समाचार पत्रों से चयित अंश
Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा

A Daily Current Awareness Service

Vol. 45 No. 5 07 January 2020

रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केन्द्र
Defence Scientific Information & Documentation Centre
मैटकॉफ हाऊस, दिल्ली - 110 054
Metcalfe House, Delhi - 110 054

THE WEEK

Tue, 07 Jan 2020

Indian food in space: DRDO's menu for Gaganyaan astronauts

Gaganyaan astronauts will feast on Indian food, reconstituted for space conditions

By Rekha Dixit

Idli or upma for breakfast. A choice between chicken biryani or vegetarian pulao, with a side of dal and mixed vegetables for lunch. How about a chicken korma and chappati for dinner? Sooji halwa is a good dessert option, and you could nibble on an energy bar when you feel peckish.

Some of the Indian food items being considered to serve as part of the Gaganyaan menu, pending modifications to suit the conditions in space| Rekha Dixit

Sorry, this is a non-smoking, non-alcohol flight, but you could help yourself to coffee or tea, or a choice of fruit juices. All this, and more, could be available in space through ISRO's Gaganyaan programme.

Gaganyaan is India's first human space flight. Scheduled to take off before 2022, it will offer a gourmet spread of Indian food for its pioneering astronauts courtesy the Defence Research Development Organisation (DRDO), which has been tasked with organising the victuals for the week-long flight.

While DRDO is busy designing menus, its Mysore-based Defence Food Research Laboratory (DFRL) works on adapting a range of packaged food items that it makes for soldiers deployed on harsh missions.

A list of over two dozen items that includes cuisines from across India is being worked on. "We hope to get an initial set of food items ready to be taken off on the first of the three flights," said D. Semwal, DFRL director. Mission Gaganyaan includes a set of three flights; the first two will be unmanned ones, and only the third will have a human crew, of two or three astronauts. Four test pilots of the Indian Air Force have been selected from an initial shortlist of ten for further training for the flight.

While there is a range of space food available, with humans having voyaged for over six decades and many having spent months in space stations like the International Space Station, Gaganyaan is a platform to adapt Indian cuisines, the Indian way, for space flights. "We are keeping our food items mildly spiced, though there will be extra spice sachets for those who want them," Semwal said here in Bengaluru, at the Pride of India exhibition of the 107th Indian Science Congress.

The food packs will be desicated, requiring reconstitution through the addition of water. In the zero-gravity environment of the space module, water will have to be added within a contained space, so that the droplets do not float all around the spaceship.

The shortlisted food items have been carefully selected. Bread, for instance, is not on the list, because it tends to crumble, and those crumbs can be an annoyance.

The drinks will come with special straws that flap back after a sip, so that the droplets from the sachet remain within. A team of 20 scientists at the Mysore laboratory are working on the design of these straws, the sachets, and even the bins in which the food remains can be safely trashed.

The specifications of space food are different from packed army rations. One advantage with a short flight is that the food does not need to last for several weeks. So, it can be packaged in a semi-solid form, and not be entirely dry. On the other hand, the food will have to be reconstituted under pressure. The laboratory wants to meet the NASA standards of food quality and packaging, which are deemed the best in the world for space fare.

An army marches on its stomach—and so do astronauts. Gaganyaan's payload will include 60 kgs of rations in dry weight and another 100 litres of water.

DRDO laboratories are also designing other components of Gaganyaan. The Bangalore-based Defence Bioengineering and Electromedical Laboratory (DEBEL) is working on a Wearable Remote Physiological Monitoring System, commonly known as the Bio Vest. This is actually a belt that the wearer straps onto the body. It is equipped with devices to continuously monitor the basic physiological parameters—heart rate, temperature and oxygen saturation in the blood, known as SPO2. The data will be transmitted wirelessly to earth receiving stations. DEBEL, having already made such devices for soldiers, needs to adapt them for space conditions. The bio vest will weigh less than 250g and will be delivered before December to the Institute of Aviation Medicine.

DEBEL is also designing the Emergency Survival Kit, a case of 18 items required to see the astronauts through for at least 72 hours post landing. It is designed primarily for a sea landing and will meet the requirement of a crew of three. The items include:

Basic survival aids: Water, ration, desalting kit, fishing kit, first aid material, salt and sugar

Signalling and communication aids: A heliograph, distress signal, mini-flare

Floatation and navigation aids: A compass and a three-man raft

Other survival aids: Goggles, shark repellent, Swiss knife, mini-maglite with spare cells, personal locator beacon.

Each of these items is being tested for space conditions.

In the meanwhile, the Aerial Delivery Research and Development Establishment is readying the parachutes that will be required for landing the crew module at the end of the mission. Last month, the establishment celebrated a successful test run of the design of the parachute system. The fabrication and testing of the actual parachutes are now under progress.

Gaganyaan's landing will be coordinated with a set of six parachutes of different sizes and shapes, which will unfurl in pairs to reduce the speed of the module during descent. The smallest parachutes, or pilots, each of a two-metre diameter, will open out first. They will then pull out the drogue or central parachutes, each having a diameter of six metres. Finally, the pair of main parachutes of 31-metre diameter will open up.

The weight of the crew module is around four tonnes, and DRDO has already landed heavier weights—tanks of seven and 16 tonnes—so it is pretty confident of handling the weight. It needs to cater to other requirements, though. The crew module will enter into the atmosphere at supersonic speed; in traditional parachuting, the speeds are sub sonic. The descent also has to be a comfortable one for the men, for which the oscillations have to be minimised, said scientist Sandeep Kumar.

https://www.theweek.in/news/sci-tech/2020/01/06/indian-food-in-space-drdos-menu-for-gaganyaan-astronauts.html

जनसत्ता

Tue, 07 Jan 2020

गगनयान: अंतरिक्ष यात्रियों को मिलेगा घर का खाना

गर्मागर्म खाने के साथ अंतरिक्ष यात्री स्नैक्स भी खा सकेंगे।

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) साल 2021 में अपना पहला मानवयुक्त अंतरिक्ष मिशन गगनयान भेजने वाला है। इसके लिए इसरो ने देशभर से चार लोगों का चुनाव किया है जो इस मिशन के जरिए चांद पर जाएंगे। ये अंतरिक्ष यात्री इस महीने के तीसरे सप्ताह में विशेष प्रशिक्षण के लिए रूस जाने वाले हैं। इसी बीच यह खबर आई है कि इन अंतरिक्ष यात्रियों को अब अंतरिक्ष में भी घर जैसा खाना खाने को मिलेगा। यही नहीं अंतरिक्ष यात्री अपने खाने का चुनाव भी कर सकेंगे यानी वे चुन सकेंगे कि उन्हें शाकाहारी खाना खाना है या फिर मांसाहारी। इसके अलावा अंतरिक्ष यात्री अंतरिक्ष में भी गर्मागर्म खाने का स्वाद ले सकेंगे।

मैसूर में रक्षा खाद्य अनुसंधान प्रयोगशाला (डीएफआरएल) ने इस अंतरिक्ष मिशन के दौरान खाने के लिए 22 तरह के पकवान बनाए हैं। भारतीय अंतरिक्ष यात्री का नाश्ता, दोपहर का भोजन और रात के खाने के मेन्यू में 22 भारतीय व्यंजनों और फलों के रस को शामिल किया गया है। खाने के मेन्यू में शाकाहारी से लेकर मांसहारी और स्नैक्स का विकल्प मौजूद है। खाने में हल्का-फुल्का खाना, ज्यादा ऊर्जा वाला खाना, ड्राई फ्रूट्स और फल भी शामिल हैं।

खाने में दाल, आलू पराठा, पुलाव, बादाम, एग रोल, चिकन रोल, चिकन करी, पालक पनीर, उपमा, इडली, सांभर आदि को मुख्य रूप से शामिल किया गया है। वहीं पेय पदार्थ के रूप में चाय, कॉफी और फ्रूट जूस पाउडर दिए जाएंगे। खाने की इन चीजों को जांच के लिए इसरो भेज दिया गया है। मेनू का परीक्षण आइएएफ के चार प्रशिक्षु अंतरिक्ष यात्रियों पर किया जाएगा। फीडबैक के आधार पर खाने में कुछ बदलाव भी हो सकते हैं। डीएफआरएल के निदेशक डॉ. अनिल दत्त सेमवाल ने इस बारे में जानकारी देते हुए कहा, 'खाने के ये सभी सामान एस्ट्रोनॉट्स खाकर देखेंगे क्योंकि इनका चुनाव इस बात पर भी निर्भर करता है कि उन्हें ये कितने अच्छे लगते हैं। इसरो की एक टीम इनकी जांच करेगी।'

उन्होंने कहा, 'एस्ट्रोनॉट्स के लिए शाकाहारी और मांसाहारी दोनों तरह का खाना बनाया गया है। इन्हें गर्म करके खाया जा सकता है। हम भारतीय गर्म खाना पसंद करते हैं। हम खाना गर्म करने के लिए एक उपकरण भी दे रहे हैं जिसके जरिए लगभग 92 वॉट बिजली से खाना गर्म किया जा सकता है। ये उपकरण खाने को 70 से 75 डिग्री तक गर्म कर सकता है।' अनिल दत्त सेमवाल ने यह भी कहा, 'ये खाना स्वस्थ है और एक साल तक चल सकता है. वे (इसरो) मटन या चिकन चाहते हैं। हमने चिकन करी और बिरयानी दी है। वे बस इसे पैकेट से निकालकर, गर्म करके खा सकते हैं।'

गर्मागर्म खाने के साथ अंतरिक्ष यात्री स्नैक्स भी खा सकेंगे। इसकी जानकारी देते हुए अनिल सेमवाल ने कहा, 'हमने अनानास और कटहल जैसे स्नैक्स भी दिए हैं। यह स्नैक्स के लिए एक बहुत ही स्वस्थ विकल्प है। हम सबकुछ रेडीमेड दे रहे हैं जैसे सांबर के साथ इडली। इसमें आप पानी डालकर खा सकते हैं।' उन्होंने कहा कि हालांकि एक बार पैकेट खुलने के बाद उसे 24 घंटों के अंदर खाना होगा। इस खाने को आधा खाकर नहीं रखा जा सकता।

डीएफआरएल में अंतरिक्ष मिशन के लिए तैयार किया गया हर खाना नासा द्वारा तय कड़े मानदंडों के अनुसार बनाया गया है। जब अंतरिक्ष यात्री खाने के पैकेट खोलते हैं, तो उनके आसपास कोई रोगाणु नहीं होने चाहिए। अंतरिक्ष के खाने के बहुत विशिष्ट मानदंड होते हैं। अंतरिक्ष में उपयोग किए जाने वाले खाद्य पदार्थ उस खाने से काफी अलग होते हैं जिन्हें सियाचिन में सैनिकों को दिया जाता है जो धरती का सबसे ऊंचा युद्ध का मैदान है और जहां पर भारत और पाकिस्तान 1984 में लड़ चुके हैं। डीएफआरएल ने 1984 में अंतरिक्ष मिशन में जाने वाले पहले भारतीय राकेश शर्मा के लिए भी खाना तैयार किया था। अंतरिक्ष यात्रियों के लिए खाना बनाने में इस संस्था को विशेषज्ञता हासिल है।

sify finance

Tue, 07 Jan 2020

Science & tech essential tool for development: Tessy Thomas

Bengaluru: Defence Research and Development Organisation's (DRDO) Aeronautical Systems Director General Tessy Thomas on Sunday said at the Women's Science Congress leg of the 107th Indian Science Congress that science and technology is an essential tool for rapid development.

"Science and technology is the most effective means to enhance growth and socioeconomic development of the country with profound and long term impact for income distribution," Thomas said at the ninth edition of the Women's Science Congress.

Chief guest at the event, Thomas asserted that the role of the technologically educated population in promoting economic development has long been recognised.

Delving into the etymology of the word 'technology', she said the word first occurred in 1829, coined by a person who started a course curriculum bringing together all kinds of arts, crafts and industry and calling it 'technology'.

"There was nobody to pass on their learnings and lessons but with the discovery of fire, survival of human beings enhanced and lead to the introduction of agriculture which in turn transformed the world with newer and newer technologies," said Thomas, who has designed the guidance scheme for long-range missile systems used in all Agni missiles.

Referring to the pace of technological development, Thomas said that nano robots may live inside human bodies to keep us healthy in the future.

Described as the "Missile woman of India", Thomas has contributed immensely to their guidance, control, interal navigation, trajectory simulation and mission design.

She was the project director for Agni-4 missile development.

In 2001, Thomas was awarded with the Agni self-reliance award for designing and developing an energy management guidance scheme for all solid propelled long range systems for the first time.

Several thousand women attended this science congress on Sunday.

Amrutha Baghyanathan, a student from Kochi's Rajagiri College of Social Sciences said that she did not know there was something like a women's science congress.

"We just came to know that there is something for women like this," said the clinical psychology student who attended the congress with a group of her friends.

Deepika Khatiyar, an MSc Physics student from Bhim Rao Amedkar University in Lucknow came to Benglauru from Uttar Pradesh to attend the women's science congress.

She said: "I have come here to explore more areas related to science and what is going on."

The 107th edition of the Indian Science Congress scheduled from January 3-7 is currently underway at the University of Agricultural Sciences (UAS) in Bengaluru.

https://www.sify.com/finance/science-tech-essential-tool-for-development-tessy-thomas-news-finance-ubfvGsiiieccg.html

hindustantimes

Tue, 07 Jan 2020

CDS Bipin Rawat to attend key meet on Jan 17

The DAC, headed by the defence minister, is India's top defence procurement body that evaluates and green lights acquisition proposals made by the armed forces

New Delhi: General Bipin Rawat will attend his first Defence Acquisition Council (DAC) meeting in his new role as the Chief of Defence Staff on January 17, a senior government officer said on Monday.

Rawat took over as India's first CDS on December 31.

The DAC, headed by the defence minister, is India's top defence procurement body that evaluates and green lights acquisition proposals made by the armed forces.

Other members of the council are the minister of state for defence, the three service chiefs, the defence secretary, secretary defence research and development, secretary defence production and director general, acquisition. As Chief of Defence Staff, Rawat holds the charge of permanent chairman, chiefs of staff committee -- a panel consisting of the three service chiefs.

One of Rawat's key responsibilities as CDS is to promote the use of indigenous equipment by the services at a time when the armed forces are heavily dependent on imported military hardware.

As CDS, he heads the department of military affairs and is also principal military adviser to the defence minister on all matters related to the tri-services.

He has taken over as Chief of Defence Staff at a time when the three services are facing a worrying fund shortage that could derail some of their modernisation efforts.

https://www.hindustantimes.com/india-news/cds-bipin-rawat-to-attend-key-meet-on-jan-13/story-JeQ0xlae04xSyUvFxZcihK.html

hindustantimes

Tue, 07 Jan 2020

Army Chief to visit Siachen on January 9

Siachen is strategically important as it acts like a wedge between the Shaksgam valley under Chinese control and Baltistan, which is occupied by Pakistan

New Delhi: Army Chief General Manoj Mukund Naravane is expected to visit the Siachen glacier on January 9, a senior officer said on Monday.

This will be Naravane's first outstation trip after taking over the top job.

Siachen is strategically important as it acts like a wedge between the Shaksgam valley under Chinese control and Baltistan, which is occupied by Pakistan.

As long as the region is in India's control, the Pakistani army cannot link up with the Chinese to pose a threat to Ladakh.

Over a 1,000 soldiers have died guarding Siachen since the Indian Army took control of the inhospitable glacier in April 1984, almost twice the number of lives lost in the Kargil war.

While around 220 men have been killed in firing from the Pakistani side, the other casualties were caused by extreme weather and terrain.

A ceasefire between India and Pakistan was announced in November 2003.

Defence minister Rajnath Singh announced last October that the Siachen was now open to tourists as part of the government's efforts to boost tourism in Ladakh and give people a first hand experience of the tough conditions in which army personnel operate.

Naravane took over as the Army Chief on December 31. In his 39-year military career, Naravane has commanded a Rashtriya Rifles battalion, raised an infantry brigade, led a strike corps and headed the Army Training Command.

He was also part of the Indian Peace Keeping Force in Sri Lanka and served as India's defence attache to Myanmar.

https://www.hindustantimes.com/india-news/army-chief-to-visit-siachen-on-january-9/story-9y1wzylWcBqdrkKydF4LUN.html

THE TIMES OF INDIA

Tue, 07 Jan 2020

HSL plans bid for submarine project

By Shaukat Mohammed

Vijayawada: Hindustan Shipyard Ltd (HSL) is laying the ground to bid for and win the contract to build at least six submarines for Indian Navy, in partnership with Adani group, even as it is focused on completing its pending contracts on time, HSL chairman and managing director Rear Admiral (Retd) LV Sarat Babu said on Monday.

Speaking to TOI from Visakhapatnam, Sarat Babu said HSL has decided 'in principle' to set up a special purpose vehicle (SPV) with the Adani group. "The decision is in principle because it will have to be approved by the ministry of defence (MoD). Adani group and HSL have not reached a stage to decide on the shareholding in the SPV," he said, while adding that the partnership is aimed at leveraging its balance sheet.

"Adani group will give us the financial muscle to bid for the six submarines. We would be providing the technical expertise," he said. Asked whether HSL had the technical expertise to build a highly sophisticated vessel like a submarine, Sarat Babu said the shipyard has a long experience in retrofitting submarines. "We have retrofitted several submarines from scratch, so we have the expertise in what goes into its construction. Some of our competitors have expertise in constructing the hull of the submarine. We will be able to source this expertise as well if we win the contract," he added.

The six submarines are estimated to cost Rs 50,000 crore. Sarat Babu said besides its technical expertise, HSL has also developed a workforce which can execute the submarine project.

Meanwhile, as it waits for the MoD to release its request for proposal (RfP) for the project, HSL, which was set up in 1941 by Seth Walchand Hirachand, is focused on meeting its other deadlines. "We will be delivering a retrofitted submarine to the Indian Navy on January 31. ahead of schedule. In November, we had delivered two of the last six 10-tonne bollard pull tugs to the Navy two weeks ahead of schedule," he informed.

https://timesofindia.indiatimes.com/city/visakhapatnam/hsl-plans-bid-for-submarine-project/articleshow/73128805.cms

DECCAN HERALD

Tue, 07 Jan 2020

South India to get second Fighter Squadron

By Akhil Kadidal

Bengaluru: The Indian Air Force's plan to reactivate a mothballed fighter squadron in Tamil Nadu is set to give South India its second fighter squadron.

The unit in question, 222 (Tigersharks) Squadron, had been number-plated (or frozen), following the retirement of its ageing Mikoyan-Gurevich MiG-27s at Hashimara in West Bengal in 2011. The squadron will re-equip with Sukhoi Su-30MKI-3 multirole fighters, as revealed by an Indian Air Force (IAF) tweet.

While the squadron was pulled from its "mothball" status at Thanjavur in Tamil Nadu on New Year's Day, a source claimed that the squadron will be formally reactivated at the airbase next week.

Thanjavur has been home to a rotating detachment of Su-30s for several years. The MoD's plans to deploy a full-fledged Su-30 squadron there had been thwarted in the past by a lack of aircraft. A senior air force official clarified that the squadron's reactivation this month has no connection to the IAF's ongoing efforts to secure an additional dozen of Sukhoi 30s from Russia.

"The goal was to have 270 Su-30s in service and we are at the closing stages of acquiring the last of these machines," the official said.

The squadron's formation also highlights the renewed importance with which the Ministry of Defence has been viewing the country's southern borders and the Indian Ocean area.

"Of course, we have a strategic interest in the Indian Ocean and the deployment of this second squadron will give us resources to better cover the area," the IAF said.

Already, 45 Squadron, equipped with HAL Tejas Mark I, has been operating out of Sulur airbase in the southern state. The introduction of the Sukhois, however, will extend the range at which combat patrols can be mounted over the Indian Ocean by the IAF.

Known as the "Tigersharks" Squadron, No 222 had been formed on September 15, 1969, in Ambala to equip with an older breed of Sukhois, the Sukhoi 7 (Fitter-A'), which first saw action in the 1971 war with Pakistan.

While Thanjavur was built in the 1940s by the British, it was rededicated by the then Defence Minister A K Anthony in 2013, to bolster the holdings of the IAF's Southern Air Command.

https://www.deccanherald.com/national/south-india-to-get-second-fighter-squadron-791945.html

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Tue, 07 Jan 2020

After Russia protests, MoD to take call on $2.5 bn deal

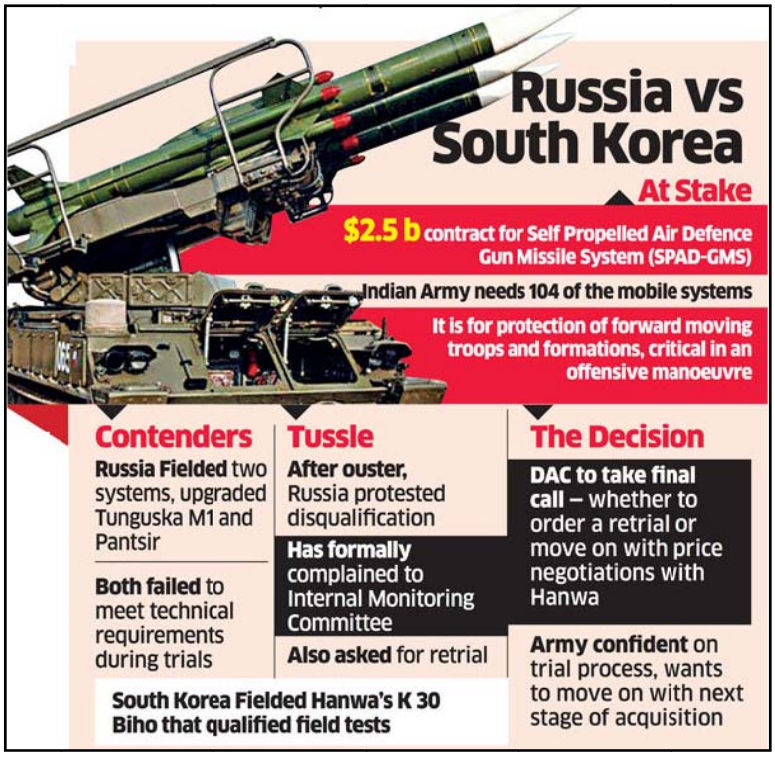
The high-powered Defence Acquisition Committee (DAC) is expected to look into the matter this month and decide on a way ahead for the critical purchase of self-propelled air defence gun missile system (SPAD-GMS), people aware of the development said

By Manu Pubby

New Delhi: The defence ministry is set to take a call on a $2.5-billion purchase of new air defence systems for the Army after Russia strongly protested the selection of a South Korean manufacturer and sought a re-evaluation, claiming it was unfairly disqualified.

The high-powered Defence Acquisition Committee (DAC) is expected to look into the matter this month and decide on a way ahead for the critical purchase of self propelled air defence gun missile system (SPAD-GMS), people aware of the development said.

The Indian Army wants five regiments of the guns that can be deployed with forward moving forces and can be quickly relocated on the basis of threat perception.



After extensive trials in all terrains, including the deserts, the only system to qualify for the 104 systems contract was the K-30 Biho (Flying Tiger) developed by South Korea's Hanwha Defense. Two separate systems offered by Russia — upgraded Tunguska M1 and Pantsir missile systems — failed the tests, with the most critical being mobility trials where they could not perform as per the requirements, sources said.

While Hanwha was shortlisted early last year, the case has not moved ahead to the next stage of price negotiations mainly due to several objections and complaints by the Russian side, including a formal complaint to the ministry's internal monitoring committee that monitors acquisition cases.

Russia is seeking another chance for field trials to prove its systems meet all technical requirements.

The Army, however, has been satisfied with the quality of the trials and is believed to be in favour of moving on the acquisition case to the next stage of price negotiations, sources said.

Selection of the K-30 Biho came as a shock to the Russian side that has been the traditional supplier of mobilised ground systems to the Indian Army.

A final call on the matter will have to be taken by the DAC, where the issue is expected to come up shortly. Report of the internal monitoring committee will be taken into consideration before a final decision is made.

The case for acquisition of the air defence systems commenced in 2013, with all competitors going through several rounds of trials that took two years to complete. The selection of K-30 Biho was the second major win for a Korean system in India, after the procurement of the K-9 `Vajra' self-propelled artillery systems.

https://economictimes.indiatimes.com/news/defence/after-russia-protests-mod-to-take-call-on-2-5-bn-deal/printarticle/73131023.cms

दैनिक जागरण

Tue, 07 Jan 2020

भारत से सटे तिब्बत में चीनी सेना कर रही एक बड़ा सैन्य अभ्यास, तैनात की नई हथियार प्रणाली

चीन के सरकारी अखबार ग्लोबल टाइम्स के अनुसार

पीएलए की तिब्बत सैन्य कमान यह अभ्यास कर रही है।

बीजिंग: चीन की सेना पीपुल्स लिबरेशन आर्मी (पीएलए) ने नए साल में भारत की सीमा से सटे तिब्बत में बड़ा सैन्य अभ्यास शुरू किया है। इस अभ्यास के लिए चार हजार मीटर से ज्यादा की ऊंचाई वाले सीमावर्ती क्षेत्र में नई हथियार प्रणालियां तैनात की गई हैं। इनमें हल्के युद्धक टैंक टाइप-15 और 155-एमएम व्हीकल-माउंटेड होवित्जर तोप जैसे हथियार भी शामिल हैं।

भारत और चीन के बीच 3,488 किलोमीटर लंबी वास्तविक नियंत्रण रेखा (एलएसी) है। चीन के सरकारी अखबार ग्लोबल टाइम्स के अनुसार, पीएलए की तिब्बत सैन्य कमान यह अभ्यास कर रही है। इसके लिए तिब्बत की राजधानी ल्हासा से लेकर समूचे सीमावर्ती क्षेत्र में हेलीकॉप्टर, सशस्त्र वाहन, भारी तोपखाने और एंटी-एयरक्राफ्ट मिसाइलें तैनात की गई हैं। चीन ने पिछले वर्ष एक अक्टूबर को राष्ट्रीय सैन्य परेड में टाइप-15 टैंक और होवित्जर तोप को पहली बार प्रदर्शित किया था।

अखबार के अनुसार, ऊंचाई वाले स्थानों के लिहाज से तैयार किए गए ये हथियार सीमा क्षेत्रों की सुरक्षा में अहम भूमिका निभा सकते हैं। अखबार में सैन्य मामलों के एक विशेषज्ञ के हवाले से बताया गया है कि उन्नत टैंकों में शक्तिशाली इंजन लगाए गए हैं। इससे उन्हें तिब्बत जैसे ऊंचाई वाले स्थानों पर आसानी से ले जाया जा

सकता है। भारी हथियारों की ऑक्सीजन की कमी वाले सीमा क्षेत्रों में तैनाती नहीं जा सकती। टाइप-15 दुनिया में इकलौता आधुनिक हल्का टैंक है, जो 105 मिलीमीटर गन और उन्नत सेंसर से लैस है।

बता दें, इससे पहले रक्षा मंत्रालय के एक सूत्र ने जानकारी दी थी कि चीन, लद्दाख से सटे सीमावर्ती इलाके में अपने बुनियादी ढाचे को बड़े पैमाना पर बढ़ाने की तैयारी कर रहा है। रक्षा मंत्रालय के सूत्र के मुताबिक, चीन की पीपुल्स लिबरेशन आर्मी(पीएलए) लद्दाख क्षेत्र में पैंगोंग झील से सटे इलाके में सैन्य बुनियादी ढांचे के विकास पर काम करना शुरू कर चुकी है।सूत्रों की ओर से कहा गया है कि चीनी सेना ने इस इलाके में टेंट स्थापित किया है और वह इस इलाके में भूमिगत सुरंगों का निर्माण किया है, वहीं पैंगोंग त्सो क्षेत्र के पास विवादित फिंगर 8 माउंटेन स्पर में और अधिक सुरंगों का निर्माण चीनी सेना कर रही है।

https://www.jagran.com/world/china-china-pla-begins-major-military-exercises-in-tibet-deployed-new-weapon-systems-19911260.html

hindustantimes

Tue, 07 Jan 2020

China tests new tank, cannon in military drill along Tibet border

For China, it is the first major military exercise this year and was unveiled as President Xi Jinping, the head of the country's military, told the PLA's top officers that armed forces must strengthen their sense of urgency and do everything they can to prepare for battle

By Sutirtho Patranobis

Beijing: China's People Liberation Army (PLA) has begun a major military exercise in the high-altitude border areas of Tibet, deploying latest weapons including a new lightweight tank and anti-aircraft missiles to check combat readiness of its troops and the efficiency of its weaponry, state media reported.

The PLA's Tibet military command has "…deployed helicopters, armored vehicles, heavy artillery and anti-aircraft missiles across the region from Lhasa, capital of Tibet, with an elevation of 3,700 meters to border defense frontlines with elevations of more than 4,000 meters, said China Central Television (CCTV).

Most of the disputed boundary between India and China falls in the Tibet Autonomous Region (TAR), whose international borders include Nepal and Bhutan.

For China, it is the first major military exercise this year and was unveiled as President Xi Jinping, the head of the country's military, told the PLA's top officers that armed forces must strengthen their sense of urgency and do everything they can to prepare for battle.

The PLA, according to the national broadcaster China Central Television (CCTV), for the first time, deployed two new weapons: the Type 15 lightweight tank and the 155-millimeter vehicle-mounted howitzer, both designed to operate at high altitude plateaus and for border defence.

"The weapons were specifically designed with advantages for plateau regions and can play important roles in safeguarding border areas," military experts told CCTV.

Both weapons were first revealed to the public at the National Day military parade on October 1, 2019 in Beijing.

“Their deployment in the Tibet Military Command will enhance PLA combat capability in plateau regions. Both weapons feature powerful engines, enabling them to maneuver efficiently in Tibet’s terrains,” a military expert who asked not to be named told the nationalistic tabloid, Global Times.

The Type 15 tank is the world’s only modern lightweight tank in service, Chinese military magazine Weapon had earlier reported, noting it is equipped with a 105-millimeter gun and advanced sensors that can “devastate enemy light armored vehicles in regions not suitable for heavy main battle tank deployment”.

On the new howitzer, this is what the military-today website had to say: “This artillery system is highly mobile and can self-deploy over long distances. It can be airlifted by most medium transport aircraft. It is light enough to be airlifted by a Y-9 or similar military transport aircraft, making it a more flexible option for a China’s growing rapid reaction units”.

Last August, China had announced it had for the first time tested new weapons including “battlefield robots” and frontline tanks on a “snow-covered plateau” to be battle-ready for plateau warfare.

Those drills were conducted at altitudes of nearly 14000 feet and lasted several days.

In 2017 – between June and August -- India and China were locked in a 73-day Himalayan military standoff near the Sikkim border in Doklam (Donglang in Chinese.)

It was eventually resolved through negotiations.

The India-China Line of Actual Control (LAC) covered 3,488 kilometres including the border along Arunachal Pradesh and Sikkim.

Beijing claims Arunachal Pradesh as part of south Tibet.

https://www.hindustantimes.com/world-news/china-tests-new-tank-cannon-in-military-drill-along-tibet-border/story-Tng5UVuvakY0PZMDSMO67O.html

ANI

Tue, 07 Jan 2020

Royal Navy of Oman ships arrive in Goa to participate in bilateral exercise

ANI | Updated: Jan 06, 2020 19:06 IST

Goa (Maharashtra) [India], Jan 6 (ANI): Royal Navy of Oman ships RNOV Al Rasikh and RNOV Khassab arrived at Mormugao Port in Goa on Saturday to participate in the 12th edition of the Indo-Oman Bilateral Naval exercise 'Naseem-Al- Bahr'.

Indian Navy Ships INS Beas and INS Subhadra will be participating in the exercise.

Harbour Phase in Goa followed by Sea Phase of Ex Naseem-Al-Bahr off Goa.

During the Harbour Phase, the Commanding Officers of the visiting ships will call on Flag Officer Commanding Goa Naval Area. The ships will conduct Subject Matter Expert Exchanges on professional topics, the Navy said in a release.

The Harbour Phase also includes sports activities between the Indian Navy and the RNO personnel, reciprocal receptions and planning conferences for the Sea Phase of the exercise.

With the first Indian Navy-Royal Navy of Oman exercise was conducted in 1993. The exercise is aimed at deriving mutual benefit from the experiences of both the navies.

Bilateral relation between Indian and Oman were formally established with the signing of a 1953 Indo-Oman Treaty of friendship, Navigation and Commerce, a first between India and an Arab country. Naval exercises have contributed to the strengthening of bilateral ties between India and the Sultanate of Oman.

The signing of a Memorandum of Understanding on Defence Cooperation in December 2005 and the subsequent establishment of the Joint Military Cooperation in March 2006 has set the foundation for increased defence cooperation.

Since then, naval cooperation between the countries has progressed steadily with increased port visits by naval ships and training of RNO personnel by the Indian Navy in hydrography, diving, training management, logistics management and dockyard management. (ANI)

THE HINDU

Tue, 07 Jan 2020

New data relay satellites to keep Gaganyaan crew in touch with Earth

Astronauts can be fully and continuously in touch with mission control throughout their travel

By Madhumathi D.S.

Bangaluru: India plans to ring in its own era of space-to-space tracking and communication of its space assets this year by putting up a new satellite series called the Indian Data Relay Satellite System.

The IDRSS is planned to track and be constantly in touch with Indian satellites, in particular those in low-earth orbits which have limited coverage of earth.

In the coming years, it will be vital to Indian Space Research Organisation (ISRO), whose roadmap is dotted with advanced LEO missions such as space docking, space station, as well as distant expeditions to moon, Mars and Venus. It will also be useful in monitoring launches, according to K. Sivan, ISRO Chairman and Secretary, Department of Space.

The first beneficiary would be the prospective crew members of the Gaganyaan mission of 2022 who can be fully and continuously in touch with mission control throughout their travel.

"When we have the Gaganyaan mission we want it to be covered and be visible 100% so that action can be taken in any exigency," he said.

Work initiated

Work on the two IDRSS satellites planned initially has begun. The first of them will be sent towards the end of 2020. It will precede the pre-Gaganyaan experimental unmanned space flight which will have a humanoid dummy. A second one will follow in 2021. The two will offer near total tracking, sending and receiving of information from the crew 24/7.

Older space majors such as the U.S. and Russia started their relay satellite systems in the late 1970s-80s and a few already have around 10 satellites each. They have used them to monitor their respective space stations Mir and the International Space Station, and trips that dock with them, as well as the Hubble Space Telescope.

Dr. Sivan said IDRSS satellites of the 2,000 kg class would be launched on the GSLV launcher to geostationary orbits around 36,000 km away. In such apparently fixed orbits, they would be covering the same area on earth. A satellite in GEO covers a third of the earth below and three of them can provide total coverage.

‘IDRSS is imperative’

During the launch of the human mission and also when the crew craft orbits earth from a distance of 400 km, at least one ground station must see and track it. But with available ground stations, that would not be the case. Without data relay satellites, ISRO would have to create a large number ground stations everywhere or hire them globally and yet the crewed spacecraft would not be visible all the time.

“We require the IDRSS system when our astronauts are in space. But I would prefer the relay spacecraft to be in place even before we launch the unmanned mission,” Dr. Sivan said.

While the U.S. is putting up its third-generation advanced fleet of TDRS (Tracking & Data Relay Satellites), Russia has its Satellite Data Relay Network and Europe is building its own European Data Relay System. China is into its second generation Tianlian II series.

https://www.thehindu.com/news/national/new-satellites-will-help-gaganyaan-crew/article30496759.ece