70-basic-trainer-aircraft-details-here-article-98478632>

THE TIMES OF INDIA

Wed, 08 Mar 2023

Group Captain Shaliza Dhama 1st Woman to Command Frontline IAF Combat Unit

Group Captain Shaliza Dhama is now all set to take over the command of a frontline combat unit facing Pakistan in the western sector, the first woman to do so in the IAF, even as 18 women officers are now soaring high in supersonic jets as fighter pilots in the force.

Shattering yet another glass ceiling in the overwhelmingly male-dominated environs of the armed forces, Group Captain (equivalent to Army Colonel) Dhama will take over the reins of a surface-to-air missile squadron in Punjab on March 27. Commissioned into the IAF as a helicopter pilot in 2003, Group Capt Dhama is a qualified flying instructor on Cheetah and Chetak choppers with over 2,800 hours of flying experience.

"Before being selected by the IAF as the first woman ever to take command of a frontline combat unit, she also served as the flight commander of a helicopter unit in the western sector. She has also been commended by the air officer commanding-in-chief on two occasions," an officer said. There are 18 women who are flying fighters like MiG-21s, MiG-29s, Sukhois and new Rafales in the IAF, while the Navy has deployed 30 women officers on frontline warships.

18 women now flying fighters like Sukhois & Rafales in IAF

Group Captain Shaliza Dhama is now all set to take over the command of a frontline combat unit facing Pakistan. There are 18 women who are flying fighters in the IAF. There are also over 145 women helicopter and transport aircraft pilots.

Dhami's selection to command a combat unit comes at a time when 108 women have also been approved for promotion to the Colonel (select) rank for the first in "combat-support arms" and services like the Corps of Engineers, Signals, Ordnance, EME and other such branches after getting permanent commission in the Army, as was first reported by TOI.

"Apart from some who have low medical category or have expressed their unwillingness, many of them are progressively taking command of their units. Of them, around 50% are deployed in the highly-operational Northern and Eastern Commands," another officer said. While women are still not allowed to join the infantry, armoured corps and mechanised infantry, the Army is now moving ahead to commission women officers in the artillery, which has over 280 units handling a variety of howitzers, guns and rocket systems.

While women officers have been inducted into the armed forces since the early-1990s, they number just over 3,900 in their 65,000-strong officer cadre. There are separately around 1,670 women doctors, 190 dentists and 4,750 nurses in the military medical stream.

<https://timesofindia.indiatimes.com/city/delhi/group-captain-shaliza-dhami-1st-woman-to-command-frontline-iaf-combat-unit/articleshow/98489866.cms>



Thu, 09 Mar 2023

Defence Indigenisation can't happen Overnight

By Manoj Joshi

The Russian war on Ukraine has devastated the country, and is also hollowing out Russia. But just as there was an underestimation of Ukraine's capacity to fight off giant Russia, so, too, has there been a tendency to underrate Russia's ability to work around the western sanctions and its determination to conduct its "special military operation". The Indian view sits uncomfortably between these two poles.

Events have belied Prime Minister (PM) Narendra Modi's belief that this was not "an era of war". But New Delhi has had sound practical reasons for taking a Russia-centred neutral stand, arising from its enormous dependence on Russian systems in its arsenal, adding its somewhat opportunistic access to discounted Russian oil.

PM Modi's comments were more likely an oblique admonition of Russian President Vladimir Putin. But, as far as the military is concerned, their staff and training institutions have been taking a hard look at the lessons of the war.

Speaking in Pune in January, army chief General Manoj Pande said that the ongoing conflict had brought to the fore "the impact of asymmetric warfare, potential of information warfare, digital resilience, weaponisation of the economic mechanism, communications redundancy, space-based systems and many more — all driven by technological prowess." As the Ukraine war enters its second year, it would be prudent to hold back judgment on some of the issues that had gained salience last year. The tank has not become obsolete, it is still being used in the war, and the Ukrainians are planning to up the game with German Leopard and US M1 tanks. Technologies,

such as networked drones, have made the battlefield much more transparent, and this extracts a price from any attacker.

Artillery remains the queen of battle, and its use is devastating. However, the accuracy and longer range of western supplied systems used by the Ukrainians have ensured that the Russian-style massed artillery may have had its day. Indeed, according to a recent report, while the demand in Europe for American weaponry is soaring, it is doing so for small-ticket items such as shoulder-fired missiles, artillery and drones, which have proved themselves in Ukraine, rather than the big-ticket ones, such as jets and tanks. As a result, instead of the contactless war that has been talked about, the war in Ukraine has been a grinding man-to-man affair.

General Pande's reference to asymmetric warfare is about the main lesson from Ukraine: Modern inter-State war need not be a short, sharp affair. If prolonged, attrition sets in. With three times the population of Ukraine and a sizable military-industrial base and weapons reserves, Russia has an edge that cannot be countered, no matter how much the West backs Kyiv.

In terms of asymmetry, China presents a similar challenge. Chinese military expenditures at \$229 billion are three times that of India. While in terms of numbers, troops facing each other along the Line of Actual Control may be roughly equal, the Tibetan plateau, with its excellent infrastructure, enables the Chinese to double, if not triple, their numbers within a month. Indian infrastructure may be expanding, but it cannot equalise the geographic advantage that the Chinese have.

The Indian Army needs to expand its artillery — guns and missiles — manifold. More important is the need to integrate drones into the system. Unfortunately, the Defence Research and Development Organisation remains a laggard in drone development.

Another lesson from Ukraine is that in real wars, ammunition consumption is orders of magnitude above those in paper exercises. Equally important is ensuring that all critical ammunition is manufactured in India and has facilities that can be quickly scaled up.

Another vital area is space, where the Chinese have developed various counter-space systems that can be deployed in conflict. Ukraine was able to offset Russian dominance with American help, but such support may not be forthcoming for India, which must develop its digital resilience.

Speaking in Washington last September, external affairs minister S Jaishankar said India had not faced “any particular problems in terms of servicing and spare parts supply of equipment.” But reports suggest that there are delays of some spares for Kilo-class submarines, MiG-29 fighters and Mi-17 transport helicopters, as well as for the project to make AK 203 assault rifles and the supply of four Grigorovich (Talwar)- class guided missile frigates whose engines would have been made in Ukraine.

But contrary to reports, India has been receiving its S-400 missile regiments on schedule, with two delivered and a third of the five contracted to arrive soon. Recently Dmitry Shugayev, the head of Russia's Federal Service for Military-Technical cooperation, claimed that India remains the world's biggest buyer of Russian arms, accounting for 20% of its \$15 billion annual exports. In the last five years, India has imported supplies worth \$13 billion and has placed orders for Russian military equipment and weapons worth \$10 billion.

Russia has taken the opportunity of the 14th international aerospace exhibition (Aero India 2023) that was held in mid-February in Bangalore to showcase its wares. Some 200 items of weapons

and equipment had been brought for the exhibition. In April last year, India inducted the Igla S, a short-range hand-held surface-to-air missile. Russian officials hoped that India would sign a deal for the licenced missile production during Aero India. But there is no news of that so far.

Given all this, New Delhi realises it must be self-reliant in all significant areas relating to the military. Accordingly, it is working overtime to build its defence-industrial capacity, but it will not yield significant results for another two decades. At present, though, India remains in an awkward situation where it will remain reliant on Moscow for key capabilities for its military, even while its strategic partnership with Washington is getting even closer.

<https://www.hindustantimes.com/opinion/defence-indigenisation-can-t-happen-overnight-101678324721612.html>



Tue, 07 Mar 2023

‘Drone Warriors’ at Work: Arrests to Jamming & Spoofing, the Mission Unfolds in Punjab

On March 5, around 10:30pm, the Border Security Force (BSF) shot down a flying object near Sado Gazi village in Amritsar. This was the fifth drone downed in Punjab this year.

In the previous two years, 12 drones have been brought down in Punjab over 12 months. With deployment of the new anti-drone technology on the international border, the BSF, Punjab Police and security grid are upbeat about “considerable success” in tackling the “drone menace”.

“It is difficult to put it arithmetically, but we feel close to 50% success rate has been achieved in detecting, destroying and in some case forcing the drones to go back,” a senior officer of BSF told News18.

THE ASSESSMENT

The assessment is shared by the Ministry of Home affairs. In the past few weeks, the BSF and Indian Army have deployed indigenous anti-drone technology at the international border of Punjab. The indigenous technology, officers said, includes integrated mechanism which detects and destroys a drone.

“This machine has a radar which can detect a drone in 3km radius. Then a communication jammer is used to render the drone useless,” a senior MHA officer explained.

He added that although the hardkill option has not been deployed yet, the technique to use laser to decimate a drone is available with the forces.

MORE IN STORE

CNN-News18 has learnt that the BSF plans to procure and deploy more anti-drone mechanisms in the next two months. The Defence Research and Development Organisation (DRDO) has priced it at around Rs 25 crore. But the border guarding force insists it is a combination of factors that has given them success in the fight against drone-dropped narcotics and arms.

"We have meticulously worked in this direction in the past one year, along with the Punjab Police. Surveillance equipment has been procured, and forensic and data analysis of the seized drones has been conducted to give us a sense of where the drone originated and what its flight path is," an officer posted in Punjab told News 18.

'DEPTH OPERATIONS'

Forensic tests run on a drone brought down in Rajatal, Amritsar in December last year showed Chinese presence in June 2022. "Forensic tests showed that on 11.06.2022, it (drone) has flown in Feng Xian District, Shanghai, China. Thereafter, it has flown from 24.09.2022 to 25.12.2022 on various locations for 28 times within Khanewal, Punjab, Pakistan," a BSF statement said.

Officials say detecting the launchpads for these drones from across the border, mapping possible routes and payload drop points have all been in the works. But one of the significant success has been 'depth operations' carried out jointly by the BSF and Punjab Police. There were initial protests when the BSF jurisdiction was increased to 50km by central government. But officials feel it has led to success in tracking down gangs which help collect consignments dropped by drones. Officials said that state police and intelligence agencies and the BSF have carried out joint operations to arrest gang members who would collect the consignment dropped by the drones. "Villages routes have been tracked and CCTVs have been installed on routes taken by the gangsters who collect the payload. This has led to success as well," a source told CNN-News18.

There is a note of caution although that the security grid strikes. Analysis has revealed that most of the drones from across the border are Chinese-made agriculture drones which cost around Rs 4 lakh. For smugglers, officials say, it is still cheaper than sending infiltrators with narcotics and arms. So while border security grid deploys shooting, spoofing and jamming devices, the drone operators could also recalibrate.

<https://www.news18.com/india/drone-warriors-at-work-arrests-to-jamming-spoofing-the-mission-unfolds-in-punjab-7241365.html>

THE ECONOMIC TIMES

Tue, 07 Mar 2023

Defence Forces Finalising Response for Action against Suspected 'Chinese' Spy Balloons in Future

Weeks after the US destroyed a suspected Chinese spy balloon over its skies, discussions on the issue are going on in the Indian defence forces as well, which are now preparing the standard operating procedures to deal with such a situation in future.

A similar balloon was sighted over the Andaman over a year ago by the Indian forces also but no action was taken against it insuring three to four days of its sighting over Indian territory before it drifted away.

"The discussions on the issue are continuing in the defence forces and more details are emerging. It is now becoming clear that such balloons may be having a steering mechanism and can be stabilised over the area of interest of the owner," defence officials told ANI.

The discussions are on about how to deal with such balloons in future and if required, what type of weapons or platform would be used to target and bring them down, they said.

The forces are planning to consolidate the planned response and give a presentation to the government for final approval, the sources said.

The forces have also started discussing the use the existing radar network to detect such objects over or near any point in the country, they said.

The forces are also studying international laws related to such flying objects which are operating at above 60,000 feet, the officials said.

Soon after the balloon over American skies was taken down, defence officials had stated, "Quite some time back, we had witnessed the balloon-type white object over the Andamans and high-resolution pics of the object were taken by our people from ground."

However, the intent or the origin of the balloon-type object was not clear. It was also not clear whether it had come from Myanmar or China but it moved away from there after three to four days, they had said.

It was also felt at that time that it could have been a meteorological balloon as many such balloons come over India from the Pakistan side too due to winds, they had said.

"The officials said that if such an object appears again over the Andamans or any other region, it would be studied carefully and if it is found to be a spying object, it can be brought down," the officials added.

<https://economictimes.indiatimes.com/news/defence/defence-forces-finalising-response-for-action-against-suspected-chinese-spy-balloons-in-future/articleshow/98473842.cms>

LAC पर तैनात सैनिकों के लिए भाले जैसे हथियार ले रहा चीन चीनी सेना ने 26 हजार से ज्यादा कोल्ड वेपन का दिया ऑर्डर

Poonam.Pandey@timesgroup.com

■ नई दिल्ली: भारत से लगती वास्तविक नियंत्रण रेखा (LAC) के पास चीन अपनी तैयारियों को मजबूत करने में जुटा है। जहां वह तेजी से इन्फ्रस्ट्रक्चर खड़े कर रहा है, वहीं अपने सैनिकों को कोल्ड वेपन से भी लैस कर रहा है। कोल्ड वेपन ऐसे हथियार होते हैं, जिनमें गोला-बारूद या गोली का इस्तेमाल नहीं होता। कोल्ड वेपन पारंपरिक हथियारों की तरह होते हैं, जैसे भाला, कंटिले डंडे या इसी तरह के दूसरे हथियार। ढाई साल पहले पूर्वी लद्दाख में गलवान में जब भारतीय और चीनी सैनिकों की झड़प हुई थी, उस वक्त जो तस्वीर सामने आई थी, उसमें भी चीनी सैनिक इस तरह के कोल्ड वेपन लिए हुए थे।

खुफिया सूत्रों के मुताबिक, चीन की सेना ने LAC के पास तैनात अपने सैनिकों के लिए 26 हजार से ज्यादा कोल्ड वेपन खरीदने का ऑर्डर दिया है। इस साल के आखिर तक सारे कोल्ड वेपन चीनी सैनिकों को मिल जाएंगे। भारत और चीन के बीच हुए कई समझौतों के मुताबिक, दोनों तरफ से कोशिश होती है कि एलएसी पर फायरिंग ना हो, इसलिए गश्त के दौरान दोनों तरफ के सैनिक भले राइफल साथ में ले जाते हों, लेकिन इसे इस्तेमाल नहीं करते हैं। गश्त में जब दोनों ओर के सैनिक आमने-सामने होते हैं तो कोशिश होती है कि बातचीत से मसला सुलझे, पर कई बार धक्का-मुक्की और मारपीट की नौबत आ जाती है।

■ फायर आर्म नहीं, परंपरागत हथियारों की तरह होते हैं कोल्ड वेपन

■ इस साल के आखिर तक चीनी सैनिकों को मिल जाएंगे ये हथियार

■ भारतीय सेना के सूत्रों ने कहा, घुसपैठ की मंशा से आने पर चीनी लाते हैं ये कंटिले डंडे जैसे हथियार

■ जब गश्त के लिए आते हैं चीनी सैनिक तो नहीं लाते ये कोल्ड वेपन



ढाई साल पहले जब गलवान में झड़प हुई थी, उस वक्त जो तस्वीर सामने आई थी, उसमें भी चीनी सैनिक इस तरह के कोल्ड वेपन लिए हुए थे।

घुसपैठ की मंशा से लाते हैं कोल्ड वेपन

भारतीय सेना के सूत्रों के मुताबिक जब चीनी सैनिक पेट्रोलिंग के लिए आते हैं तब उनके पास कोल्ड वेपन नहीं होते हैं, लेकिन जब वह घुसपैठ की मंशा से आते हैं तो कोल्ड वेपन साथ लेकर आते हैं। अब चीन इस तरह के वेपन बड़ी संख्या में खरीद रहा है। चीन पिछले कुछ वक्त से LAC

पर अलग-अलग जगह पर घुसपैठ की कोशिश कर रहा है। पिछले साल दिसंबर में भी चीन ने अरुणाचल के तवांग सेक्टर में ऐसी ही कोशिश की थी। तब रक्षा मंत्री राजनाथ

दिसंबर में चीनी सैनिकों ने यांगत्से में घुसपैठ की कोशिश की थी

सिंह ने संसद में बताया था कि 9 दिसंबर को चीन ने अरुणाचल प्रदेश के यांगत्से में यथास्थिति बदलने की कोशिश की, जिसका भारतीय सैनिकों ने बहादुरी से जवाब दिया। रक्षा मंत्री ने बताया कि इस फेस ऑफ में हाथापाई भी हुई। भारतीय सेना ने बहादुरी से चीनी सेना को हमारे क्षेत्र में अतिक्रमण

करने से रोका और उन्हें उनकी पोस्ट पर वापस जाने को मजबूर कर दिया। इस झड़प में दोनों तरफ के कुछ सैनिकों को चोटें भी आईं।

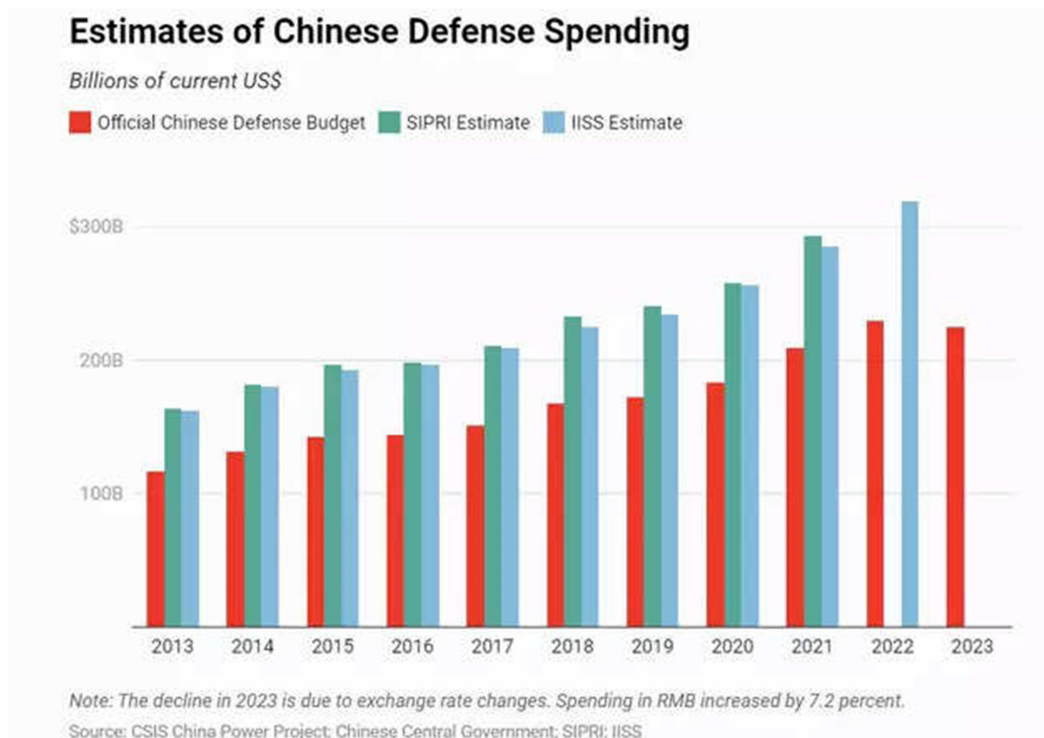
India vs China: A Tale of Two Defence Budgets

Military spending by a country shows, apart from its economic might, its strategic intent and perception of threats. China unveiled its draft military budget for 2023 recently. How does it compare with India's defence budget? Since India and China are the biggest military rivals in Asia, locked in border disputes and a race for dominance in the Indian Ocean, comparisons are inevitable, even though China has a far bigger economy as well as wider and far more complex military needs and goals.

The long and short of China's defence budget 2023

For any analysis of China's military spending, it's in order to begin with a disclaimer — the numbers issued by the Chinese government are never reliable. The US estimated the Chinese military spending to be more than four times higher than the officially announced budget in 2002, according to the Centre for Strategic and International Studies (CSIS). However, a decade later, the US Department of Defense noted that China's real military spending might now be around 1.1 to 2 times higher than stated in its official budget. Possibly, China's greater integration into the global economy has brought some transparency to its official figures. Yet, China's official number for military spending is always seen as grossly understated.

Below is a chart by CSIS of China's military budgets for a decade. Notice how outside estimates by International Peace Research Institute (SIPRI) and the International Institute for Strategic Studies (IISS) diverge from China's official figures for its defence budget:



What makes China's military spending opaque is the absence of the breakdown of numbers — how much it will spend on what. Still, experts believe the latest budget figure points at China's growing military concerns over several issues.

The 2023 Budget will see China's defence spending during the year rise to 1.55 trillion yuan or roughly \$225 billion. This is 7.2 per cent higher than the 2022 Budget, and the eighth consecutive year of increase in its military spending. While China has set this year's GDP growth target at about 5 per cent, lower than expected, the defence spending rises at a faster pace.

China's defence spending grew by 6.6 per cent in 2020, 6.8 per cent in 2021, and 7.1 per cent in 2022. The steady increase, especially when China is struggling to come out of various economic troubles, points at its strong intent to ramp up its military capabilities. Budgeted defence expenditure for 2023 accounts for 5.7 per cent of total government expenditure, the third annual increase in that share after more than 20 years of continuous reductions, according to the Financial Times.

A recent statement from the second plenary session of the the 20th Communist Party of China (CPC) Central Committee shows why China is spending more on its military — "...at present, changes of a magnitude not seen in a century are accelerating across the world, which has entered a new period of turbulence and change. Our country has entered a period of development in which strategic opportunities, risks, and challenges are concurrent and uncertainties and unforeseen factors are rising, and we have to be ready to withstand high winds, choppy waters, and even dangerous storms."

China faces multiple military challenges. It is locked in a festering border dispute with India and has seen several military skirmishes. Its claim on Taiwan is being challenged by Western powers as it sizes up its chances of invading the country. The US and many other countries have increased naval and air missions in the disputed South China Sea near Chinese-occupied islands. Japan has changed its post-WWII defense-only principle and is now piling up advanced offensive weapons.

While the Chinese government does not reveal how it will spend its defence budget, Global Times, a mouthpiece of the Chinese Communist Party, points at possible major spending. In 2023, the PLA is expected to commission more advanced warplanes including J-20 stealth fighter jets and J-16 multirole fighter jets at a time when legacy J-7 fighter jets are being decommissioned, and conduct sea trials for the country's third aircraft carrier, the electromagnetic catapults-equipped Fujian, says the Global Times. It adds China is also expected to hold more realistic combat-oriented drills that consume large amounts of costly live munitions and fuels. One such drill was triggered by then US House Speaker Nancy Pelosi's provocative visit to Taiwan.

The commissioning of China's third aircraft carrier, expected this summer, the rapid production of new destroyers and fighter aircraft, as well as investments in space technology and artificial intelligence for missile targeting systems were likely to be the main areas of spending this year, according to the Financial Times.

How does India's defence budget stack up against China's?

China's military spending at \$225 billion is just a third of what the US spends on its military. But in Asia, China is the biggest spender with a very wide gap with other military powers. China's

military spending exceeds not just that of India but the 13 next-largest military spenders in the Indo-Pacific combined which include India.

China's defence budget continues to be over three times higher than that of India's. India budgets to spend \$72.6 billion on its military in 2023-24 as against China's \$225 billion.

China's growth in military spending at 7% indeed outpaces targeted economic growth of around 5%, but India is way ahead on this count. Its defence budget is projected at 13% more than the previous year, far more than the projected GDP growth of less than 7% in the next financial year.

Yet, India's defence budget is seen to be low on capital expenditure. Of Rs 5.94 lakh crore, Rs 1.62 lakh crore have been allocated for capital expenditure, on buying new weapons, aircraft, and ships and creating military infrastructure, an increase of just 7%.

A key expense, reflecting India's worries over border disputes with China, is Rs 5,000 crore for the capital expenditure of the Border Roads Organisation, which has doubled over the previous year. India needs to build more roads and tunnels along its border with China, not only for better deployment of forces and equipment but also for permanent delineation of areas along the border where India and China have conflicting claims on many areas.

Also, given the shifting strategic landscape of the world, India's focus on indigenisation is evident in its budget with nearly 75% of defence capital budget earmarked for domestic firms.

India's defence spending is 13.18% of the total expenditure in budget 2023 while for China the number is 5.7%, which might mean that despite China's bigger and growing military spend, India too shows a strong intent to strengthen its military.

While India's budget is much smaller than that of China, it constitutes a larger part of its GDP. India's defence spending as the share of GDP has been above 2%, dipping below it slightly in budget 2023, but China's has been below that number. In fact, a Chinese spokesperson pointed this out, refuting that China's increased defence spending was a threat to other countries.

"China's defense spending as a share of GDP has remained basically stable for many years, and it is lower than the world average and the increase is appropriate and reasonable," Wang Chao, spokesperson for the first session of the 14th NPC, said last week.

In final analysis, India can't hope to match China in military spending in the foreseeable future, given the current huge gap and the strength of the Chinese economy which is expected to keep growing. If you also consider how China understates its defence spending, India should forget competing with China on defence budget, even though India is the third largest military spender in the world after the US and China. But, since China's military requirements are bigger and more complex than India's, spending with the right emphasis can give India a more credible deterrence against China.

<https://economictimes.indiatimes.com/news/defence/india-vs-china-a-tale-of-two-defence-budgets/articleshow/98498491.cms>

Tue, 07 Mar 2023

China Increases Defence Spending amid Rising Tensions with USA: What are the Implications for India?

During a conference of its ‘rubber-stamp parliament’, that will grant Xi Jinping a third term as president, China warned of “escalating” dangers from overseas and said on March 5, 2023, that its military spending will increase at the quickest rate in four years. The rise in the second-largest defence budget in the world coincided with Beijing’s announcement of a goal for this year’s economic growth of just 5 per cent, the lowest level in decades. According to the country’s projected budgets, defence spending would reach 1.55 trillion yuan (\$225 billion), a 7.2 per cent increase and the fastest pace of growth since 2019. It grew 7.1 per cent in real terms last year.

“External attempts to control and restrict China are intensifying,” outgoing Premier Li Keqiang warned the National People’s Congress (NPC) attendees. He mentioned it during his delivery of the government’s annual work report to thousands of gathered delegates in Beijing’s Great Hall of the People. “The armed services should enhance military training and preparation across the board,” he added.

He went on to say that the military must “dedicate greater energy to training under war conditions, and... increase military activities in all areas and sectors”. China continues to spend far less on defence than the US, which has budgeted more than \$800 billion for its military this year. Analysts claim that China actually spends a lot more money than what is publicly reported.

Why is China spending more?

The increased investment occurs at a time when ties between China and the United States are at an all-time low. Relations between Beijing and Washington have been strained recently over trade, human rights, and other concerns; but, last month, when the US shot down a Chinese balloon it said was being used for spying, China vehemently refuted this assertion.

High-ranking US officials have also regularly expressed concern that China may attack Taiwan in the years to come, citing Beijing’s escalating military manoeuvres surrounding the autonomous island, which it views as its own territory and has promised to annex.

China appears to be “spending in its capacity to take over Taiwan and keep the US out of the area,” according to Niklas Swanstrom, director of the nonprofit organisation the Center for Security and Development Policy, which has its headquarters in Stockholm.

However, The Hindu reported, James Char, a specialist on China’s military at Singapore’s Nanyang Technological University pointed out that other nations around Asia were expanding their defence expenditure, in part owing to “their distinct threat perceptions of the regional security situation”.

The modernisation of China’s armed forces is well underway. The People’s Liberation Army (PLA) is to be modernised by 2027 in accordance with the centenary objectives established by

the Communist Party of China (CPC). The CPC has decided that by 2035, “national defence and the armed forces” shall be fully modernised.

Implications for India

For India, a rise in Chinese defence spending has significant consequences. The difference between the military capabilities of China and India would most certainly widen as a result of the increased spending. India has a sizable hard power deficit to fill in light of China’s military modernisation effort and concentration on high-tech applications.

India spends far less (\$70 billion) on its military than China does, and given the two countries’ different sizes of economies, it seems doubtful that India would soon catch up.

India must borrow a page from China’s playbook and concentrate on military modernisation and technical solutions in order to close this gap.

At the leadership level, there is evidence of some development in this area. The Defence Cyber Command, which was conceptualised in 2018 and has been in existence since August 2021, shows India’s efforts to use contemporary technology in battle. The financial commitments made by India for FY 2022–2023 and the focus placed on the private sector’s engagement in the research and development of defence technologies are other signs that the country is moving on the right path.

<https://www.news9live.com/knowledge/china-increases-defence-spending-amid-rising-tensions-with-usa-implications-for-india-au2114-2069454>

THE TIMES OF INDIA

Wed, 08 Mar 2023

Chinese Official Defence Budget for 2023: Hidden Expenditure not Included

By S D Pradhan

The People’s Republic of China (PRC) announced its official defence budget of RMB 1.55 trillion (\$224.8 billion) for 2023, marking a 7.2 percent increase from the 2022 budget of RMB 1.45 trillion (\$219.6 billion). For more than two decades prior to 2015, Chinese defence spending was increasing in double digits. Between 1997 and 2003, Chinese defence expenditure doubled. In the last two decades, the Chinese official defence budget has increased tenfold -from \$22.4 billion in 2003 to \$224 billion in 2023.

While PRC joined the UN Report on Military Expenditures, it keeps its overall defence expenditure opaque. According to two internationally recognised research organisations-Stockholm International Peace Research Institute (SIPRI) and International Institute for Strategic Studies (IISS)-China’s actual defence expenditure remains more than one and a half to two times of the official budget. In 2019, while the Chinese official figure was \$172, SIPRI and IISS calculated \$240 and \$234 respectively. Crucially, Peter Robertson, a professor from the University of Western Australia, calculating based on “purchasing power parity” (PPP)

exchange rates, concluded that China's real military spending was equivalent to US spending of \$455 billion in 2019.

Several defence-related expenses are not covered under the official budget: such expenses are covered under different headings. First, China's space and satellite programmes and recruitment bonuses for college students are covered under scientific development programmes and educational training respectively. China is known for reverse engineering, and these activities are placed under its scientific development programmes. In 1999, when a US stealth bomber was shot down in Yugoslavia, its wreckage was sent to China to examine the stealth phenomenon. Later, exact replicas of US F-117A and F-22 aircraft were observed in China. It is also believed that China obtained the wreckage of stealth Black-Hawk helicopter that had to be left at Abbottabad after its crash landing in an operation against Osama bin-Laden. China was interested in its stealth technology. Some missiles obtained in Afghanistan and Iraq were also studied for reverse engineering. The Cox Report confirmed China's theft of nuclear bomb design. All these are placed under the scientific programmes, though their objective is to enhance Chinese defence capabilities.

Second, provincial military base operating costs are also not covered under the defence budget. These are covered under provincial matters.

Third, the expenditure on public security, which includes the People's Armed Police (PAP), is also not included in the official defence budget. The PAP has the responsibility for maritime rights protection besides internal security, and it functions under the Central Military Commission. The Chinese Coast Guard is a branch of the PAP.

Fourth, its defence-related espionage activities are not covered, as revealed by its balloon activities. While it is meant for spying on foreign countries, China claimed it was collecting weather related data. This suggests that its satellites could also be covered under the meteorological expenses.

Fifth, expenses on dual use infrastructure at the border and in the artificial islands are covered under civilian expenditures. Over the years, China has constructed roads, villages, airports, and helipad at the Indo-Tibetan border and in the islands in the South China Sea (SCS). The Belt and Road Initiative (BRI), Global Security Initiative (GSI), and Global Development Initiative (GDI) are also geared to serve the defence objectives but are not covered under the defence budget.

Sixth, China's use of influence operations to capture minds of its target population is directed by the Publicity Department of the Central Committee of the Communist Party of China, also known as the Propaganda Department or Central Propaganda Department. According to a Hong Kong Post report, the CCP Propaganda Department (CCPPD) plays a leading role in directing and coordinating influence operations globally through its various front organisations. It engages in proactive propaganda, disseminating disinformation, which CCP considers important. Other PRC government agencies involved in foreign influence operations are China's Ministry of Foreign Affairs, Ministry of State Security, and Ministry of Education.

The Strategic Support Force linked Unit 61090 and its various front organisations are involved in manipulating the perceptions of targets.

China has 'three warfares' strategy for this purpose. This has been upgraded now to "cognitive war" – a separate domain of warfare. It focuses not only on capturing the minds of population in the adversary's country but also pushes them to act in accordance with the design of the CCP. It

includes psychological operations, neuro-science to manipulate the cognitive capabilities of targets and the implementation of social engineering. In this warfare, the human mind becomes the battlefield. It operates both in times of violent conflict and peace. In simple terms, this is weaponization of public opinion for their advantage. Social media is used to spread false information through deep fakes, and twisted facts, to manipulate the minds of targets. The expenses on all these activities are not covered under the defence budget, though they are more harmful than the physical destruction of an adversary's infrastructure.

China's defence spending over the last two decades has paralleled its modernisation efforts. Xi's stress on local wars and use of force at the 20th National Congress of CCP along with an expansionist approach, suggest that PLA will continue to get priority.

Recently, the outgoing PM Li Keqiang, at the opening session of the National People's Congress, spoke highly of the PLA's achievements at the border without mentioning the eastern Ladakh standoff. He exhorted the PLA to continue to work with a focus on the goals of centennial in 2027 to carry-out military operations, boost military preparedness, and enhance military capabilities.

China plans to modernise its armed forces by 2049 in three phases-achieve the centenary goals of the People's Liberation Army (PLA) by 2027, basically realise the modernisation of national defence and the armed forces by 2035, and fully build the armed forces into world-class forces by the mid-21st century, which marks the 95th anniversary of the PLA.

Modernisation, diversification, and growth of China's conventional and nuclear missile forces continue apace. In addition to the three main services, the PLA Rocket Force has been equipped with several new strategic and theatre-range missile systems. The PLA is accelerating the expansion of China's nuclear arsenal up to 700 nuclear warheads by 2027 and at least 1,000 warheads by 2030.

The above indicates that China's defence expenditure will continue to rise in the coming years and that there will also be hidden expenditures, notwithstanding Chinese denials. While China's ability to win a conventional war against the US would remain limited even by 2049, the Chinese increasing defence budget would remain a cause for concern for its neighbours. India will have to remain cautious over Chinese activities along the Indo-Tibetan border. China's increased defence budget will translate into a more aggressive and assertive approach.

However, the more worrying dimension is China's cognitive warfare. China has escalated its influence operations to capture the minds of targets. This deserves the serious attention of its adversaries including India. There is a compelling case for in-depth investigation of such Chinese activities in India and their consequences including the Chinese infiltration into the Indian society, economy, and political circles, where the freedom enjoyed by political leaders and their proclivity to use social tensions for electoral advantages could easily be exploited.

Our counterintelligence agencies should investigate it very carefully and design an effective plan to neutralise the adverse impact of China's cognitive warfare.

<https://timesofindia.indiatimes.com/blogs/ChanakyaCode/chinese-official-defence-budget-for-2023-hidden-expenditure-not-included/>

Only 3rd Country with ‘Carrier Killer’ Tech, Iran Claims Developing ‘Hypersonic’ Missile that can Hit Targets with Pinpoint Accuracy

By Ashish Dangwal

According to Major General Mohammad Hossein Bagheri, the missile has been successfully tested and is being mass-produced.

Taking pride in the accomplishment, Bagheri claimed that Iran is now one of just three nations in the world to have perfected the technology necessary to make such missiles.

According to the military chief, the new ballistic missile will provide safety in the waters surrounding Iran, and hostile sea targets will no longer be safe at 1,500 kilometers.

“By having such a missile, considerable security with a radius of over 1000 kilometers will be created at seas around us,” he noted.

He further claimed that the “missile streaks in outer space with a speed of Mach 8 (hypersonic speed)” and is capable of hitting targets moving targets with pinpoint accuracy.

He alleged that in such a scenario, opposing aircraft carriers and warships would no longer be safe even if they were 1,500 kilometers away. The senior general stated that these accomplishments were attained by talented youth.

The Islamic Revolution Guards Corps Aerospace Force claimed in November 2022 that it had developed a hypersonic ballistic missile that could defeat highly developed air defense systems. The ballistic missile can maneuver both below and beyond the Earth’s atmosphere and has a high velocity.

At the time, Islamic Revolution Guards Corps (IRGC) Aerospace Commander Brigadier General Amir Ali Hajizadeh said that the hypersonic missile could travel at Mach 12-13 and conduct exoatmospheric maneuvering.

He stated that the projectile’s maneuverability is made possible by an engine that ignites within 500 kilometers (310 miles) or less of the target’s location.

Iran’s Ballistic Missile Program

Iran has made significant strides in producing various military hardware in recent years, including advanced drones.

A recent study on the Islamic Republic’s missile program revealed that Tehran had launched at least 228 ballistic missiles since reaching its nuclear agreement with world powers in 2015.

The report “Arsenal: Assessing the Islamic Republic of Iran’s Ballistic Missile Program” said that Iran launched over 100 ballistic missiles in 2022 alone, more than three times as many as it did in 2021.

The paper, which was authored by Behnam Ben Taleblu, a Senior Fellow at the Foundation for Defense of Democracies in Washington, noted that ballistic missile tests are a part of military exercises, drills, and flight tests.

The 2022 launches include a ballistic missile attack in Iraq that claimed the life of an American citizen. Taleblu pointed out that as Iran's ballistic missile capabilities advance, the regime might be more likely to use them.

As per the report, the Middle Eastern nation has expanded its underground facilities and storage depots while enhancing its fundamental capabilities, including missile range, precision, and mobility.

The report noted that as underground missile depots are developed, advances in ballistic missile precision, range, mobility, warhead design, and survivability suggest that the world's foremost state supporter of terrorism will soon be able to launch more destructive long-range strikes.

According to the report, ballistic missiles give Tehran the ability to threaten and deter its enemies. These capabilities make up for Iran's shortcomings in conventional warfare and leave the door open for nuclear weapons.

The Islamic Republic may pursue its revisionist foreign policy with ballistic missiles without worrying about military retaliation. This could result in more irresponsible actions, including employing its arsenal on the battlefield.

The report also highlighted Iran's threats to Gulf states, Israel, and the US military by supplying ballistic missiles to its proxies in Iraq, Syria, Lebanon, and Yemen.

According to the assessment, Iran is not likely to curtail its missile program without sustained pressure. The regime will undoubtedly prevail over the West at the negotiating table if the West lacks cohesion and resolve.

The report suggests that Washington should implement policies that impede, dissuade, devalue, and, when necessary, thwart Iran's missile program using diplomatic, informational, military, and economic measures.

<https://eurasianimes.com/iran-claims-developing-hypersonic-missile-that-can-hit-warships/>



Tue, 07 Mar 2023

First Order! US Air Force's Special Ops Command Buys Next-Gen, Remotely Piloted MQ-9B Sky Guardian UAS

By Sakshi Tiwari

The General Atomics next-generation remotely piloted aircraft MQ-9B Sky Guardian has finally found its first customer in the US Air Force Special Operations Command (AFSOC). The special ops forces opted to purchase three unmanned aerial systems (UAS).

The purchase made by the elite US forces is significant. It comes over fourteen years after it started flying the MQ-9A Reaper of the Reaper UAS family, besides operating more than 40 aircraft in challenging global conditions.

General Atomics said, “General Atomics Aeronautical Systems, Inc. is proud to announce a new contract with US Air Force Special Operations Command (AFSOC) to provide three MQ-9B SkyGuardian® remotely piloted aircraft systems to its first US customer.

“AFSOC’s acquisition of MQ-9B builds on more than 20 years as a GA-ASI partner and more than 14 years flying the MQ-9A Reaper, operating more than 40 aircraft in harsh environments around the world.”

The manufacturer further said that the MQ-9B would support the advancement of AFSOC’s new Adaptive Airborne Enterprise (A2E) concept, which calls for AFSOC to project air power for special operations forces from a distance using a family of large UAS and expendable, small UAS in situations ranging from permissive to forbidden.

AFSOC is the model’s first US military customer, although it has drawn attention from clients worldwide. Earlier, the UK Defense Ministry closed in on the drone for its futuristic ‘Protector’ program under which the MQ-9B SkyGuardian would operate in busy, unsegregated airspace owing to its ‘detect and avoid’ technology.

After the UK Defense Ministry contract, the Belgian defense ministry signed a contract for SkyGuardian. The Foreign Military Sales (FMS) award was concluded for four medium-altitude long-endurance (MALE) unmanned aerial vehicles (UAVs), two fixed ground control stations (GCSs), as well as spares and support.

On its part, another configuration of the MQ-9B, i.e., the SeaGuardian, is also rapidly gaining popularity.

The MQ-9B SeaGuardian configuration, which the Japan Maritime Self-Defense Force (JMSDF) recently selected for its Medium-Altitude, Long-Endurance (MALE) RPAS trial, is now being used by the Japan Coast Guard.

The Indian and the US governments are currently in talks on selling the MQ-9B drones to New Delhi, at least ten for each service of the Indian military.

The going, however, hasn’t been a smooth sail for either the drone or its manufacturer. For instance, the Australian Defense confirmed in the summer of last year that it had scrapped a multibillion-dollar project to deliver long-range ISR and strike capability in MQ-9B to the Royal Australian Air Force (RAAF).

However, despite that, bagging a customer within the United States Air Force for its newest next-generation Reaper is significant.

Further, the development could be seen in the light of escalating tensions between China and the United States and the possibility of fighting a conflict in the Indo-Pacific. This contested air-saturated region would bolster the US’ position in the region.

US SkyGuardian Next-Gen Drone

MQ-9B SkyGuardian is the next generation of remotely piloted aircraft systems (RPAS) that provides global ISR continuously.

SkyGuardian is made to safely integrate into civil airspace and fly over the horizon for up to 40+ hours via satellite in all kinds of weather, allowing combined forces and civil authorities to provide real-time situational awareness anywhere in the world—day or night.

According to the manufacturer, the UAS outflanks its predecessors as it sports a greater wingspan of 79 feet, is equipped with the groundbreaking Lynx Multi-mode Radar, and an enhanced electro-optical/infrared (EO/IR) sensor. Further, it can undertake autonomous takeoff and landing.

In addition to having the best endurance and surveillance capabilities in the market, General Atomics emphasizes that the SkyGuardian enables easy integration with other platforms, systems, and podded technologies its users use. This, in turn, dramatically enhances the platform's multi-domain mission sets.

SkyGuardian descends from a family of systems that, over the previous ten years, have flown more than 7 million hours performing civilian and combat duties.

Building on this experience, the enhanced SkyGuardian variant offers a larger payload capacity and an open architecture system, allowing the aircraft to add the most advanced sensor payloads for intelligence gathering, survivability, and even kinetic payloads for more challenging operational settings.

SkyGuardian has nine hardpoints, eight on the wings and one in the middle, with a maximum external cargo capacity of 4750 lb (2155 kilograms). This allows the militaries to integrate sovereign payloads and mission systems for their uniquely crafted missions.

SkyGuardian was built to adhere to NATO standards and international and domestic civil airspace regulations. The system easily blends in with regular air traffic, just like other commercial aircraft, using its 'Detect and Avoid' technology.

The manufacturer claims that the operators of SkyGuardian receive a similar, if not superior, view of air traffic than they would in a cockpit of a human-manned aircraft. These advanced capabilities and the ability to integrate the drone with other aircraft could likely aid an array of missions that the US regularly conducts.

<https://eurasianimes.com/first-order-us-air-forces-special-ops-command-buys-next-gen/>



Tue, 07 Mar 2023

US Defence Secretary Lloyd Austin Visits Iraq, vows Defence Support against Islamic State

With an aim to repair the relations which were impeded during the US invasion 20 years ago, US Defence Secretary Lloyd Austin paid a surprise visit to Iraq on Tuesday.

Upon his arrival in the country, the defence secretary while taking to Twitter wrote, "Wheels down in Baghdad. I'm here to reaffirm the U.S.-Iraq strategic partnership as we move toward a more secure, stable, and sovereign Iraq."

The visit by the Pentagon chief comes just ahead of the 20th anniversary of the invasion that resulted in the killings of many Iraqi civilians.

Austin led the 3rd Infantry Division during the invasion in 2003. Later, he again returned to Baghdad in 2008 for a little over a year. Finally, Austin was deployed to Iraq once again in late 2010 as the top commander. With his experience as a combat leader, Austin oversaw the troops' withdrawal from Iraq. He also assured a deep commitment for safety and dignity of Iraqi people along with equal economic opportunity for all of them.

The withdrawal of US troops led to a significant rise of Daesh in the country.

Austin said, "Now, our defence cooperation against Daesh is a key pillar of our bilateral relationship, and the United States remains committed to this fight in support of Iraq's security and the security of the entire region."

"We'll continue to increase inter-operability among our - among our - allies and partners, and we'll continue working to accomplish this mission together," he added.

US presently has 2,500 troops in Iraq deployed to combat the Islamic State. Over this, the Pentagon chief said that US forces are ready to remain in Iraq at the invitation of the government of Iraq. "Now, these forces are operating in a non-combat, advise, assist and enable role to support the Iraqi led fight against terrorism." He said that US is focused on the mission of defeating Daesh and its presence in the region has no other purpose.

<https://www.wionews.com/world/us-defence-secretary-lloyd-austin-visits-iraq-vows-defence-support-against-daesh-569575>

Science & Technology News

THE  HINDU

Tue, 07 Mar 2023

ISRO Conducts Parachute Deployment Tests on Rail Tracks for Gaganyaan Mission

Indian Space Research Organisation (ISRO) has conducted Rail Track Rocket Sled deployment tests of the Gaganyaan Pilot and Apex Cover Separation parachutes.

ISRO reported conducting the Rail Track Rocket Sled deployment tests of the Gaganyaan Pilot and Apex Cover Separation parachutes in cluster configurations at the Terminal Ballistics Research Laboratory (TBRL), Chandigarh, on March 1 and 3.

ISRO added that the first test simulated the clustered deployment of two pilot parachutes. One parachute was subjected to a minimum angle with respect to flow conditions, and the second parachute was subjected to a maximum angle with respect to flow. These pilot parachutes are used in the Gaganyaan Mission to extract and deploy the main parachutes independently.

The second test simulated the clustered deployment of two ACS parachutes under maximum dynamic pressure conditions. The test also simulated clustered deployment at a 90-degree angle-of-attack-conditions for the crew module. The ACS parachutes are used in the Gaganyaan Mission for separation of the apex cover mounted on the crew module. Both pilot and ACS parachutes were deployed using a pyrotechnic mortar device.

The Gaganyaan parachute system development has been a joint effort by VSSC, Thiruvananthapuram, and Aerial Delivery Research and Development Establishment (ADRDE), Agra.

The Gaganyaan project envisages demonstration of human space flight capability by launching a crew of three members to an orbit of 400-km for a 3-day mission, and bringing them back safely to Earth, by landing in Indian sea waters.

The first trial (uncrewed flight) for Gaganyaan is being planned by the end of 2023, or early 2024. This will be followed by sending Vyom Mitra, a humanoid, and then with the crew onboard.

<https://www.thehindu.com/news/cities/bangalore/isro-conducts-parachute-deployment-tests-on-rail-tracks-for-gaganyaan-mission/article66590149.ece>

THE TIMES OF INDIA

Tue, 07 Mar 2023

ISRO Successfully Completes Controlled Re-entry of Decommissioned Satellite Megha-Tropiques

Isro successfully completed the controlled re-entry for the decommissioned Megha-Tropiques-1 (MT-1) satellite on Tuesday.

“The final two de-boost burns were executed at 4.32pm and 6.22pm, respectively by firing four 11 Newton thrusters on-board the satellite for about 20 minutes each. The final perigee was estimated to be less than 80km indicating that the satellite would enter the denser layers of the Earth’s atmosphere and subsequently undergo structural disintegration. The re-entry aerothermal flux analysis confirmed that there would be no surviving large debris fragments,” Isro said.

The TOI had reported on March 5 that Isro would be attempting this challenging experiment: Megha-Tropiques Re-entry.

Isro progressively lowered the satellite’s perigee (nearest point to Earth) through a series of 20 manoeuvres, spending about 120kg fuel since August 2022. Multiple manoeuvres including the final de-boost strategy were designed after taking into consideration several constraints, including visibility of the re-entry trace over ground stations, ground impact within the targeted zone, and allowable operating conditions of subsystems, especially the maximum deliverable thrust and the maximum firing duration constraint on thrusters.

“All manoeuvre plans were screened to ensure that there would be no post manoeuvre close approaches with other space objects, especially with the crewed space stations like International Space Stations and the Chinese Space Station,” Isro said.

The latest telemetry has confirmed that the satellite re-entered the Earth's atmosphere and would have disintegrated over the Pacific Ocean, the final impact region estimated is in deep Pacific Ocean within the expected latitude & longitude boundaries.

The entire sequence of events was carried out from the Mission Operations Complex in ISRO Telemetry, Tracking and Command Network (Istrac) in Bengaluru.

In recent years, Isro has taken up proactive measures to improve the compliance level with the internationally accepted guidelines on space debris mitigation. Efforts are underway to build indigenous capabilities for tracking and monitoring of space objects to safeguard Indian space assets, Isro said.

“The Isro System for Safe and Sustainable Space Operations Management (IS4OM) has been established to spearhead such activities. The controlled re-entry exercise bears yet another testimony to India's continued efforts towards ensuring the long-term sustainability of outer space activities,” it added.

The MT-1 was launched on October 12, 2011, as a collaborative effort between Isro and French space agency CNES for carrying out tropical weather and climate studies.

<https://timesofindia.indiatimes.com/home/science/isro-successfully-completes-controlled-re-entry-of-decommissioned-satellite-megha-tropiques/articleshow/98482698.cms>



Tue, 07 Mar 2023

India to have a Modern and Smart Power Transmission System; Government Accepts the Task Force Report

India will soon have a modern and smart power transmission system with features such as real-time monitoring and automated operation of grid, better situational assessment, capability to have increased share of renewable capacity in the power-mix, enhanced utilization of transmission capacity, greater resilience against cyber-attacks as well as natural disasters, centralized and data driven decision-making, reduction in forced outages through self-correcting systems etc.

These and other recommendations are part of a report of a task force set up by the Power Ministry in Sep, 2021 under the chairmanship of CMD, POWERGRID to suggest ways for modernization of Transmission Sector and making it smart and future ready. The other members of the Task Force included representatives from State Transmission Utilities, Central Electricity Authority, Central Transmission Utilities, MeITY, IIT Kanpur, NSGPMU and EPTA

The report of the committee was accepted by the government after deliberations chaired by Union Power & NRE Minister R. K. Singh last week. During the meeting, the Minister emphasized that a modern transmission grid is vital to achieve the government's vision to provide 24x7 reliable and affordable power to the people and also meet the sustainability goals. Shri Singh said that a fully automated, digitally controlled, fast responsive grid which is resilient to cyber-attacks and natural disasters is the need of the hour. The Minister said that such a system should ensure the isolation of specific areas in case of any contingency, so as to protect

the grid and prevent larger outages. Appreciating the efforts of the Task Force, Singh directed the CEA to formulate necessary standards and regulations for adoption of identified technological solutions and set benchmark performance levels so as to build a robust and modern transmission network in the country.

Smart power transmission system: Bouquet of technological and digital solutions

The task force in its report has recommended a bouquet of technological and digital solutions which can be adopted to make the state transmission grids future ready. These recommendations have been clubbed under categories of modernization of existing transmission system; use of advanced technology in construction & supervision, operations & management; smart & future-ready transmission system; and up-skilling of workforce. The Task Force has recommended Centralized Remote Monitoring, Operation of Substations including SCADA, Flexible AC Transmission devices (FACTS), Dynamic Line Loading system (DLL), Wide Area Measurement System (WAMS) using PMUs and data analytics, Hybrid AC / HVDC system, Predictive maintenance technique using AI/ML algorithms, HTLS Conductors, Process Bus based Protection Automation and Control GIS/Hybrid Substation, Cyber Security, Energy Storage System and Drones & Robots in construction/inspection of transmission assets. The use of robots is expected to not only minimize human intervention and minimize life risks/hazards but also save time while ensuring accuracy during construction and maintenance. The Task force also recommended benchmarks for transmission network availability and voltage control based on performance of global transmission utilities.

While the short-term to medium term recommendations will be implemented over 1-3 years, the long-term interventions are proposed to be implemented over a period of 3-5 years.

<https://www.livemint.com/industry/energy/india-to-have-a-modern-and-smart-power-transmission-system-government-accepts-the-task-force-report-11678177471840.html>

