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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

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



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Fri, 06 Jan 2023

DRDO के वैज्ञानिकों ने बनाया ऐसा हथियार, जिसके सामने दुश्मनों की नहीं चलेगी कोई चाल

भारतीय रक्षा वैज्ञानिकों ने 26/11 जैसे आतंकवादी हमले के हालात में सुरक्षा बलों को दुश्मनों के कब्जे वाली इमारत के अंदर से एक लाइव वीडियो फीड प्रदान करने के मकसद के साथ अपनी प्रयोगशाला में 'चूहा साइबोर्ग' का पहला बैच तैयार किया है. दरअसल, इनकी मदद से सेना के जवान उस वक्त की स्थिति को भी अच्छी तरह से समझने में सक्षम होंगे. चूहा साइबोर्ग एक ऐसी प्रक्रिया है, जिसके अंतर्गत एक काल्पनिक चूहा जिसकी शारीरिक क्षमताओं को शरीर में निर्मित यांत्रिक तत्वों द्वारा सामान्य सीमाओं से परे बढ़ाया जाता है. कहने का मतलब है कि उसकी ताकत में कई गुणा इजाफा किया जाता है.

हैदराबाद के युवा शोधकर्ताओं के एक समूह द्वारा विकसित, चूहा साइबोर्ग और कुछ नहीं बल्कि मानक प्रयोगशाला में तैयार कुतरने वाला जीव है, जिनके मस्तिष्क में वैज्ञानिकों ने एक इलेक्ट्रोड स्थापित किया है जो बाहर से संकेत प्राप्त कर सकता है. लाइव तस्वीरों को कैप्चर करने के लिए इसके पीछे एक छोटा कैमरा भी लगा होगा. डेक्कन हेराल्ड की एक रिपोर्ट में यह जानकारी दी गई. एक बार एक इमारत के अंदर छोड़े जाने के बाद, ऐसे उपकरणों से लैस चूहा साइबोर्ग कहीं भी जा सकता है, एक दीवार पर चढ़ सकता है और वेश बदलने की अपनी प्राकृतिक क्षमता का इस्तेमाल करके दुश्मन से छिप सकता है. फिलहाल वैज्ञानिक उस तरीके को पूरी करने की प्रक्रिया में हैं, जिसमें बाहरी संकेतों का उपयोग करके चूहों को नियंत्रित किया जा सके. हैदराबाद में डीआरडीओ यंग साइंटिस्ट लेबोरेटरी (डीवाईएसएल) के निदेशक पी शिव प्रसाद ने भारतीय विज्ञान कांग्रेस के 108वें सत्र में असंयमित प्रौद्योगिकियों (Asymmetric Technologies) पर एक प्रस्तुति देते हुए कहा, 'हमारा उद्देश्य आक्रामक मस्तिष्क इलेक्ट्रोड के माध्यम से इलेक्ट्रॉनिक कमांड के साथ चूहों को नियंत्रित करके खुफिया जानकारी एकत्र करना है.'

यह उभरती हुई रणनीतिक तकनीकों में से एक है जिसे डीवाईएसएल ने अधिक विशिष्ट रोबोटों के विकल्प के रूप में आगे बढ़ाने का फैसला किया है, क्योंकि गतिशीलता के मामले में उन रोबोट्स की अपनी कुछ सीमाएं हैं, जबकि चूहे अधिक लचीला विकल्प प्रदान करते हैं.

<https://hindi.news18.com/news/nation/rat-cyborgs-drdo-scientist-develop-new-weapon-help-in-military-operation-5170609.html>

THE TIMES OF INDIA

Fri, 06 Jan 2023

DRDO Developing Cyborg Mice to Rat on Enemy

Indian armed forces may, in the coming days, also have remote controlled rats sneaking into enemy positions to get a view of it before the troops strike during an operation.

The Asymmetric Technologies lab, which is part of the Defence Research and Development Organisation (DRDO), is developing what is called animal cyborgs. These are living beings whose brains can be remotely controlled as they can be used to capture pictures and other data of a location where released. The project, which was started over a year ago, is now in the second phase. The proof of concept has already been secured. This was discussed during a plenary session on defence at the 108th Indian Science Congress. The presentation was made by P Shiv Prasad, director of DRDO Young Scientist Laboratory Asymmetric Technologies.

The animal cyborgs are already available in developed countries like China. Like rats, even remote controlled beetles have been created. In India, the first phase has been completed. In this phase, electrodes through which movement of the rodents is controlled had been planted through surgeries. Now, the idea is to place it through a non-invasive way, which can be a mounting on the head. The purpose is to ensure that there is least trouble to the animal. At present, there can be a slight discomfort following the surgery, said the DRDO scientist making the presentation.

The technology passes certain signals to the brains which stimulates the animals to turn, keep going or stop. These are basically pleasure points in the nervous system, which if touched can enable remote-controlling the animal. For example, if the rat stops at a point, it can be nudged to go further using the remote control. Rats are best suitable for the purpose because these can move faster, even reach deeper corners, climb stairs and even survive on waste food material, said the scientist. These rodents can be best used in urban areas. Like for example in a 26/11-like situation when terrorists were holed up in a hotel and troops were not aware of their position. Animal cyborgs can be developed with other species too, he said. The rats were already available in the lab with all the ethical approvals taken, he said.

<https://timesofindia.indiatimes.com/city/nagpur/drdo-developing-cyborg-mice-to-rat-on-enemy/articleshow/96773331.cms>

THE TIMES OF INDIA

Thu, 05 Jan 2023

DRDO to Test Guided Anti-tank Missiles in High Altitude Areas

The Defence Research and Development Organisation (DRDO), which is developing HELINA, a helicopter-fired guided anti-tank missile, is in the process of carrying high altitude tests of the weapon system.

This comes following a requirement by the Army in the light of a likely tank action on the Chinese front. The missile has been developed by Defence Research and Development Laboratory (DRDL), an establishment under DRDO based in Hyderabad.

The HELINA missiles were on display at the DRDL stall at the 108th Indian Science Congress in the city. Normally, tank battles are expected to take place in plains. The missiles have already successfully undergone user trials in such areas, including deserts. However, considering the Chinese factor, the Army also wants it to function in the high altitude areas along the eastern front, for which further user trials are planned and the process is on.

Aspects like gravitational force, density of air and other factors related to high altitudes have to be considered, said sources. The DRDO has already developed tank-to-tank fired Nag missiles, which are again of third generation guided systems. Nag is made by ordnance factories. Once ready, the know-how for HELINA will also be available on transfer of technology (ToT) basis to both private and public sector, said sources. Another version — the man portable anti-tank guided missile (MPATM) — was also put up on display in the expo. This is also third generation shoulder-fired anti-tank missiles. If it succeeds, it would be the first ever indigenous weapon of this kind, said sources.

However, now the challenge is to reduce the recoil which the soldier has to take on his shoulder. At present, recoil, which is the reverse pressure exerted from a gun or weapon that is fired, is too much for a soldier to handle. Efforts are on to reduce the force. Work is also on to tune the booster energy to such a level that the recoil can be endured by the soldier and flight of the missile is also maintained, a source said.

<https://timesofindia.indiatimes.com/city/nagpur/drdo-to-test-guided-anti-tank-missiles-in-high-altitude-areas/articleshow/96746215.cms>



Press Information Bureau
Government of India

Ministry of Defence

Thu, 05 Jan 2023

Raksha Mantri Shri Rajnath Singh Reviews Operational Preparedness of Andaman & Nicobar Command in Port Blair

Lauds the Command for strengthening national security & keeping the maritime domain safe

“Our aim is to make Indian Armed Forces one of the strongest militaries in the world”

Government is always ready for the welfare of soldiers, just as they are ready for the security of the country: RM

RakshaMantriShriRajnath Singh reviewed the operational preparedness of Andaman & Nicobar Command and infrastructure development at operational areas during his visit to the Headquarters of the only operational joint services command of the country in Port Blair on January 05, 2023. Commander-in-Chief Andaman and Nicobar Command (CINCAN) Lieutenant General Ajai Singh briefed the RakshaMantri about the geo-strategic potential of the Andaman and Nicobar Islands and the role they can play towards enhancing India’s influence and support to military operations in the area.

The CINCAN briefed the RakshaMantri about the achievements, future plan and challenges of A&N Command. He highlighted the significant role played by A&N Command in carrying forward Government’s Act East Policy and in realising the Prime Minister ShriNarendraModi’s vision of Security and Growth for All in the Region (SAGAR) by building ‘Bridges of Friendship’ with the country’s maritime neighbours. ShriRajnath Singh also visited the ANC Joint Operations Centre (JOC) which is the nerve centre for integrated planning for surveillance, conduct of operations and logistic support.

Interacting with officers & jawans, the RakshaMantri commended the Andaman and Nicobar Command for strengthening national security and keeping the maritime domain safe and secure, while playing a significant role in humanitarian assistance and disaster relief. He lauded their bravery and enthusiasm for being alert & ready 24X7 for the security of the islands and the

Exclusive Economic Zone. He added that since its inception in 2001, the Andaman and Nicobar Command has significantly enhanced its operational capabilities, which reflects its indomitable spirit and commitment.

ShriRajnath Singh exuded confidence that the courage & dedication of the Armed Forces will create a golden future for the country. He assured the soldiers that the way they are always ready for the security of the country, the government too is always ready for their welfare. He added that the Government is making all efforts to increase the efficiency and strength of the Armed Forces. “Under the guidance of our Prime Minister, we have taken a firm step forward towards self-reliance. We have made giant strides towards realising ‘Make in India, Make for the World’ vision. Our Armed Forces will soon be among the strongest militaries of the world. This is our vision as well as our mission,” he said. The RakshaMantri also made special mention of the bravery and promptness with which the Armed Forces dealt with the recent situations in the northern sector.

Earlier, the RakshaMantri reviewed a Quad-Service Guard of Honour and visited SankalpSmarak, the location of Netaji’s historic arrival on December 29, 1943. At the SankalpSmarak, he paid solemn homage to honour the sacrifices of soldiers of the Indian National Army. Upon his arrival in Port Blair, he was received by Lieutenant Governor of Andaman & Nicobar Islands Admiral DK Joshi (Retd), CINCAN and senior government officials.

This is the first visit of the RakshaMantri to Indira Point since January 2019. Apart from the Strategic Signalling in view of proximity of these far-flung islands to the Indo-Pacific, the visit of RakshaMantri to A&N Command motivated the troops deployed in these distant and remote islands. It is pertinent to mention that A&N Command is a 21-year-old successful Integrated Theatre Command which is now being planned at the national level.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1888970>

The Statesman

Thu, 05 Jan 2023

Prez asks Military Engineers to Use Cutting-Edge Technologies in Construction

President DroupadiMurmu on Thursday asked military engineers to make use of cutting-edge technologies such as machine learning and artificial intelligence in their future projects, saying this would help in more efficient design and reduced time frame for construction. She was talking to officer trainees of the Military Engineer Services (MES) when they called on her at the RashtrapatiBhavan. The President told the young officers that they have joined the services at a time when India has just entered into the “AmritKaal” and also assumed G20 Presidency. “It is the time when the world is looking towards India for new innovations and solutions,” she added.

President Murmu noted that as officers of MES, they would be instrumental in providing rear-line engineering support to all the defence arms, that is, Army, Air Force, Navy, Coast Guard and other organisations. The dedicated engineering support that they provide to the armed forces enhanced their overall performance and kept them prepared to meet any exigencies.

The President said that as young officers in the field of construction, MES officers have a prime duty to care for the environment also. "We must move towards increased use of renewable energy for sustainable development," she added.

She noted that the MES was greatly contributing to reducing the national carbon footprint by completing a large number of Solar Photovoltaic projects. She said they could innovate and use new building materials that protect residents from hazardous chemicals. The overall human well-being increased when surrounded by natural materials, she added. The President said the construction sector was very dynamic and the technologies were changing very fast. This sector played a major role in economic growth and development. She said that MES officers could contribute immensely to developing infrastructure using modern tools of project management. She was happy to note that MES has completed the first-ever 3D Printed Houses at Gandhinagar, Gujarat. She urged MES officers to try to use more such technologies that are cost-effective and help in avoiding wastage. She also urged to promote the recycling of materials wherever possible.

<https://www.thestatesman.com/india/prez-asks-military-engineers-to-use-cutting-edge-technologies-in-construction-1503144073.html>

Business Standard

Thu, 05 Jan 2023

Logistics, Defence See MoUs Worth Rs 16,400 Crore in Uttar Pradesh

The Uttar Pradesh (UP) government has signed memorandums of understanding (MoUs) worth nearly \$2 billion (about Rs 16,400 crore) with North American companies in the logistics, defence, and aerospace sectors. The agreements were inked recently with the companies incorporated in the US and Canada, a senior government official said.

US-based Mobility Infrastructure Group will invest Rs 8,200 crore in logistics projects, expected to generate 100 fresh employment opportunities. Canada-based QSTC will also pump in Rs 8,200 crore in defence and aerospace projects, creating 200 jobs. The government is looking to showcase the state's military hardware manufacturing potential as well as the UP Defence Corridor at the UP Global Investors' Summit (GIS) 2023 in Lucknow during February 10-12. The event is likely to attract defence manufacturers from the US, Europe, Russia, the UK, Sweden, France, Israel, and Germany. These include: US missile company Northrop Grumman; UK missile launch systems and ammunition maker BAE Systems; German rifle company Umarex; Swedish firm SAAB, the maker of Carl Gustaf M4 rifles; Russia's Almaz-Antey, a leading military hardware exporter; France's Dassault Aviation, which manufactures Rafale jets; and Israel Weapon Industries (IWI), which deals in unmanned aerial systems. "During the

recent visit of the UP ministers and officials to North America in run-up to the GIS next month, MoUs of almost Rs 20,000 crore were signed across sectors with logistics, defence, and aerospace leading the chart,” he said. India eyes \$5 billion exports in defence manufacturing in near future. The two defence corridors in UP and another in Tamil Nadu are seen as the steps taken by the Centre to achieve this goal. The UP Defence Corridor spans six nodes: Lucknow, Kanpur, Jhansi, Aligarh, Chitrakoot, and Agra. So far, the state has acquired 1,600 hectares of land for allotment to companies.

Meanwhile, the UP delegation to North America led by state legislative assembly speaker Satish Mahana and cabinet minister Dharampal Singh, held 51 Government-to-Government (G2G) and Business-to-Business (B2B) meetings in the US and Canada. They received 27 letters of intent (LoI) worth Rs 41,000 crore, of which, 8 proposals were converted into MoUs and signed. At the mega summit, the UP government is targeting private investment to the tune of Rs 17 trillion.

https://www.business-standard.com/article/economy-policy/logistics-defence-see-mous-worth-rs-16-400-crore-in-uttar-prades-123010501417_1.html



Thu, 05 Jan 2023

Historic! IDEX-DIO Signs 50th Contract for Autonomous Weaponised Boat Swarms

To further India’s maritime security and tapping into technologies developed by startups in an effort to gain “Aatmanirbharta” in Defence”, iDEX has inked its 50th SPRINT contract with SagarDefence for Autonomous Weaponised Boat Swarms for the Indian Navy. This is one of the technologies out of the 75 challenges introduced by the Indian Navy under AzadikaAmritMahotsav in 2022. Sources in the defence and security establishment confirmed to Financial Express Online that the company SagarDefence has the expertise to develop country’s first weaponised Autonomous unmanned boat with capability for swarming.

The contract relates to an Indian Navy project of the Defence India Start-up Challenge (DISC 7) SPRINT initiative and post development of the weaponised Autonomous Unmanned Boat, the India Navy is expected to place an order for 12 systems.

Who were present during the signing ceremony?

This was inked on Thursday in the presence of RAdm Arjun Dev Nair, ACNS (SR), RAdm K Srinivas, ACOM (Mod) & Cmde A P Golaya, Oi/C TDAC.

SagarDefence Engineering speaks to Financial Express Online

In an exclusive interaction with Financial Express Online, Capt Nikunj Parashar, Managing Director and founder SagarDefence Engineering said, “We have achieved a significant milestone in contributing to the nation’s goal of developing India into a global manufacturing hub within the next 25 years.”

Adding, “We could not have been given a better platform for demonstrating our Technology and capabilities on “Autonomous Weaponsied Boat Swarms” than the Indian Navy’s iDEX-DIO (DISC 7) SPRINT initiative.”

How will this system help?

“Using an autonomous integrated system, we aim at addressing the needs of India’s maritime security by performing a variety of naval and security activities, including high-speed interdiction, surveillance, constabulary operations, C4ISR, and low-intensity maritime operations through our USVs,” CaptParashar explains.

In his words “iDEX-DIO and the Indian Navy have provided an opportunity for making our small addition to the growth of the defence industry, involving start-ups, and improving the nation’s defence and aerospace.”

“With this, we have made progress toward achieving our mutual objectives of not endangering human life while completing difficult and dangerous missions along with encouraging the indigenization of such technology to develop an Atmarakshit Bharat,” he adds.

Background on iDEX

This framework was launched by Prime Minister NarendraModi in 2018. The objective was to provide a platform of co-development and co-creation in the defence sector. And also to engage start-ups as well as develop the aerospace and defence ecosystem in the country.

To make India self-reliant in the defence sector, in association with the three services, NSMEs, startups and DPSUs, iDEX is striving to develop cutting-edge technology products. Transforming India into a global defence manufacturing hub in the next 25 years and achieving the export target of USD \$5 billion.

<https://www.financialexpress.com/defence/historic-idx-dio-signs-50th-contract-for-autonomous-weaponsied-boat-sswarms/2937650/>



Fri, 06 Jan 2023

India, France Discuss Defence and Security Cooperation

National Security Adviser AjitDoval and his French counterpart Emmanuel Bonne on Thursday held wide-ranging discussions on defence and security cooperation, with the talks also preparing the grounds for a visit to India by French President Emmanuel Macron.

During the talks, India and France reiterated their commitment to take forward their strategic partnership to “ensure peace, stability and security in the Indo-Pacific based on common beliefs in rules-based international order and strategic autonomy”, the external affairs ministry said in a statement.

Besides participating in the 36th session of the India-French Strategic Dialogue with Doval, Bonne met Prime Minister NarendraModi, external affairs minister S Jaishankar and G20 Sherpa Amitabh Kant. In addition to being the diplomatic advisor to the French president, Bonne is

France's G7-G20 sherpa. People familiar with the matter said the talks also paved the way for a visit by Macron, who is expected to travel to India sometime in the first quarter. The French side proposed a visit in March but the final dates are yet to be locked down, the people said. March is set to be a busy month in the diplomatic calendar, with other high-profile visits and an expected meeting of G20 foreign ministers. External affairs ministry spokesperson Arindam Bagchi said Doval and Bonne held discussions on a range of issues, including the current global security situation in the context of Ukraine conflict, regional security in the context of Afghanistan, counter-terrorism, cyber-security and defence cooperation in the Indo-Pacific. The two sides discussed "expanding the scope of defence cooperation to include co-development of futuristic technologies in line with India's priorities of Make in India and Atmanirbhar Bharat", the ministry's statement said.

<https://www.hindustantimes.com/india-news/india-france-discuss-defence-and-security-cooperation-10167295552151.html>

THE ECONOMIC TIMES

Thu, 05 Jan 2023

Peace, Tranquillity along Border Essential for Development Ties with China: India

India on Thursday asserted that peace and tranquillity along the Line of Actual Control (LAC) are essential for overall development of bilateral relationship with China. The comments by External Affairs Ministry Spokesperson Arindam Bagchi came at a media briefing when asked about new Chinese Foreign Minister Qin Gang's remarks that both sides are willing to ease the situation in context of the border standoff along the Line of Actual Control (LAC). "You are aware of India's long-standing position - that ensuring peace and tranquillity in the border areas is essential for the development of our relationship," Bagchi said. "So too is the observance of bilateral agreements and refraining from unilateral attempts to change the status quo of the boundary," he added.

In an op-ed article in a US-based magazine days before he became the foreign minister, Qin wrote: "As to the border issues between China and India, the status quo is that both sides are willing to ease the situation and jointly protect peace along their borders."

India and China are locked in a lingering border standoff in eastern Ladakh for over 31 months. The bilateral relationship came under severe strain following the deadly clash in Galwan Valley in Eastern Ladakh in June, 2020. India has been maintaining that the relationship cannot be normal unless there is peace in the border area. "I have a lot of faith in our armed forces to defend our territory," Bagchi said when asked about some reports of China allegedly carrying out certain constructions in areas claimed by India. He said discussions were underway between India and China through military and diplomatic channels. These are the mechanisms through which our concerns about Chinese activities are conveyed, he said.

Bagchi said both sides are also focusing on getting back to a degree of normalcy and de-escalation and disengagement at the border. There has been a fresh spike in tensions between

India and China after troops from the two sides were engaged in a clash along the LAC at Yangtse in the Tawang sector of Arunachal Pradesh on December 9.

Defence Minister Rajnath Singh said in Parliament on December 13 that the Chinese troops tried to "unilaterally" change the status quo in the Yangtse area but the Indian Army compelled them to retreat by its firm and resolute response. To a separate question on the World Health Organization (WHO) holding that China is under-reporting COVID-19 infection numbers, Bagchi only said: "We hope countries will closely coordinate with WHO and share necessary information so that we can come out of Covid faster."

<https://economictimes.indiatimes.com/news/defence/peace-tranquillity-along-border-essential-for-development-ties-with-china-india/articleshow/96778823.cms>



Thu, 05 Jan 2023

How India Plans to Ramp Up Infrastructure in Arunachal to Deter China

By Pradip R. Sagar

Making his first visit to Arunachal Pradesh since the December 2022 Yangtse clashes between Indian and Chinese troops, defence minister Rajnath Singh inaugurated 28 infrastructure projects, including a strategically important bridge over the Siyomriver that will be capable of ferrying tanks and artillery guns. The Siyombridge is a 100-metre, 'Class-70' steel arch superstructure constructed on the Along-Yingkiong road, and is crucial for Indian troops. The Border Roads Organisation (BRO) has built 3,097 km of roads in Arunachal over the past five years.

Singh, on January 3, dedicated to the nation 28 BRO infrastructure projects worth Rs 724 crore. These include 22 bridges, three roads and three other projects in seven border states and Union territories of northern & north-eastern regions. Eight of these projects are in Ladakh, five in Arunachal, four in Jammu and Kashmir, three each in Sikkim, Punjab and Uttarakhand and two in Rajasthan. In addition, three telemedicine nodes—two in Ladakh and one in Mizoram—were inaugurated.

The BRO is expected to complete a major project by July 2023—the Sela tunnel, connecting Guwahati in Assam to Tawang in Arunachal. The tunnel is located at a height of 13,700 feet. "In this era of changing priorities and interests of nations, it is necessary for any country to keep itself empowered. India has always been against war. But our armed forces are ready to face any kind of situation, and the BRO is walking along with them," Singh said.

India has been aggressively ramping up infrastructure on its border with China. The push to infrastructure development is intended to counter any misadventure by Chinese troops. It is widely acknowledged that China has been beefing up infrastructure at a fast pace to enable deployment of men and materiel in the border areas in the shortest possible time.

India's infrastructure creation on the Line of Actual Control (LAC) as well as the McMahon Line in the Northeast picked up after the NDA government came to power in 2014. In addition, the Indian railways are building three railway lines in the northeastern states. These will help the Indian Army transport soldiers, weapons and supplies faster along the LAC. The Indian military believes improved connectivity to the forward areas of LAC has allowed Indian Army patrols to be more thorough, and this is directly responsible for the frequent skirmishes with China's PLA (People's Liberation Army) in recent years. External affairs minister S. Jaishankar has told a media outlet India and China had an agreement not to unilaterally change the LAC, but Beijing has tried to do so unilaterally.

Besides roads, India is also strengthening its air power on the border with China. The Nyoma air base in Ladakh, barely 50 km from the LAC, is being upgraded to host fighter jets like Tejas and Mirage-2000, and also transport planes.

India has been building road, rail and air infrastructure close to its border with China as the PLA is upgrading its multiple airbases in the Tibet Autonomous Region. While China is operating three air bases, namely Kashgar, Hotan and Ngari Gunsu, opposite eastern Ladakh, other airbases like Shigatse, Lhasa Gongkar, Nyingchi and Chamdo Pangta are also being upgraded along with another one in Xinjiang. On December 20, India and China held the 17th round of corps commander level meeting at the Chushul-Moldo border meeting point on the Chinese side, but the Chinese side refused to discuss the Yangtse incursion bid. However, both sides agreed to maintain security and stability on the ground in the western sector.

<https://www.indiatoday.in/india-today-insight/story/how-india-plans-to-ramp-up-infrastructure-in-arunachal-to-deter-china-2317840-2023-01-05>

ThePrint

Thu, 05 Jan 2023

China Increases Military Presence Near Tawang, Exercise Started Before December Clash

China is strengthening its military positions by building additional infrastructure to house men and equipment, less than 80 kilometres northeast of Yangtse in Arunachal Pradesh's Tawang sector, latest satellite imagery has shown. Sources in the defence establishment said the "massive scale" of construction is close to a new civil airport that China constructed, which also has a surface-to-air missile site.

Satellite Imagery analyst Damien Symon, who is popular by his twitter handle @detresfa_ posted an image which showed large military deployment by the Chinese Army (PLA).

"A large PLA deployment has been set up 74 Km North North East of the region where India & China recently clashed (Tawang), this camp is also very close to the new airport in Lhunze," he tweeted. He showed images from November to highlight the quick scale of construction being carried out by the PLA.

Sources, who accessed another set of pictures, told ThePrint that the Chinese were building shelters for both men and equipment besides a large-scale training area. The location is near the new airport in Khunze which is of dual use — the airport is a civilian infrastructure, and can be used for military operations. Sources said the airport cannot be used for fighter operations as of now but only for logistics. They added the construction of the airport had begun in 2021.

Asked about the significance of the new Chinese construction activity, sources said it could not be seen in context of the Tawang clash in December. However, they said Chinese aggression in Tawang is a reflection of them trying to flex their muscles and this involved deployment of men and equipment closer to the Line of Actual Control (LAC) – to signal a psychological intent against Indians and also to beef up positions and get soldiers battle ready. Sources told ThePrint earlier that LAC tensions have given China the opportunity to train its soldiers in almost real-war scenarios.

Chinese President Xi Jinping has himself said that his military suffers from “peace disease”, which is basically the lack of combat experience. Incidentally, Chinese soldiers are facing increasing “nervousness, anxiety and fearful emotions” as they undertake unprecedented military activities amid tensions with India along the LAC and with the US over South China Sea and Taiwan.

<https://theprint.in/defence/china-increases-military-presence-near-tawang-exercise-started-before-december-clash/1299710/>

Business Standard

Thu, 05 Jan 2023

Time to Take Stock : India's Military is Unique in Facing a Multiple-Front Threat Without a Long-Term Security Strategy

Another year has dawned, with New Delhi's strategic and diplomatic czars contemplating a bleak geopolitical landscape. Notwithstanding the efforts of our vaunted foreign service, intelligence establishment and well-regarded military, India remains the world's only major country that faces alone a three-and-a-half front military threat.

On land India faces two nuclear-armed adversaries acting in concert; and seemingly unending insurgencies in Kashmir and the north-east. Simultaneously, India's navy must oversee a gigantic maritime theatre in the Indian Ocean, which China seeks to encroach upon. Meanwhile, China's People's Liberation Army (PLA) continues its illegal, three-year-long occupation of Indian territory, apparently provoked to aggression by the empty bravado of a senior minister who boasted to Parliament in 2019 that India would take back all its claimed territories — Aksai Chin from China and Pakistan-Occupied Kashmir from Pakistan, in itself an old Indian claim.

India's military pursues these daunting challenges without any long-term national security strategy (NSS), with our top decision-makers apparently believing that the military and security

services must create their own strategic clarity. Meanwhile, the scientific and industrial base that must develop and manufacture the equipment to backstop our military ambitions finds it easier to instead repeat slogans, such as Atmanirbhar Bharat (self-reliant India). They can hardly be blamed, since defence budgetary allocations continue to fall as a percentage of the national income; leaving the fledgling private defence industry the impossible task of producing high-technology weaponry with its own resources.

With this backdrop, the Indian military's most consequential strategic shift in recent years has been its "pivot to the north" — a shift from a primarily Pakistan-focused deployment to one that conforms better to New Delhi's oft-repeated assertion that China is "Enemy Number 1". This argument was difficult to sustain with a deployment pattern in which two-thirds of India's one-and-a-half million-strong military has faced Pakistan on our western and north-western borders, while less than a third faced China on our north-eastern and eastern borders.

This began changing in the summer of 2020, when India responded to China's intrusions into eastern Ladakh by incrementally inducting three infantry divisions (each with about 18,000 soldiers) to defend the Sino-Indian border in Ladakh and Uttarakhand, which was earlier the responsibility of a lone division. Following this, the Army Headquarters (AHQ) switched to an operational role one of its three armoured strike corps from the Pakistan front to the border with China. That mechanised corps was redesignated a mountain strike corps with its two divisions tasked, equipped and trained to advance into Tibet.

Before this change, just 12 of the army's 38 divisions faced China, while 25 divisions were deployed on the India-Pakistan border, and one division was a reserve under the AHQ. After the reassignment, 16 Indian divisions will face China, 20 will face Pakistan and two divisions will be AHQ reserves. This powerful signal can hardly be missed in China or Pakistan. In Beijing, PLA planners will have to redo their sums for any attack on India. And in Rawalpindi, the shift will have provided some strategic reassurance to Pakistan's generals, who have always cited the high threat levels from India as justification for their grip on political power.

Within the military the most urgent organisational shift — the restructuring of 17 single-service commands into a smaller number of tri-service theatre commands — crawls along. Little real change has happened, even after the creation of a tri-service Chief of Defence Staff (CDS) in 2020. The government's lack of urgency is evident from the fact that it took almost 10 months to appoint a successor to General Bipin Rawat, the first CDS, who tragically died in a helicopter crash in December 2021. For General Anil Chauhan, who followed him, crucial questions remain: Will the theatre commanders report to the CDS in wartime, or to the Defence Council — an unwieldy committee under the defence minister? Giving the CDS control of operations would require setting up a tri-service operations room, with a three-star general from each service controlling their respective operations. This is just one of the contentious questions that continue to be the subject of inter-services wrangling.

After three years of discussions, all that is visible is the hazy outlines of the first two integrated commands: The National Air Defence Command that will protect Indian airspace and the Maritime Theatre Command that will control sea-borne operations. But there is little progress on the other integrated commands: The Strategic Forces Command that will oversee India's nuclear forces; the Special Forces Command with charge of clandestine operations; the Western Theatre Command that will control the Indo-Pakistan border from Gujarat to Siachen; and the Northern

Theatre Command that will be in charge of the Sino-Indian border from the Karakoram Pass in Ladakh to Kibithu in Eastern Arunachal Pradesh.

Last Friday, General M M Naravane, a sober and cerebral commander who retired as army chief last April, provided a window into the contentious internal debates over the creation of integrated theatre commands. Implicitly criticising the government, he said that an NSS was imperative before “theaterisation” could be implemented. Another critical precondition for theaterisation was the creation of a higher defence organisation, with representatives from all the ministries, in order to project a national political consensus to the military. Discussing theaterisation without these structures in place amounted to putting the cart before the horse, he said.

India remains perhaps the only major military power that has not laid out its strategic objectives in a published NSS, which articulates its perceived security challenges and its road map for countering them. For decades, the military top brass has criticised the government for this lapse, pointing out that a clear NSS is imperative for describing the prevailing geopolitical scenario, and for spelling out the role that India must play. From this would emerge a national defence strategy that clarifies our military ambitions: Whether to restrict ourselves to mere border defence or to play an expeditionary role, projecting power in a designated area of interest. This, in turn, would clarify our approach towards issues such as theaterisation, equipment acquisition and force structuring.

Finally, to end on a positive note, the government took a bold step in June towards reducing the pension budget, which has come to constitute 23 per cent of the annual defence allocation. Add to that the payroll for serving personnel and manpower costs rise to a whopping 54 per cent of the defence budget. In order to have more money for capital expenditure on equipment modernisation, the so-called Agnipath Yojana is directed towards whittling down long service tenures for its soldiers and, consequently, reducing the numbers of those eligible for pensions after retirement. Towards this end, soldiers will be recruited for four-year tenures, with 25 per cent of them, who had proved their merit and mettle as soldiers, retained for longer tenures. The defence ministry claims that, in addition to reducing manpower costs, Agnipath would make the rank and file younger, fitter, more mentally robust and more technologically savvy, with the average age dropping from the current 32 years to a more youthful 27. While that may be true, the need to reduce manpower costs is so dire that many more innovative measures will be needed.

https://www.business-standard.com/article/opinion/time-to-take-stock-123010501387_1.html



Thu, 05 Jan 2023

Japan's National Security Strategy: Why if Japan Goes Nuclear, India should Welcome the Decision

By D B Venkatesh Varma

Japan's National Security Strategy released in December is a remarkable document. Russia's invasion of Ukraine, China's assertive rise, and DPRK provocations are listed as key

developments creating for Japan the most severe and complex security environment since the end of the Second World War.

Japan's response – the document states with the tranquillity of a sober tea ceremony– will be to build comprehensive national power, reaffirm the security alliance with the US, develop autonomous capabilities through a sustained military build-up, procurement of deep strike weapons and investing in the Indo-Pacific and the Quad.

On the surface, the new Strategy has nothing startlingly new to offer. However, probing beneath for the pulse of the understated, Japan's new concerns – the inadequacy of its current defence posture and its military alliance with the US to measure up to future security needs — echo through the document, mildly but with the certainty of the heartbeat of a newborn baby.

Unconstrained by bilateral or multilateral agreements, Chinese military power is noted as growing exponentially. In less than a decade, the Chinese nuclear arsenal would match numbers currently held by the US and Russia. Expectations are low that the US would have the will or the capacity to bring China to the arms control table.

DPRK is riding a runaway proliferation train. Having shaken off all the limits to its nuclear programme it pretended to accept during the Trump Administration, its nuclear programme is perhaps now unstoppable. Ballistic missile tests, conducted with the scantest regard to international reaction, have overflowed Japanese airspace. The mood in South Korea is despondent but slowly turning in favour of its own nuclearisation.

As underlined by the document, extended deterrence including nuclear weapons is the cornerstone of the US-Japan alliance. Its success until now allowed Japan the luxury of its three nuclear no's policy – no production, possession, or introduction of nuclear weapons on its territory. But it was never truly tested in Asia, as US nuclear superiority over China was largely uncontested. Now it is no longer so, and will be less so in the future.

Japan has no reason to question the validity of its security alliance with the US. What perhaps worries Japan is its future adequacy. The options going forward are three – one stated and two unstated.

The National Security Strategy calls for Japan to strengthen the deterrence and response capabilities of its alliance with the US, including extended deterrence by the US, backed by its full range of capabilities, including nuclear. This is the stated position, not very different from previous Japanese pronouncements on the subject. Ukraine's sorry plight about security assurances – provided by Russia in the past and the US in the current war — would not have gone unnoticed in Tokyo.

The unstated part is the possibility of nuclear-sharing by Japan. If implemented, this may be new to Asia but is a long-standing US practice with its key NATO allies in Europe. US willingness to share nuclear-powered submarines with Australia as part of AUKUS is an indicator of possible trends. The second unstated option is the possibility of Japan itself acquiring nuclear weapons. The document makes no reference to this. But there are references to the US – in Japan's view the “world's greatest comprehensive power” finding it increasingly “difficult to maintain a free and open international order”. Behind Japanese politeness, the message is clear.

Significantly, the document adds that Japan would seek to strengthen its defence capabilities to the point at which Japan is able to take “primary responsibility” for its defence, without excluding support from the US. These are the green shoots of strategic autonomy, Japanese style.

Japan's turn towards an explicit nuclear option will come, if at all, not out of choice but out of necessity. Its strategic predicament, laid bare by the document, is compounded by the lack of easy answers, a predicament that India should view with sympathy and understanding of a fellow Asian country.

As the only country the target of two nuclear bombings, public sentiment runs deep against Japan acquiring nuclear weapons. Japan is also a strong supporter of the NPT, and its derivative non-proliferation regime but it is also painfully aware that the NPT does precious little to constrain China, nor for that matter DPRK. The gap between Japan's security needs in a nuclearised world and its non-nuclear public sentiment was papered over in the past by US extended deterrence. It looks less likely that will be the case in the future. If Japan goes nuclear, India should welcome the decision. In our separate ways, India and Japan privileged nuclear disarmament as a priority. But there comes a time when this national preference must be subordinated to the demands of national security.

India reached this conclusion reluctantly but with good reason in 1998. If Japan were to reach the same conclusion, it too would have good reason to do so. Its technological capabilities are not in doubt. It is for Japan to exercise its inherent and inalienable right of ensuring the necessary means of self-defence. Thinking the unthinkable in terms of changing policy is an attribute of sovereignty, not its negation. A multipolar Indo-Pacific can be truly multipolar only if Japan is assured of national defence through the means of its choosing. As a strategic partner and friend, we must keep faith that Japan will make the right decision at the right time.

<https://indianexpress.com/article/opinion/columns/japan-national-security-strategy-japan-goes-nuclear-india-should-welcome-8363720/>

Naval Technology

Thu, 05 Jan 2023

South Africa, Russia, China to Conduct Joint Exercise in February

This South African National Defense Force (SANDF) has confirmed its participation in a trilateral maritime exercise with China and Russia, Russian News Agency TASS reported. Citing a South African online news portal 'Defense Web', the report said that the three navies will undertake a series of joint naval drills. The exercise is scheduled to be held between 17 and 24 February 2023.

The eight-day long exercise will be carried out off the South African coastal province KwaZulu-Natal in the Indian Ocean. Encompassing from Durban to Richard's Bay, KwaZulu-Natal, the latest iteration of exercise between the SANDF, China's People's Liberation Army – Navy (PLAN) and the Russian Navy is expected to cover nearly 160km of area. Around two Russian Navy warships are expected to take part in the exercise. The activities will majorly comprise gunnery training, force protection drills as well as other air defence exercises. The report claimed that the latest exercise has the same name, 'Mosi' or smoke, as that of the first naval exercise conducted by the three countries in the South African territorial waters.

It was held in November 2019, off the coast of Cape of Good Hope in the Atlantic Ocean, near Cape Town. The new trilateral exercise announcement comes a few days after China and Russia concluded a week-long joint exercise in the East China Sea. Held between 21 and 27 December, the bilateral exercise aimed at showcasing the joint capabilities of both the nations to counter maritime security threats, while maintaining international and regional peace and stability. In 2016, Russia and China conducted a joint naval exercise with India, Azerbaijan, Kazakhstan and Egypt.

<https://www.naval-technology.com/news/south-africa-russia-china-exercise/>

ThePrint

Fri, 06 Jan 2023

Germany and U.S. Agree to Send Combat Vehicles to Ukraine

The leaders of the United States and Germany on Thursday announced they were sending armoured fighting vehicles to Ukraine, ramping up military support for Kyiv to repel Russian forces after a similar move by France earlier this week. In a joint statement after a call between President Joe Biden and Chancellor Olaf Scholz, the United States said it would provide Ukraine with Bradley Infantry Fighting Vehicles while Germany would provide Marder Infantry Fighting Vehicles. Both countries agreed to train Ukrainian soldiers on how to use them, it said, while Germany would also supply a Patriot air defence battery to Ukraine, which has scored some battlefield successes since Russian forces invaded last February but has asked allies for heavier weapons to defend itself. “President Biden and Chancellor Scholz expressed their common determination to continue to provide the necessary financial, humanitarian, military and diplomatic support to Ukraine for as long as needed,” the statement said.

The decision was announced after Scholz’s government faced a chorus of calls from within his three-way coalition to beef up military support for Ukraine after France announced it was sending light AMX-10 RC armoured combat vehicles.

Scholz has ramped up defence spending and sent aid and weapons to Ukraine since the invasion, but has, like other Western powers, sometimes hesitated before supplying powerful weapons for fear of risking direct conflict with Russia. He has also made it clear that he did not want to go it alone on sending heavy weapons to Ukraine and that he would coordinate deliveries with other members of the NATO alliance.

On a visit to London, German Foreign Minister Annalena Baerbock said Ukraine must be given weapons not only to defend itself but also to liberate areas under Russian occupation. “We cannot leave any room to doubt our support, and we have to constantly see what more we can do, especially in terms of military support,” she told a briefing alongside her British counterpart James Cleverly. That includes weapons that “Ukraine needs to free occupied areas and the people who are suffering under Russian terror”, she said. German politicians had also renewed calls for Berlin to deliver tanks to Ukraine.

Marie-Agnes Strack-Zimmermann, the head of the parliamentary defence committee and a member of Scholz’s junior coalition partner Free Democrats (FDP), had publicly chided Scholz

after the French announcement, saying that “other partner countries are once again leading the way”.

<https://theprint.in/world/germany-and-u-s-agree-to-send-combat-vehicles-to-ukraine/1300540/>

ThePrint

Fri, 06 Jan 2023

US, Japan to Hold Security Consultative Committee Meeting on January 11: Ned Price

US Secretary of State Antony Blinken and Defence Secretary Lloyd Austin will co-host the 2023 US-Japan Security Consultative Committee meeting with Japanese counterparts on January 11, US State Department spokesperson Ned Price said in a press briefing on Thursday.

“Secretary Blinken and Secretary Defence Austin will co-host the 2023 U.S.-Japan Security Consultative Committee meeting with Japanese Foreign Minister Hayashi and Defence Minister Hamadaon on January 11 here at State Department. The U.S.-Japan alliance remains the cornerstone of a free and open Indo-Pacific region,” Ned Price said. Addressing a press briefing, Ned Price said that US and Japan will discuss their shared vision to tackle challenges in the Indo-Pacific and around the world. He further said that the defence and foreign ministers of US and Japan will discuss the challenges posed by North Korea. “We face a threat and a series of challenges from the DPRK that will of course be on the agenda as well, especially as the DPRK has accelerated its provocations, may have plans for additional provocations in the days and weeks ahead,” Ned Price said. The meeting between foreign ministers and defence ministers will be held two days before the meeting of US President Joe Biden and Japanese Prime Minister Fumio Kishida. White House Press Secretary Karine Jean-Pierre in a statement released on the White House website stated that Biden looks forward to welcoming Kishida to further strengthen ties between the two nations. “President Biden looks forward to welcoming Prime Minister Kishida Fumio of Japan to the White House on Friday, January 13th to further deepen ties between our governments, economies, and our people,” Karine Jean-Pierre said in a statement.

Karine Jean-Pierre noted, “Over the past year, the two leaders have worked closely together to modernize the U.S.-Japan Alliance, expand our cooperation on key issues from climate change to critical technologies including through the Quad, and advance a free and open Indo-Pacific. President Biden and Prime Minister Kishida will build on these efforts.”

Furthermore, Karine Jean-Pierre said that Biden and Kishida will discuss regional and global issues, North Korea’s “unlawful weapons of mass destruction and ballistic missile programs, Russia’s brutal war against Ukraine, and maintaining peace and stability across the Taiwan Strait.” She said that Biden will reiterate his full support for Japan’s recently released National Security Strategy, its presidency of the G7, and its term as a non-permanent member of the United Nations Security Council.

<https://theprint.in/world/us-japan-to-hold-security-consultative-committee-meeting-on-january-11-ned-price/1300691/>



Thu, 05 Jan 2023

Russia and Belarus Beef Up Joint Military Grouping, Plan Drills

Russia and Belarus have beefed up their joint military grouping in Belarus with weapons, soldiers and specialised equipment, and plan to hold joint aviation drills, the Belarusian Defence Ministry said on Thursday. Ukraine has repeatedly warned that President Vladimir Putin may try to use Belarus to launch a new ground invasion of Ukraine from the north, a step that would open a major new front in the war. "The decision to create a regional grouping of troops on the territory of Belarus was made and is being implemented solely in the interests of strengthening the protection and defence of the Union State, based on the current situation near our borders," the Belarusian Defence Ministry said.

"Personnel, weapons, military and special equipment of the armed forces of the Russian Federation will continue to arrive in the Republic of Belarus," the ministry said. The ministry said "combat coordination activities" were planned as well as air force drills. "Joint training of the Belarusian and Russian components of the regional grouping of troops is complex in nature and covers not only the combat component, but also all supporting systems," the ministry said.

The ministry posted pictures of a train loaded with Russian BTR-82A and BTR-80K armoured vehicles arriving in Belarus. "The delivery was carried out in accordance with the rearmament plan," the ministry said. Belarus allowed Moscow to use Belarusian territory to send troops into Ukraine on Feb. 24.

<https://www.reuters.com/world/europe/belarus-beef-up-joint-military-grouping-with-russia-2023-01-05/>

THE ECONOMIC TIMES

Thu, 05 Jan 2023

Greed Feeds Instability Around Eurasia

The unpredictable war in Europe, an increasingly aggressive China and the point of no return on the nuclear front for North Korea have fuelled a new arc of instability, which spreads through Eurasia and is leading to extraordinary hikes in defence spending, even as the post-Covid world faces economic stress.

The total global spending on defence crossed \$2 trillion last year — with the US, China and India at top spots — and all available data indicates that the number will easily be surpassed in 2023. Over the next five years, as Germany, Japan and India look at scaling up firepower, arms factories will be working overtime to meet demands for a variety of destructive weaponry — from stealth fighter jets to artificial intelligence-enabled swarm drones, air defence systems, maritime force multipliers and beyond.

European cauldron

The unexpected Russia-Ukraine conflict, which commenced with a lightning seize of Kiev in February 2022 and dissipated as quickly into a grinding and casualty-intensive battle for territory, has thrown Europe its biggest security challenge since the Cold War.

Russia, which was the world's fifth largest defence spender (at \$65.9 billion) in 2021, according to data shared by the Stockholm International Peace Research Institute, has put an all-of-nation effort behind the war, mobilising not just reserve soldiers but scaling up production of missiles, armoured vehicles and drones as it faces a NATO-supported Ukrainian force. In 2023, Moscow plans to spend \$83.5 billion on its defence forces — a massive spike that will go towards arming troops and replenishing ammunition stocks.

The Russian challenge has also led to other European powers having a relook at defence preparedness, with Germany being first off the blocks, announcing a \$106 billion special fund that would go towards rearming its forces. The special fund is expected to be disbursed over the next five years and will be over and above its regular defence spending.

France, which is a major global weapons supplier and has its hands full when it comes to exports of cutting-edge systems like the Rafale fighter jets, has announced a \$3 billion hike in its defence spending for 2023, a 7.8% hike over the last year. The bulk of the French budget will go towards procuring new weapons. The UK, isolated from European economy after Brexit but still a vital NATO partner, has pledged to double its defence spending to \$120 billion by 2029. The increased money is expected to be invested into drone and counter-drone capabilities and enhancing the island nation's artillery firepower.

Other smaller European states, most of them NATO members, have pledged to increase defence spending to 2% of the national GDP after the Ukraine crisis. New applicants to the security alliance — Sweden and Finland — too will look to boost defence spending by 2%.

Aid to Ukraine

At the centre of the war, Ukraine, which relied majorly on Russian origin arms and equipment, has received support from across the western world in the form of weapons, financial assistance and humanitarian missions. According to the Kiel institute, till October 2022, Ukraine got assistance worth \$99 billion, most of it from the United States. Faced with a war that threatens its very existence, Ukraine itself will spend \$30 billion on defence in 2023 — which amounts to a whopping 44% of its entire annual budget.

Asian unease

As Europe feels the heat from Russia, Asia is facing the threat of an increasingly assertive China that seems to be willing to open all fronts – from territorial borders with India to disputed islands with Japan and the everhanging threat of an invasion of Taiwan. Ending decades of defence strategy that relied on American deployments, Japan has announced that it will increase spending on arming its troops to double in the next five years. This will give Japan a \$314 billion war chest to shore up defences against the twin threats of China and North Korea. Japan is looking to forge new defence technology partnerships, including plans to produce new stealth fighter jets with European partners and increasing its naval capabilities.

While China has shown that it will not back down on ever-expanding territorial claims, North Korea announced itself as a nuclear weapons state in 2022, pledging an exponential increase in production of nuclear warheads and ballistic missiles in 2023.

South Korea is planning to increase defence spending by 6.8% annually over the next five years to counter North Korea's extraordinary investment into missiles and nuclear weapons. Closer coordination with the US forces in the region is also expected to come at the cost of shoring up capabilities of its armed forces. Even smaller nations like the Philippines, which has an annual defence outlay of \$4.8 billion, are planning to increase spending at an annual rate of 8% in the coming years. India, which is the second biggest defence spender in Asia, increased its spending by 10% in 2022, reaching \$70.6 billion. The increase was mostly on account for China that has kept the Line of Actual Control alive with the deployment of thousands of troops. Ongoing transgressions and the violent clash at Tawang in December are likely to ensure that in 2023, the defence allocation will receive yet another bump up.

[https://economictimes.indiatimes.com/news/defence/greed-feeds-instability-around-
eurasia/articleshow/96773281.cms](https://economictimes.indiatimes.com/news/defence/greed-feeds-instability-around-eurasia/articleshow/96773281.cms)



Fri, 06 Jan 2023

Biden Weighs Sending Bradley Fighting Vehicles to Ukraine

President Joe Biden said Wednesday that the US is considering sending Bradley Fighting Vehicles to help Ukraine combat Russia's ongoing invasion. Biden was asked during an exchange with reporters while travelling in Kentucky whether providing the tracked armoured fighting vehicle to Ukraine was on the table. He responded "yes," without offering further comment. With Russia's war on Ukraine now in its 11th month, Kyiv has been pressing the US for tanks, longer-range missiles, armour and air defense systems. Intense fighting has continued in eastern Ukraine despite the onset of winter.

The Bradley is a medium armoured combat vehicle that can serve as a troop carrier. It has tracks rather than wheels, but the vehicle is lighter and more agile than a tank. It can carry about 10 personnel, or be configured instead to carry additional ammunition or communications equipment.

Bradleys are still used by the US Army, although the military has been looking for a replacement for years. The Pentagon has already provided Ukraine with more than 2,000 combat vehicles, including 477 Mine Resistant Ambush Protected Vehicles and more than 1,200 Humvees.

Biden announced last month that the U.S. Would for the first time send Ukraine a Patriot missile battery, the most advanced surface-to-air missile system the West has provided to help repel Russian aerial attacks. The U.S. Congress last month approved nearly \$44.9 billion in military and economic aid for a war that has no end in sight.

The same day Biden acknowledged that he was weighing sending Bradleys to Ukraine, France announced it would send French-made AMX-10 RC light tanks to Ukraine — the first tanks to be supplied by a Western European country. That announcement followed a phone call between French President Emmanuel Macron and Ukrainian President Volodymyr Zelenskyy.

The French presidency didn't say how many tanks would be delivered and when. The NATO member has given Ukraine anti-tank and air defense missiles and rocket launchers. Zelenskyy, who visited Washington last month, has made clear to the U.S. and Western allies that Ukraine needs more sophisticated weaponry. "I assure you that Ukrainian soldiers can perfectly operate American tanks and planes for themselves," Zelenskyy said during an address to American lawmakers during the visit.

<https://www.dailypioneer.com/2023/world/biden-weighs-sending-bradley-fighting-vehicles-to-ukraine.html>

Science & Technology News



Press Information Bureau
Government of India

Ministry of Science & Technology

Thu, 05 Jan 2023

Union Minister Dr Jitendra Singh inaugurates National Genome Editing & Training Centre (NGETC) at Mohali, Punjab

Dr. Jitendra Singh also inaugurates a 4-day International Conference on Food and Nutritional Security 2023: - iFANS

Agri-tech start-up is an exclusive potential in India and the concept needs more awareness by all stakeholders in the country to become a success, says, Dr. Jitendra Singh

Due to a push from Prime Minister Shri Narendra Modi, start-up movement has picked up momentum in India and led to creation of over 80,000 start-ups in the country as on date

This quantum jump in the number of StartUps must equally and proportionally reflect in Agri and Bio-tech as well because this area is yet to be fully explored and taken advantage of by Indian entrepreneurs and youth

Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh today inaugurated "National Genome Editing & Training Centre" at National Agri-food Biotechnology Institute (NABI) Mohali, Punjab.

The Minister also, at the same time, inaugurated a 4-day International Conference on Food and Nutritional Security 2023: - iFANS. Speaking on the occasion, Dr. Jitendra Singh said that Agri-tech StartUp has an exclusive potential in India and the concept needs more awareness by all the stakeholders in the country to become a success. He said that due to a push from Prime Minister Narendra Modi, the StartUp movement has picked up momentum in India and led to creation of over 80,000 StartUps whose number was only about 350 before 2014. The Minister said, this quantum jump in the number of StartUps must equally and proportionally reflect in Agri and Bio-tech as well because this area is yet to be fully explored and taken advantage of by Indian

entrepreneurs and youth. He insisted on creating awareness about lucrative livelihood and income avenues in Agri-tech entrepreneurship.

"National Genome Editing & Training Centre" (NGETC) inaugurated today is a one-roof state-of-the-art facility that will serve as a national platform to cater to the regional needs to adapt different genome editing methods, including CRISPR-Cas mediated genome modification. It will also empower young researchers by providing them with training and guidance about its know-how and application in crops. In the current climatic scenario, improving crops for better nutrition and tolerance to the changing environmental condition is a significant challenge. Genome editing could be a promising technology that Indian research could adapt to offer the desired tailor-made traits in crops. NABI has shown ability and can expand the genome editing tools to vast arrays of crops, including Banana, Rice, Wheat, Tomato, Maize and Millets.

The International Conference on Food and Nutritional Security (iFANS-2023) will be jointly organized by the National Agri-Food Biotechnology Institute (NABI), Centre for Innovative and Applied Bioprocessing (CIAB), National Institute of Plant Biotechnology (NIPB), and International Centre for Genetic Engineering and Biotechnology (ICGEB) at NABI, Mohali. The 4-day conference will brainstorm how genome editing could enhance the country's food and nutritional security under changing climate in the country. The conference will have multiple sessions with as many speakers from 15 different countries. They will share their experience through their contribution to plant sciences in the frontier areas of their research. The conference will bring on new challenges and new ideas and will also work as a stage for fostering new research collaborations between laboratories in different countries.

The conference envisages bringing together international experts and young researchers in the areas of agriculture, food, and nutrition biotechnology, and genome editing. The theme of the conference is pertinent to inspire young students and researchers considering the fact that food and nutrition security is a global demand. Advanced biotechnology tool such as genome editing using CRISPR-Cas9 has potential to achieve these goals in a sustainable manner. More than 500 participants from various parts of the country have registered for this conference. In addition, 80 speakers (40 international and 40 national) will be sharing their scientific knowledge during these four days.

NABI, under the Department of Biotechnology, is a national institute with a mandate focusing on research activities at the interface of Agriculture, Food and nutritional biotechnology. Genome editing is a crucial tool to cause site-specific gene mutations/changes so that important crop traits can be developed. These mutations have the potential to mimic nature-like mutations and could be target specific in the genome. In the current climatic scenario, improving crops for better nutrition and tolerance to the changing environmental condition is a significant challenge. Genome editing could be a promising technology that Indian research could adapt to offer the desired tailor-made traits in crops. NABI has shown the ability to utilise genome editing tools and can expand the genome editing tools to vast arrays of crops, including Banana, rice, wheat, tomato and millet.

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New Electrolyte Found can Help Better Ammonia Synthesis

A new aqueous electrolyte that can help make electrochemical ammonia synthesis more efficient will be useful for industries producing green energy or hydrogen. The electrochemical ammonia synthesis is largely limited by the poor solubility of nitrogen (N₂) in the aqueous electrolyte environment as well as the competitive hydrogen evolution reaction. The obstacle faced was that reduction of N₂ has actually occurred in the aqueous medium. In an attempt to solve these issues, the “ambient” conditions are mostly overseen. Researchers mostly work on catalyst development, while electrolyte improvisation still remains in infancy. According to a recent report, 90.7 % of the research works related to : Nitrogen reduction reaction (NRR) have focused on the suitable catalyst development, while only 4.7 % have been devoted to work on the electrolytes.

Scientists from Institute of Nano Science and Technology (INST) Mohali, an autonomous institute of Department of Science and Technology (DST), have introduced a new electrolyte called (NaBF₄), which not only acts as an N₂-carrier in the medium but also works as a full-fledged “co-catalyst” along with active material transition metal-doped nanocarbon (MnN₄) to deliver high yield of ammonia (NH₃) at absolutely ambient experimental conditions. The high production rate of NH₃ approached industrial scale and exceeded almost all the standard catalysts in any other electrolyte medium. The source of NH₃ was thoroughly studied and confirmed to be chiefly from the electrochemical reduction of the purged N₂ gas (make it N₂ saturated electrolyte to convert N₂ to NH₃).

This research published in the journal PNAS is a novel approach to get through the long-standing issues about the solubility of N₂ in aqueous medium and achieve industrial scale production rate of ammonia by NRR at ambient condition. This work supported by DST SERB brings an user-friendly aqueous electrolyte (NaBF₄) which can encourage researchers to work more on aqueous electrolyte designing towards an even improved NRR performance of the electro catalysts. A patent has been filed for this work and the scientists are now working towards making electrolyzer for rapid rate of ammonia production at an industrial scale.

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