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# समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology

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*Sat, 19 Mar 2022*

### **Gear up to meet challenges of electronic warfare, says DRDO chief**

Chairman of Defence Research Development Organisation (DRDO) G. Satheesh Reddy has emphasised the importance of gearing up to meet challenges thrown by the continuously evolving field of electronic warfare and ever-increasing requirements from all services in this niche area.

Participating in the diamond jubilee day of the Defence Electronics Research Laboratory (DLRL), Hyderabad, a premier lab of DRDO, pioneering in design and development of state-of-the-art electronic warfare systems for armed forces and para military services, he stressed the need for involving private partners and academic institutions in faster realisation of products. He complimented the DLRL fraternity for their endeavour and urged the laboratory to meet the challenges and develop technologies towards meeting the expanding realms of modern warfare.

Director General (ECS) J. Manjula highlighted the contributions of DLRL during the pandemic period, including products for human kind. She highlighted that DLRL must keep pace with growing technological advances and develop systems to meet the operational requirements and obsolescence occurring due to these advances. The celebrations were attended by directors general, directors, financial advisers and heads of production agencies. Chairman of central organising committee N. Srinivas Rao welcomed the gathering. B.H.V.S. Narayan Murthy, DS and DG (MSS) was also present.

Distinguished scientist and DLRL director K. Maheswara Reddy highlighted the achievements and progress of DLRL made in the field of electronic warfare systems in the last six decades. On this occasion, Mr. Satheesh Reddy released a souvenir and coffee table book capturing six decades of DLRL's resplendent history. An exhibition showcasing the journey of DLRL highlighting technologies and products was inaugurated.

<https://www.thehindu.com/news/national/tehrangana/gear-up-to-meet-challenges-of-electronic-warfare-says-drdo-chief/article65240455.ece>



*Sat, 19 Mar 2022*

## **DRDO's MPDMS can be a Game changer at Next War?**

**Opinion**

**By Jatin Ram**

Russian Aircraft losses over Ukraine appear to have been downed by man-portable air-defense systems (MANPADS), including the U.S. Stinger or Russian Iгла systems. Heat-seeking short-range weapons that are rarely effective beyond 10,000 to 15,000 feet. That makes them more useful against helicopters, and less against modern warplanes which can fly up to 40,000 feet high.

But lack of precision-guided ammunition forced the Russian air force to fly low specially Su-25 and Su-35 Strike aircraft that are optimized for ground attack role and seems to have suffered at least a dozen confirmed kills making up only these two types. MANPADs indeed have also scored a lot of kills on advanced attack helicopters like Ka-52 and older Mi-25s, but helicopters attrition is on expected lines and not unusual in a war since they continue to remain the most venerable aerial objects in a war, but jet losses are highlighting how a million-dollar system can cheaply take a 60 million dollar jet out of the sky.

DRDO is working on MPDMS (Man-Portable Defensive Missile System) which will be the world's first to have a direct link with the Air defense network by including a Data Link (ADML) system, which will bring isolated man-portable air-man-portable air-defense system (MANPAD) operators into a networked environment.

MPDMS can be Game Changer just because the operator is much more aware of the jet or the helicopter that is on his way before he can spot it and not only that he along with a few others on the ground can coordinate their attacks in such a way that it can hit a high flying target.

MPDMS can force rivals to rely on standoff strikes with expensive cruise missiles and imprecise high altitude bombing to avoid the MANPADS threat but its no substitute or medium and long-range surface-to-air missile (SAM) batteries, we need to fast track deployment of Akash-NG and MRSAM which will be doing bulk of the damages and also be at the receiving end of counter strikes to neutralize them.

<https://idr.org/drds-mpdms-can-be-a-game-changer-at-next-war/>



पत्र सूचना कार्यालय  
भारत सरकार

रक्षा मंत्रालय

Sat, 19 Mar 2022 6:09 PM

## सीमा सड़क संगठन ने असाधारण उपलब्धि हासिल की, जोजिला पास बंद होने के मात्र 73 दिन बाद श्रीनगर-कारगिल-लेह सड़क यातायात हेतु खोला गया

सीमा सड़क संगठन (बीआरओ) ने 19 मार्च, 2022 को केंद्र शासित प्रदेश लद्दाख और जम्मू और कश्मीर के बीच के प्रवेश द्वार - जोजिला पास - 11,650 फीट की ऊंचाई पर स्थित श्रीनगर-कारगिल-लेह सड़क पर यातायात हेतु खोल दिया। बीआरओ ने इस पास को बंद होने के 73 दिन बाद ही खोल कर एक सर्वकालिक रिकॉर्ड बनाया। यह पहली बार है जब बीआरओ ने कठिन मौसम की स्थिति के बीच लगातार बर्फ हटाने का कार्य करते हुए 5 जनवरी, 2022 तक दर्रे को खुला रखने के बाद यह उपलब्धि हासिल की है।

15 फरवरी, 2022 से, क्रमशः जम्मू-कश्मीर और लद्दाख में स्थित प्रोजेक्ट बीकन और विजयक द्वारा पास के दोनों ओर से बर्फ हटाने का कार्य किया गया। निरंतर प्रयासों के बाद जोजिला पास में कनेक्टिविटी शुरुआत में 4 मार्च, 2022 को स्थापित की गई। इसके बाद वाहनों के सुरक्षित मार्ग को बनाने के लिए सड़क की स्थिति में सुधार करने के प्रयास किए गए। आवश्यक ताजा समान की आपूर्ति करने वाले वाहनों के पहले काफिले ने जोजिला पास के पार जाकर लद्दाख के लोगों को बहुत आवश्यक राहत दी एवं कारगिल पहुंचा। आमतौर पर भारी हिमपात के कारण सर्दियों के दौरान जोजिला पास लगभग 160 से 180 दिनों के लिए बंद रहता था।

जोजिला पास को दोबारा खोलने के दौरान सीमा सड़क महानिदेशक (डीजीबीआर) लेफ्टिनेंट जनरल राजीव चौधरी सहित नागरिक प्रशासन और भारतीय सेना के विभिन्न गणमान्य अधिकारी मौजूद थे। प्रोजेक्ट बीकन और विजयक के प्रयासों की सराहना करते हुए सीमा सड़क संगठन के महानिदेशक (डीजीबीआर) ने कहा कि जोजिला पास के जल्द खुलने से न केवल देश की रक्षा तैयारियों को बढ़ावा मिलेगा, बल्कि लद्दाख के लोगों तक आवश्यक वस्तुओं की आपूर्ति में भी सुविधा होगी। उन्होंने कहा कि पास के खुलने से बीआरओ को लद्दाख में महत्वपूर्ण बुनियादी ढांचा परियोजनाओं के निर्माण के

लिए आवश्यक सामग्री का स्टॉक करने में मदद मिलेगी। उन्होंने राष्ट्र निर्माण में सबसे आगे रहने के लिए बीआरओ की प्रतिबद्धता को दोहराया।

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1807455>



**Press Information Bureau**  
**Government of India**

**Ministry of Defence**

*Sat, 19 Mar 2022 6:09 PM*

## **BRO achieves rare feat; Zoji La Pass opened for traffic on Srinagar-Kargil-Leh road after just 73 days of its closure**

Border Roads Organisation (BRO) opened the gateway between Union Territories of Ladakh and Jammu & Kashmir - the Zoji La Pass - for traffic on Srinagar-Kargil-Leh road at 11,650 feet on March 19, 2022, setting up an all-time record of the pass being opened after just 73 days of its closure this year. This is the first time BRO has been able to achieve the feat, after it had kept the pass open till January 05, 2022 through relentless snow clearance operations amidst tough weather conditions.

Since February 15, 2022, the snow clearance operations were undertaken from both sides of the pass by Project Beacon and Vijayak, located in J&K and Ladakh respectively. After sustained efforts, the connectivity across Zoji La Pass was initially established on March 04, 2022. Thereafter, efforts were made to improve the road conditions to create safe passage of vehicles. First convoy of vehicles carrying essential fresh supplies moved across the Zoji La Pass and reached Kargil bringing much needed relief to the people of Ladakh. Usually, the Zoji La Pass used to remain closed for around 160-180 days during winters on account of heavy snowfall.

Various dignitaries from civil administration and the Indian Army, including Director General Border Roads (DGBR) Lt Gen Rajeev Chaudhry, were present during the re-opening of the pass. Lauding the efforts of Project Beacon and Vijayak, the DGBR said, early opening of Zoji La Pass will not only bolster the defence preparedness of the country, but will also facilitate the movement of essential commodities to the people of Ladakh. He added that the opening of the pass will assist BRO to stock the material required for construction of important infrastructure projects in Ladakh. He reiterated BRO's commitment to be in the forefront in Nation Building.

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1807301>



**Defence Broadcast**

*Sat, 19 Mar 2022*

## **Forces have decisive control over militancy: Amit Shah**

Union home minister Amit Shah said on Saturday that Jammu & Kashmir witnessed a big change in less time after Narendra Modi took over as Prime Minister of the country, and that the biggest success after the abrogation of Article 370 was that armed forces got decisive control over militancy in Kashmir. Democracy in J&K has reached grassroots and there are

around 33,000 elected panchayat representatives who are leading the region towards development, peace and prosperity, Shah said. He was addressing CRPF's 83rd Raising Day function in Jammu, where he arrived on a two-day visit on Friday and chaired a string of security review meetings as well.

"Abrogation of Article 370 has empowered Dalits, women, paharis and the underprivileged. All those who were disassociated with the development till now are on the path of prosperity now," said Shah. The Prime Minister has set the target of a \$5 trillion economy before the country and it can only be achieved when there is a strong internal security network for which the CRPF has to play a big role, the home minister said.

He said the CRPF had played an exemplary role in the history of external and internal security of the country and they should draw a roadmap for the goals to be achieved when the country completes 100 years of Independence. The CRPF, the minister said, must look at the challenges ahead and strategies to assimilate developing and available technologies so that it would be the most modern, capable and effective armed force. The minister noted that 2,340 CRPF personnel have been killed since the inception of this paramilitary force, and reiterated that their sacrifices would be written in golden words in the history of the country.

<https://www.defencebroadcast.com/indian-defence-news/forces-have-decisive-control-over-militancy-amit-shah/>



*Fri, 18 Mar 2022*

## **Karnataka CM vows to make Bengaluru a defence hub**

Karnataka chief minister Basavaraj Bommai on Thursday said Bengaluru will evolve as a major hub of defence research and products catering to the needs of not only India but also of its friendly nations. Bommai participated in the inaugural event of the seven-storeyed Flight Control System (FCS) Integration facility at Aeronautical Development Establishment (ADE) in Bengaluru on Thursday.

Developed by Defence Research and Development Organisation (DRDO), the facility was inaugurated by defence minister Rajnath Singh.

Speaking at the occasion, the chief minister said, "Bengaluru is home to over 180 research and development institutions of the international level. The city has highly competent and skilled manpower. Apart from defence and industrial hubs, a semiconductor hub will come up in Bengaluru."

Bommai appealed to defence minister Rajnath Singh for all the support from the Union government and ministry of defence to develop the defence hub which could meet not only the defence needs of India but also of its friendly nations.

<https://www.hindustantimes.com/india-news/karnataka-cm-vows-to-make-bengaluru-a-defence-hub-101647542371700.html>

## India to repair Uganda's Sukhoi jets

Uganda has signed a Memorandum of Understanding with India for the maintenance and technical support of the Sukhoi SU-MK30 fighter jets Uganda purchased from Russia more than a decade ago. The maintenance will be done by Indian state-owned aerospace and defence company, Hindustan Aeronautics Limited (HAL). The Indian company has a manufacturing license from Russia to build the fighter aircraft. The MoU was signed on March 4 at the Indian High Commission in Kampala. Lt. Gen. Charles Lutaaya, Commander of Air Force in the Uganda Peoples Defence Forces (UPDF), signed on behalf of Uganda. The Indian High Commission on its Twitter account said the deal was the first major defence agreement with Uganda following Prime Minister Narendra Modi's unveiling of '10 Principles of India-Africa Engagement' in the Ugandan Parliament on July 25, 2018.

Financial details of the deal remain a secret but the arrangement is raising debate among military analysts about the future of Uganda's super jets. Lt. Col. Ronald Kakurungu, the spokesperson of the UPDF told *The Independent* that Uganda used the SU-MK30 jets when it bombed camps of the Allied Democratic Forces (ADF) in November 2021 at the start of the hunt for ADF militants in DR Congo in Operation Shujaa. Kakurungu, however, declined to comment on where else Uganda has used the jets in Uganda's vast military footprint in the Great Lakes region. Uganda is known for its penchant for Russian weapons.

Between 2011 and 2012, Uganda acquired six SU-30MK fighter jets from Russia at a price of \$635m according to Stockholm International Peace Research Institute (SIPRI), an institute dedicated to research into conflict, armaments, arms control and disarmament. Other weapons Uganda has purchased from Russia include T-90 tanks, Kornet anti-tank missiles, anti-ship missiles, Infantry Fighting Vehicles (IFVs), and other components of the SU-30 combat aircraft. SIPRI data show that Uganda took delivery of 1,000 Kornet anti-tank missiles between 2012 and 2013.

However the Russian Sukhoi Su-30MK fighter jets are arguably Uganda's most prized military asset. The country however has not routinely used the Sukhoi jets in its military adventures in the region where its operations have at once stretched from DR Congo to Central African Republic and Somalia in a period spanning ten years. The African Union Mission in Somalia (AMISOM) is Uganda's most engaging military enterprise currently in its fifteenth year of operation. Although it is essentially a peacekeeping mission, Ugandan troops have many times engaged in offensive warfare to deal with the deadly Al Shabaab terrorists in retaliatory attacks in fierce battles in Mogadishu, Somalia's capital, and other parts in the Horn of Africa country. But Sukhoi jets are not even used in AMISOM operations, Kakurungu and another military source familiar with AMISOM operations told *The Independent*.

### Russia weapons in Africa

Beyond Uganda, Russian remains the biggest supplier of weapons in Africa. The latest report by SIPRI reveals that Russia was the largest supplier of weapons for African countries for the period ranging from 2017-2021. Russia's weapons sales to Africa accounted for 44% of imports of major arms to the continent followed by the US (17%), China (10 %) and France (6.1 %).



The SIPRI report offers some insights on why the 17 African countries could have voted to abstain during an emergency meeting by the UN General Assembly that passed a resolution to condemn the Russian invasion of Ukraine in February this year.

However, the data showed that there was a general drop on what African governments are spending on defence.

“The overall drop in African arms imports was mainly due to decreases in imports by Algeria and Morocco—the two largest arms importers in the region,” the report stated on its Africa section. Algeria accounted for 44% of total African arms imports and for 2.6% of the global total during the period under review. Algeria has for over a decade had the largest defence budget in Africa while also being a known customer of Russian weaponry. From Russian Su-30MK fighter-jets to anti-tank missiles and Kilo-class submarines, Russia has maintained a steady supply of modern equipment to Algeria.

Algeria’s defence budget has averaged in the region of \$9bn- \$10bn for years. Analysts say terrorist threats from Libya and Mali, Algeria’s neighbors to the east and south compelled Algeria’s military to spike its traditionally huge budget. In addition, historical tensions with Morocco to the west left Africa’s largest country with no options.

### **Low budget Sub-Saharan Africa**

The SIPRI report shows that countries in Sub-Saharan Africa are bottom of the pile when it comes to the arms trade. A measly 2% is what the 46 countries in the ‘sub-Saharan Africa’ region account for in the total global arms trade. The new data shows that countries like Nigeria, South Africa, Kenya; the fastest growing countries in the often cited sub region in Africa, and to a lower extent; Uganda, are even importing less arms than they were doing ten years ago.

“Taken together, their arms imports were 35 per cent lower in 2017–21 than in 2012–16,” the SIPRI factsheet says. Some of the conflicts wrecking the continent had a bearing on their respective nation’s imports. “In 2017–21 the five largest arms importers in the sub-region were Angola, Nigeria, Ethiopia, Mali and Botswana. Recently imported arms played a role in the current armed conflicts in three of these states: Nigeria, Ethiopia and Mali. In 2017–21 these three states each had a diversified supplier base and received no more than 49 per cent of their major arms from a single supplier.”

Nigeria has been fighting Boko Haram insurgents in the northern part of the country while Ethiopia has been at war with its Tigrayan region for more than a year. On the other hand, Mali has gone through a series of coups and instability and Boko Haram militants have also sheltered in its territory. The outlier seems to be Botswana since Angola has been cited among the most powerful militaries in Africa. The Russian invasion of Ukraine has created a fallout in the international community and a good number of African countries are sitting out the Russia-West divide that is reminiscent of the Cold War era. Of the 35 countries that abstained from the UN vote to condemn Russia, half were African.

African countries that abstained to vote on the March 2 UN resolution include Uganda, Burundi, South Sudan, Senegal, Algeria, Angola, and South Africa. Uganda’s Ambassador to the UN Adonia Ayebare tweeted about Uganda’s position: “Uganda Abstained on the UN General Assembly vote on the Ukraine Crisis. As incoming Chair of the Non-aligned Movement (NAM) NEUTRALITY is key. Uganda will continue to play a constructive role in the maintenance of peace and security both regionally and globally.”

The SIPRI report said that aircraft were Russia’s main arms export in the last five years. They accounted for 48 % of its total arms exports, followed by engines, mainly for aircraft (16 per cent), and missiles (12 per cent). African leaders have for long had an affinity for Russian

defense equipment. This affinity has also extended to areas of trade where Russia does not interfere in the internal politics of African countries. Following Russia's invasion of Ukraine on Feb.24, North America and Europe hit Russia with wide ranging sanctions and the two blocs have fought to ensure that Russia and its leader Vladimir Putin are cut off from any engagement with the Western world.

However Russia maintains a sphere of influence in Africa, Middle East and parts of Asia. In March, *Bloomberg* reported that India would avoid any condemnation of the Russian invasion of Ukraine because it needs Russian weapons in its standoff with China.

According to SIPRI report, "Moscow has been one of India's biggest weapons suppliers since the Cold War, with more than half of India's fighter jets and almost all of its tanks coming from the country."

India has been a key client of Russia's so much that SIPRI noted; "the overall drop in Russian arms exports between 2012–16 and 2017–21 was almost entirely due to decreases in arms exports to India (-47 per cent) and Viet Nam (-71 per cent)" The findings on the Russia-India arms trade indicates that while the number of arms export contracts signed over the past 10 years had been completed by the end of 2021, several large Russian arms deliveries are still pending and include eight air defence systems, four frigates and one nuclear-powered submarine to India.

### **Wagner Group**

Meanwhile, Russia has also increased its foothold on the African military scene with the rise of Wagner Group, a Russian mercenary organisation, with ties to the Kremlin. Whereas Russia has disavowed any links to the group, its founders are ex-special forces in the Russian army. The Wagner Group is involved in conflicts in Central African Republic (CAR), Mali, Libya, Sudan, and Mozambique where it is hired by fragile governments to fend off rebels. Reports have suggested that France pulled troops out of Mali partly because of the continued presence of the Wagner Group at the behest of Mali. Wagner Group is providing protection to President Faustin-Archange Touadéra of CAR alongside the UN peacekeeping force Multidimensional Integrated Stabilisation Mission in the Central African Republic (Minusca). Wagner has also been key in efforts to protect the fledging government in Mozambique which has faced an insurgency in its Cabo Delgado province. The group has been vital in Libya where it is tasked with propping up Khalifa Hifter, one of the politicians and military figures jostling for power in Libya.

When African leaders descended on the Russian coastal city of Sochi for the inaugural Russia Africa summit to discuss business opportunities, much of Russia's display on the sidelines of the meeting was military weapons. Russia has sought to play up its potential as a superpower through military campaigns in Europe and its patronage of African leaders as a counterweight to the phenomenal rise of China and the dominance of the US on the world stage.

Joseph Siegle, director of research at the Centre for Strategic Studies, in an analysis on the future of Africa-Russia relations, said Africa is a "theatre" for Russia's geostrategic interests rather than a destination itself—a perspective reflected in the means that Russia employs.

"Unlike most major external partners, Russia is not investing significantly in conventional statecraft in Africa—e.g., economic investment, trade, and security assistance." He added: "Rather Russia relies on a series of asymmetric (and often extralegal) measures for influence—mercenaries, arms-for-resource deals, opaque contracts, election interference, and disinformation."

<https://www.independent.co.uk/india-to-repair-ugandas-sukhoi-jets/>

*Sun, 20 Mar 2022*

## **Israeli PM Bennett delighted over his first visit to India**

Israeli Prime Minister Naftali Bennett expressed delight over his first scheduled official visit to India on April 2 this year at the invitation of his Indian counterpart Narendra Modi, an Israeli government press release informed on Saturday. "I am delighted to pay my first official visit to India at the invitation of my friend, Prime Minister Modi, and together we will continue leading the way for our countries' relations," Prime Minister Bennett said.

The purpose of the visit is to advance and strengthen the strategic alliance between the countries, and to expand bilateral ties. In addition, the leaders will discuss the strengthening of cooperation in a variety of areas, including innovation, economy, research and development, agriculture and more," the Press release by the Prime Minister's Office (PMO) of Israel informed. The Israeli PM will meet Prime Minister Modi and other senior government officials, as well as visit the Jewish community in the country.

This visit will reaffirm the important connection between the countries and the leaders and will mark the 30th anniversary of the establishment of relations between Israel and India, the press release further said. The leaders first met on the sidelines of the UN Climate Change Conference (COP26) in Glasgow last October, at which Prime Minister Modi invited Prime Minister Bennett to pay an official visit to the country.

"The relations between our two unique cultures -- the Indian culture and the Jewish culture -- are deep, and they rely on deep appreciation and meaningful collaborations. There are many things we can learn from the Indians, and this is what we strive to do. Together we will expand our cooperation to other areas, from innovation and technology, security and cyber, to agriculture and climate change," Bennett said while crediting PM Modi with "restarting relations between India and Israel.

<http://www.indiandefensenews.in/2022/03/israeli-pm-bennett-delighted-over-his.html>

*Mon, 21 Mar 2022*

## **India's Dependence on Russian Weapons Tethers Narendra Modi to Vladimir Putin**

India, the world's largest buyer of Russian weapons, plans to push back by arguing the purchases are necessary to counter China's growing military assertiveness and its other neighbour, Pakistan. For all the success of the U.S.-led campaign to isolate Russia on the world stage, India has stood out as one major democracy that has been reluctant to criticize Vladimir Putin -- and billions of dollars in weapons purchases mean that's unlikely to change anytime soon.

Prime Minister Narendra Modi's government is facing more pressure from fellow members of the Quad -- the U.S., Japan and Australia -- to help push Russia toward a cease-fire. After

meeting Modi in New Delhi on Saturday, Japanese Prime Minister Fumio Kishida called for more cooperation between democracies while noting Putin's war has "shaken the global order." Modi, by contrast, only spoke on economic issues. Modi is slated to hold a virtual summit on Monday with Australian Prime Minister Scott Morrison, while U.S. Undersecretary for Political Affairs Victoria Nuland -- who has helped coordinate the American response to Ukraine -- is expected to visit New Delhi later this week.

India, the world's largest buyer of Russian weapons, plans to push back by arguing the purchases are necessary to counter China's growing military assertiveness and its other neighbour, Pakistan. Modi's government will also say the alternatives to Russian weapons are too expensive, according to people familiar with the situation, who asked not to be identified because they are not authorized to speak with the media. India operates over 250 Su-30MKI Russian-made fighter jets, seven Kilo-class submarines and more than 1,200 Russian-made T-90 tanks -- all of which are operational for another decade, the people said. In the pipeline are weapon systems worth about \$10 billion that include a nuclear submarine to be leased to India and S-400 air defence system batteries.

India's Ministry of Defence didn't immediately reply to a request for comment outside of regular business hours. "Despite efforts at diversification, India's military hardware is still almost 70% Russian," said Manjari Chatterjee Miller, a senior fellow for India, Pakistan and South Asia at the Council on Foreign Relations and author of "Why Nations Rise: Narratives and the path to Great Power." India "has to continue to rely on Russia for parts, maintenance and upgrades," she added.

The cost for India to replace all of its Russian-origin equipment is daunting. India's entire defence budget for 2021-22 is \$70 billion, and a long-delayed plan to procure 114 fighter jets to replenish its fleet and replace some older Russian fighters is estimated to cost India between \$15 billion and \$18 billion even if produced domestically, the people said. "New Delhi also lacks options to replace military systems like air defence platforms it cannot easily get elsewhere," said Ian Hall, professor of international relations at Griffith University and author of "Modi and the Reinvention of Indian Foreign Policy."

While India has supported calls for a cease-fire and a diplomatic solution, it abstained at the United Nations on votes for draft resolutions condemning Russia's invasion that were ultimately vetoed by Moscow. Still, so far the U.S. and its allies have sought to avoid an open rift with India: a joint statement after Quad leaders spoke in the wake of Putin's invasion failed to condemn Russia. That's largely because India remains an important partner in countering China, particularly after deadly clashes along their Himalayan border prompted Modi to move more troops and Russian weapons to key hotspots. India has also changed laws to restrict Chinese companies and investment, banned over 300 China-affiliated mobile applications and cut back on visas for Chinese businessmen as the border standoff escalated.

"India is a really important security partner of ours now," Donald Lu, assistant secretary of state at the Bureau of South and Central Asian Affairs, told a U.S. Senate committee on March 2 when asked whether India could face sanctions for buying Russian weapons. "We value moving ahead in that partnership," he added, noting that India had recently hit the brakes on more orders for Russian MiG-29 fighter jets, helicopters and anti-tank weapons. "And I hope that part of what happens with the extreme criticism that Russia has faced, is that India will find it's now time to further distance itself." India is also keen to avoid Russia becoming even closer to Pakistan, which is more likely if Modi's government joined U.S. allies in censuring President Vladimir Putin. India and Pakistan have fought three wars, and their militaries remain on high alert.

Pakistani Prime Minister Imran Khan last month led the country's first delegation to Moscow in two decades just as Putin's invasion got underway. Last year, Russian Foreign Minister Sergei Lavrov visited Pakistan as Moscow sought to increase its stature in the region, particularly in Afghanistan after the chaotic U.S. withdrawal. Pakistan was the world's eighth-largest weapons buyer in 2017-2021, with Russia accounting for a small fraction of imports. India is concerned that more acquisitions of Russian weapons could "provide Pakistan a qualitative advantage," according to Richard M. Rossow, Wadhvani Chair in U.S.-India Policy Studies at The Centre for Strategic and International Studies.

Still, India will find it hard to maintain a "truly neutral position" without alienating the U.S. and other Quad countries particularly because Russia has viewed New Delhi's positions as "silent support," said Miller of the Council on Foreign Relations. "The Ukraine crisis is not a geographically confined regional European crisis that does not affect India," she said. "It has implications for the future of the liberal international order."

<http://www.indiandefensenews.in/2022/03/indias-dependence-on-russian-weapons.html>



*Sun, 20 Mar 2022*

## **China's Defence spending hides more than it reveals; outstrips combined expenses of India, Japan**

China doesn't reveal the accurate cost of all its military goods and services, thus, increasing the inconsistencies and ambiguities about its defence spending. China is many folds ahead of its regional competitors, and it would take a significant jump for the regional actors, including India, to catch up with China. The People's Republic of China's (PRC) annual National People's Congress (NPC) ended last week. Like every year, the first day of the NPC was dominated by news about China's defence expenditure. Its national budget projected that China's defence spending is expected to rise to 1.45 trillion Yuan (US \$229.47 billion) in 2022. This marks a 7.1 per cent increase from 2021 spending, which was 1.36 trillion Yuan (US \$209.2 billion). The People's Liberation Army's (PLA) defence spending has increased by at least 6.6 per cent every year since the past three decades, and its defence expenditure has increased nearly six-fold in the past two decades. Interestingly, the 2022 budget marks the only time that the budget's growth rate has increased two years consecutively in the last decade. Currently, China spends more on defence than any other country except the United States (US).

### **How To Read China's Defence Expenditure?**

China's 2019 defence whitepaper outlines three major categories of China's defence spending: personnel expenses, capital expenses and training and sustainment expenses. The white paper highlights that since 2010, China's capital expenditure has increased every year. In 2010, China's capital expenditure was 33.2 per cent of the total budget, and it grew to 41.1 per cent of the total expenditure in 2017. Earlier, in the last two decades, China's defence spending was roughly equal in all three categories. However, the rising trend, especially in this decade, aligns with Xi Jinping's rise as the Chinese Communist Party (CCP) general secretary.

Interestingly, China's 2015 defence white paper emphasised that the PLA should focus more on far seas operations to protect its overseas interests along with near sea defence. This would require a major investment in the Navy and Air Force, which are more capital intensive

forces than the ground force. Furthermore, Xi's armed forces reforms have also emphasised on newer weaponry to achieve 'multi-domain integrated joint operations'. Thus, in this decade, the PLA's defence expenditure is majorly utilised on commissioning more advanced and high-tech weapons to achieve regional supremacy and extra-regional operational capabilities.

### **What Defence Expenditure Hides?**

But these are just conservative estimates that are published by China's State Council and Ministry of Finance. Military observers across the world have questioned these numbers and claim that China hides more than it reveals. For instance, scholars from the Stockholm International Peace Research Institute (SIPRI), International Institute of Strategic Studies (IISS) and RAND Cooperation have all claimed that China's defence expenditure is much higher than it showcases. Similarly, the US Department of Defence's (DOD) annual China military power report doesn't provide a specific assessment but has repeatedly claimed that China's military spending could be much higher than projected.

This is because China's military expenditure hides major categories of defence spending. For instance, China's published numbers don't account for People's Armed Police and Coast Guard expenses (paramilitary forces), which could be significantly high in all probability. Similarly, it doesn't account for newer but capital-intensive areas like China's space and cyber programmes, nuclear programmes and defence mobilisation funds. It also doesn't reveal the provincial military bases' operating costs. Furthermore, China's defence expenditure also excludes expenditure on disaster relief operations — which is later to be reimbursed through non-defence related agencies. Finally, China also doesn't reveal the accurate cost of all its military goods and services, thus, increasing the inconsistencies and ambiguities about its defence spending. However, China is not the only country to hide its defence expenditure, as India too doesn't reveal several components like its defence spending on space, cyber and nuclear programmes.

### **Comparing China's Defence Expenditure**

The US DOD report projects a slowdown in China's economic growth in the next 10 years, thus reducing its capabilities to spend on defence and national security needs. However, on comparing defence expenditures, it is clear that China is many folds ahead of its regional competitors, and it would take a significant jump for the regional actors, including India, to catch up with China. For instance, China's total defence expenditure for 2022 is more than the combined defence expenditures of India, Japan, Australia, South Korea, and Taiwan for 2021. However, China's defence expenditure is around 3.5 times less than the US annual military budget, thus making the US an important extra-regional actor in the Indo-Pacific region for balancing China's rise.

<http://www.indiandefensenews.in/2022/03/chinas-defence-spending-hides-more-than.html>

## Science & Tech-Innovation Expo held in Madurai

A Science and Tech Innovation Expo aiming to educate and sensitise the general public about radar systems indigenously- developed by various agencies was held at MADITSSIA Hall here on Saturday.

The exhibition had 25 stalls showcasing the finest innovations in defence, atomic research, industrial research and development, and local community solutions from eLEctronics and Radar Development Establishment (LRDE), Indra Gandhi Center for Atomic Research (IGCAR), C-DAC, ACIC-Kalasalingam Innovation Foundation and other institutions.



Students being explained about latest technologies used by defence forces at an expo in Madurai on Saturday. | Photo Credit: R. ASHOK

The chief guest, B. Venkataraman, Director, IGCAR, spoke on atomic research capabilities of the IGCAR and the activities of C-DAC that focussed on digitalization.

The stalls displayed activities of the Institute of Electrical and Electronics Engineers (IEEE), India for technology, digital signature and Public Key Infrastructure (PKI) of the Ministry of Electronics and Information Technology and atomic research capabilities of India by various agencies.

Twelve project displays from students, particularly the idea of a smart artificial pancreas for insulin administration factoring in food and activity levels, were appreciated by the chief guest.

Around 2,000 people, including students from 15 schools and five colleges, attended the exhibition. "I was fascinated by the bomb detectors attached in front of military vehicles. There is so much for us to learn here," said Shahana, a Class IX student.

B. Rajasekar, Associate Professor of Aeronautical Engineering, Kalasalingam University said, "Five students of M.Tech in Defence Technology programme have developed a quadcopter unmanned aerial vehicle that will fly up to 300 metre in the air. "They have incorporated their own codes and developed this quadcopter," he added.

"I came to know about the funding and infrastructure provided by the Union government through institutions which will be very useful to develop my project about wind flow around urban planning further. I am glad I attended the expo," he added.

The event was conducted in conjunction with Azadi ka Amrut Mahotsav marking the 75th year of Indian independence by the ACIC-Kalasalingam Innovation Foundation, one of the Atal Community Innovation Centers, established by Atal Innovation Mission, NITI Aayog.

<https://www.thehindu.com/news/cities/Madurai/science-tech-innovation-expo-held-in-madurai/article65241514.ece>

**ANI**

*Sat, 19 Mar 2022*

## **IIT Madras launches high-tech research centre to map human brains**

With the aim to map human brains at the cellular level, the Indian Institute of Technology (IIT) Madras launched a state-of-the-art research centre on Saturday. Leveraging on large-scale multi-disciplinary research, 'Sudha Gopalakrishnan Brain Centre' aims to become a global centre for human brain research with transformative impact in the fields of science and medicine.

The centre was inaugurated by Prof K Vijay Raghavan, Principal Scientific Adviser to the Government of India.

"There is no full mapping done on the human brain yet. By means of microscopic study IIT Madras will do this research. 10 IIT professors, 30 researchers, renowned professors of the world and 25 global researchers have associated with the Institute for the research," said Raghavan.

IIT Madras is looking forward to training hundreds of undergraduate and postgraduate students in neuroscience and computing and machine learning techniques on cutting-edge brain data at this centre.

The first ongoing project of the centre titled 'Computational and Experimental Platform: for High-Resolution Terapixel Imaging of ex-vivo Human Brains' for high-throughput light



microscopic imaging of whole human brains is supported by the Office of Principal Scientific Adviser to the Government of India. Through this project, the centre has developed a high-throughput histology pipeline that processes whole human brains into high-resolution digital images.

Using this technology platform, the centre is imaging post-mortem human brains of different types and ages. The centre has already acquired whole-brain serial-section, cell-resolution volumes of three developing brains to date. These unique first-in-class data sets that provide a high-resolution view of developing brains will be released in the near future.

<https://www.aninews.in/news/national/general-news/iit-madras-launches-high-tech-research-centre-to-map-human-brains20220319163532/>

