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The Tribune

Wed, 08 July 2020

DRDO updates policy on development of aviation systems after 18 years

Policy was first issued in 1975 and then revised in 2002

By Vijay Mohan

Chandigarh: Almost two decades after it was last updated, the Policy for Design Development and Production of Military Airsystems and Airborne Stores (DDPMAS) is being revised to keep pace with contemporary technical and commercial advancements in the aviation sector.

The policy, brought out by the Defence Research and Development Organisation (DRDO) sets out the procedure to be followed for design and development, production, modification, licence production and indigenisation of aircraft and aviation systems within the military airworthiness regulatory framework.

Rapid advancements in the Indian aviation sector over the past years with significant expansion in the design, development and production activities, increasing accent on self-reliance and indigenisation with ever increasing public and private sector participation necessitated the current policy.



Photo for representation

First issued in 1975 and then revised in 2002, DDPMAS outlines policy level aspect towards ensuring airworthiness of military aviation systems, defines roles, responsibilities and empowerment of all the stakeholders, lays down procedural aspects towards ensuring military airworthiness certification and describes technical airworthiness requirements and associated acceptable means of compliance based on tailored standards.

New chapters on unmanned aerial systems, air launched missiles, research systems, civil certified military airsystems, continuing airworthiness, organisation approvals and exports, have now been added to the policy document.

To facilitate the private industry and boot the Make-in-India policy, organisation approvals for design, production and maintenance have been added. Airworthiness coverage to the private industry, even when no expression of interest or supply order from the government exists, has also been addressed.

Inputs from various stakeholders regarding the impediments and difficulties in following the DDPMAS have been addressed without compromising the philosophy of airworthiness.

While demarcating the requirements for airsystems and airborne stores, the new document also addresses engines, materials, software, identification of parts, test rigs, tools, testers and ground equipment separately.

The revised DDPMAS recognises that the future of military aviation will involve joint ventures and consortiums with design houses of foreign origin, which will entail mutual recognition of design and certification methodologies.

In order to facilitate international understanding, cooperation and success of the ventures leading to acquiring strategic technologies, the DDPMAS has introduced global parlance and internationally followed terminologies with one-to-one-mapping of equivalent regulatory articles wherever applicable to Indian processes and procedures.

<https://www.tribuneindia.com/news/nation/drdo-updates-policy-on-development-of-aviation-systems%C2%A0after-18-years-109821>



Wed, 08 July 2020

Indian Army to buy 2000 Akash 1S surface to air missiles soon

By Raunak Kunde

According to Defence analysts, Saurav Jha. Indian Army has plans to soon place orders for 2 Akash 1S regiments – approximately 2,000 missiles – worth over ₹14,000 crores (\$3.1 billion). Akash-1S is a medium-range Surface to Air Missile with multitarget engagement capability and comes with an indigenously developed seeker for much more effective Target engagement in Kill Zone.

Bharat Dynamics Limited (BDL) which is the Production house for manufacturing Akash surface-to-air missile system for Indian Army and Indian Air Force already has secured license & tech transfer agreements for the indigenous seeker from DRDO and the missile system already has completed its developmental trials where it has demonstrated its capabilities by successfully engaging various targets. BDL has production capabilities of 100 Akash Missiles per month and Akash 1S with Seeker has seen particular interests from Vietnam which is in talks with India for its export and local manufacturing in the country.



The Akash-1S is capable of striking down enemy fighter jets and drones very effectively and accurately. The Akash surface-to-air missile was designed to intercept enemy aircraft and missiles from a distance of 18 to 30 km. Akash-1S system has been designed and developed for the Indian Army based on their requirements and will replace the Vintage Soviet Era SA-6 surface-to-air missile system.

Indian Army already operates 2 Akash Mk1 regiments which were recently in the news when the Indian Army moved in a few Akash Mk1 surface-to-air missile systems close to Galwan Valley due to recent LAC standoff with PLA Troops in the area.

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<https://idrw.org/indian-army-to-buy-2000-akash-1s-surface-to-air-missiles-soon/#more-230522>

DRDO to set up research cell for def tech in IIT-H

By Ch Sushil Rao

Hyderabad: DRDO will set up a research cell in IIT-Hyderabad as part of efforts to develop critical defence technology indigenously.

DRDO chairman and secretary, department of defence R&D, G Satheesh Reddy said the DRDO-IITH research cell would play a significant role in ensuring seamless execution of projects.

“This MoU is aimed at bringing together the capabilities of DRDO and IITH in order to achieve greater heights in indigenous technology through collaborative research,” he said.

The DRDO-IITH research cell will undertake basic and applied research programmes in identified technology areas and meet the future defence technological requirements.

The MoU was signed by KK Pathak, director, Directorate of Futuristic Technology Management (DFTM), DRDO, MSR Prasad, scientist and director general, missiles and strategic systems (MSS), DRDO, and Professor BS Murty, Director, IITH. The MoU was signed during a virtual event organised at the DRDO DG-MSS office in the city on July 3 in which officials from DRDO and IITH took part.

Professor Bhaskar Ramamurthi, director, IIT-Madras, hoped that the proposed research cell would make headway under the umbrella of RIC with strong collaboration between DRDO scientists and IITH researchers.

Hyderabad: Bharat Dynamics Limited (BDL) has signed a License Agreement and Transfer of Technology (LAToT) with DRDO for Akash Missile Weapon System (Indian Army Variant). BDL is the lead integrator for Akash Weapon System.

The contract was signed last week by Dr Dasharath Ram Director, DRDL and P Radha Krishna, Director (Production), BDL, Defence officials said.

Mayank Dwivedi, Director DI²TM, Dr Ajit Chaudhary, Project Director (Akaash), Narendra Kale, Project Director (Akaash Prime), Commodore (rtd) A Madhava Rao, Executive Director, BDL and P V Raja Ram, General Manager, BDL participated in the programme. Those who participated in the programme included Mayank Dwivedi, Director DI²TM (through Video Conference), Dr. Ajit Chaudhary, Project Director (Akash),

Narendra Kale, Project Director (Akash Prime), Commodore (rtd) A Madhava Rao, Executive Director, BDL and P V Raja Ram, General Manager, BDL.

<https://timesofindia.indiatimes.com/city/hyderabad/drdo-to-set-up-research-cell-for-def-tech-in-iit-h/articleshow/76830352.cms>



Wed, 08 July 2020

Defence Minister Rajnath Singh chairs meeting to review border infrastructure

Defence Minister Rajnath Singh on Tuesday chaired a high-level assembly to evaluate the progress of assorted infrastructure initiatives beneath building on the Line of Precise Management (LAC) with China and Line of Management (LoC) with Pakistan.

The assembly was attended by Defence Secretary Dr Ajay Kumar and senior officers of the Ministry. Border Roads Organisation (BRO) chief Lt Gen Harpal Singh and different officers have been additionally current on the assembly and reviewed concerning the progress in ongoing infrastructure initiatives on border areas.



In line with an official press launch, the state of ahead connectivity to frame areas was reviewed and the constant want of boosting the continued initiatives and to expedite the development of strategic roads, bridges and tunnels within the border areas was mentioned.

A significant surge in outcomes delivered by BRO is clear from the truth that BRO has executed 30 per cent extra works in FY 2019-20 as in comparison with FY 2018-19. BRO has labored incessantly even throughout the restrictions imposed because of COVID-19 with out affecting the progress of assorted initiatives.

Regardless of unprecedented snowfall, breaking a 60 years' outdated document, all strategic passes and roads have been cleared this yr for visitors about one month earlier than their common yearly opening dates. BRO executed Snow Clearance works on 149 roads (of 3965 Km) in J&Ok, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh. This ensured fast & early motion of troops and logistics to ahead areas.

BRO has additionally inducted newest gear and machines and has launched trendy building strategies after profitable trials to expedite works on surfacing with cementations base, use of plastics, geotextiles and many others. and numerous methods for slope stabilization.

Trials have additionally been carried out efficiently for indigenously produced modular bridges in collaboration with GRSE beneath the Hon'ble Prime Minister's Make in India Initiative. This may revolutionise the bridge laying functionality in ahead areas.

Rajnath Singh lauded the efforts of BRO for its contribution to the Nationwide Safety.

<https://idrw.org/defence-minister-rajnath-singh-chairs-meeting-to-review-border-infrastructure/>

LAC stand-off: Ajit Doval, Wang finalise plan in 2-hour discussion

New Delhi: The breakthrough in India's attempts to get Beijing to pull back its troops in Galwan Valley came after two hours of tense negotiations between national security advisor AK Doval and China's state councillor and foreign minister Wang Yi.

Sources said what the MEA described as a "frank and in-depth interaction" was marked by sharp exchanges before the two sides settled for an understanding which will require the PLA to reduce its presence, pull back and bring down the structures it had raised during the stand-off. Doval and Wang, who are special representatives for border talks, have known each other for some time and this helped them focus on the nub of the matter straightaway.



LAC stand-off: Ajit Doval, Wang finalise plan in 2-hour discussion

In the course of the conversation on Sunday, Doval bluntly put across New Delhi's bottomline that for the de-escalation to happen, the PLA must move back from the area which Beijing had publicly claimed as its own in the aftermath of the violent confrontation between the two armies on June 15. India has said China violated the agreements intended to ensure peace on the borders.

For 2nd time after Doklam, India gets China to relent

This is the second time after the 73-day-long face-off at Doklam in 2017 that India had got China to relent — at least as things stand now — after negotiations in which India was represented by the NSA. Yet, the two situations are hardly comparable. Unlike Doklam, the latest conflict saw fatalities on both sides. This must have been particularly problematic for China, considering that it was the first time since 1979, when the Vietnamese got the better of it, that PLA had suffered casualties. Moreover, if the idea was to give India a hard rap on the wrist, it didn't go to plan as China suffered casualties it is yet to admit in public. US sources put this at 35 dead. India lost 20 men, including commanding officer Col Santhosh Babu.

Second, unlike in 2017 where India tried to play down the physical skirmishes between the two sides with the government preferring to endure digs from opponents back home, the latest round saw Prime Minister Narendra Modi highlighting the bravery and courage of Indian jawans and, in the process, rubbing in the PLA losses.

The statements could not have sounded bluster to the Chinese after the defiant completion of a bridge over the Galwan river, part of the Modi government's project to ramp up border infrastructure.

Official sources underlined that the Chinese de-escalation was coming after India's extension of the conflict to the realm of the economy by, most notably, banning Chinese apps and by making it clear that Huawei's participation in 5G trials was all but off.

Modi refrained from naming China but his public assertions about the befitting reply from jawans in Galwan, the inevitability of the defeat of "expansionist" forces and display of the determination to engage China on the LAC might have narrowed options for the Communist leadership in Beijing, increasingly fond of projecting their aggression through wolf warrior diplomats, to settle for a resolution which stops short of an emphatic victory or a correction of a historical wrong done to China.

The timing of the latest Chinese provocation and the clash it sparked unfolded in full public glare with the US publicly declaring support for India against what it called a "pattern" of Chinese behaviour. Given China's ever-worsening feud with the US, the Trump administration's backing for India should have in itself been a ground for China to dig in.

The decision to lower the ante is an acknowledgement of the original miscalculation. Beijing overreached and, perhaps, also failed to anticipate the response of the Modi government at a time when it is having to tackle the Covid-19 pandemic which originated in China.

The Modi government is not going to flash the "Mission Accomplished " sign yet because of China's track record. Going by experience, China is more than likely to continue to spring surprises but it may not be happy with the way the current round has gone so far. It was supposed to be a knock out in favour of China.

<https://timesofindia.indiatimes.com/india/doval-wang-finalise-plan-in-2-hr-discussion/articleshow/76823845.cms>



Wed, 08 July 2020

फॉरवर्ड एयरबेस पर गरजे वायुसेना के लड़ाकू विमान, चिनूक-अपाचे ने रात में भरी उड़ान

भारत-चीन बॉर्डर के पास फॉरवर्ड एयरबेस पर भारतीय वायुसेना के विमानों ने रात में उड़ान भरी।

नई दिल्ली: भारत और चीन के बीच वास्तविक नियंत्रण रेखा (LAC) पर जारी तनाव सोमवार को थोड़ा कम हुआ है। चीन के गलबन से पीछे हटने के बाद भी भारतीय सेना सुरक्षा को लेकर कोई भी कसर नहीं छोड़ना चाहती है। चीन की हर हरकत पर भारतीय वायुसेना की पूरी नजर है। देर रात वायुसेना (Indian Air Force) के लड़ाकू विमानों ने भारत-चीन बॉर्डर के पास एक फॉरवर्ड एयरबेस पर उड़ान भरी। वायुसेना चीन की किसी भी चालबाजी का जवाब देने के लिए तैयारी कर रही है।

फॉरवर्ड एयर बेस पर वायुसेना के अपाचे अटैक हेलिकॉप्टर (Apache attack helicopter), मिग-29 फाइटर एयरक्राफ्ट (MiG-29 fighter aircraft) और चिनूक हेवीलिफ्ट हेलिकॉप्टर (Chinook heavylift helicopter) ने भारत-चीन बॉर्डर के पास एक फॉरवर्ड एयरबेस पर रात में अभ्यास किया। एयर बेस में तैनात वरिष्ठ लड़ाकू विमान के पायलट ए. राठी ने कहा कि रात के ऑपरेशन में एक सरप्राइज एलिमेंट होता है। भारतीय वायुसेना आधुनिक प्लेटफार्मों और प्रेरित कर्मियों की मदद से किसी भी वातावरण में ऑपरेशन के पूरे स्पेक्ट्रम का संचालन करने के लिए पूरी तरह से प्रशिक्षित और तैयार है।

इंडियन एयरफोर्स का अपाचे अटैक हेलिकॉप्टर भारत-चीन बॉर्डर के पास एक फॉरवर्ड एयरबेस पर नाइट ऑपरेशन किया।

भारतीय वायुसेना का मिग-29 फाइटर एयरक्राफ्ट भारत-चीन बॉर्डर के पास एक फॉरवर्ड एयरबेस पर नाइट ऑपरेशन किया।

भारतीय वायुसेना का चिनूक हेवीलिफ्ट हेलिकॉप्टर भारत-चीन बॉर्डर के पास एक फॉरवर्ड एयरबेस पर नाइट ऑपरेशन किया।

सोमवार को एलएसी के पास गलबन घाटी से चीनी सेना अपना साजो-सामान लेकर करीब दो किमी पीछे हट गई है। भारत और चीन के बीच एलएसी पर दो महीने से जारी तनाव को कम करने की दिशा में इसे बड़ा कदम माना जा रहा है। राष्ट्रीय सुरक्षा सलाहकार अजीत डोभाल और चीनी विदेश मंत्री की रविवार को फोन पर बातचीत हुई थी। इस दौरान एलएसी पर तनाव घटाने के लिए अपने-अपने सैनिकों को पीछे हटाने पर सहमति बनी।

<https://www.jagran.com/news/national-iaf-fighter-aircrafts-near-india-china-border-carrying-out-night-operations-20483344.html>

IAF projects day-night, all-weather combat capability in Ladakh

The air force is undertaking night missions in the mountainous terrain, amid the border row in Ladakh and worst tensions there since the 1962 India-China war, said one of the persons cited above

By Rahul Singh

New Delhi: The Indian Air Force is projecting its capability to carry out day-and-night, all-weather combat missions in the Ladakh sector, with front-line fighter jets, attack helicopters and multi-mission choppers getting airborne for demanding night-time missions from a forward airbase in the area even as the Indian and Chinese armies have kicked off a complex disengagement process to defuse tensions along the Line of Actual Control (LAC), people familiar with the developments said on Tuesday.

The air force's MiG-29 fighter jets, Sukhoi-30s, Apache AH-64E attack helicopters and CH-47F (I) Chinook multi-mission helicopters are among the platforms that are undertaking night missions in the mountainous terrain, amid the border row in Ladakh and worst tensions there since the 1962 India-China war, said one of the persons cited above.

The IAF is sending out a message to the adversary that it has exploited the full capabilities of its platforms that can be assigned to undertake "all-weather, all-terrain and day/night missions" in the Ladakh theatre, said former IAF chief Air Chief Marshal Fali H Major (retd).

"The message is that we have the capability and it can be used as and when required," he said.

Any professional force has to be ready to fight 24x7, said Air Vice Marshal Manmohan Bahadur (retd), additional director general, Centre for Air Power Studies.

"Earlier, there were limitations of aircraft that prevented flying in the hills at night but now they have been mostly overcome. The night flying activity seen in Ladakh is part of IAF training to keep the skills of pilots and other personnel honed," he said.

"The challenges in those hills are many, especially illusions caused due to hill shadows and faulty depth perception that are overcome with experience," said Bahadur, a veteran helicopter pilot who has carried out night flying in the area.

While disengagement is underway along the tense and heavily militarised border, the Indian armed forces are keeping their guard up and advancing with maximum caution with the IAF's forward air bases continuing to be on their highest state of alert to deal with any Chinese provocation, a second official said.

The Chinese People's Liberation Army (PLA) has withdrawn up to 1.5 km from friction areas in Galwan Valley, Hot Springs and Gogra along the LAC, and the Indian Army has pulled back proportionately, acting on an understanding reached last week by top Indian and Chinese military commanders on a phased de-escalation of the ongoing border conflict, as reported by Hindustan Times on Tuesday. Some thinning of PLA soldiers has also been noticed at the sensitive Finger Area near Pangong Tso.

The IAF has played a key role in the Ladakh sector since border tensions began in early May. Its C-17 Globemaster III transport aircraft have been used to move soldiers, tanks and infantry combat vehicles to the sector, while C-130J Super Hercules aircraft have undertaken sorties to the



Indian Air Force (IAF) Apache attack helicopter at a forward airbase near India-China border carried out night operations (ANI Photo)

advanced landing ground in the strategic Daulat Beg Oldie sector to support the military's forward deployments, the officials said.

The IAF's new inductions --- the Apache attack and Chinook multi-mission helicopters --- have significantly enhanced the IAF's capabilities, the officials said. Armed with fire-and-forget Hellfire missiles, an Apache can track up to 128 targets a minute and prioritise threats. The missiles equip the gunships with anti-armour capabilities. The Chinook's main roles include transporting troops, artillery and battlefield resupply.

The defence ministry last week approved the purchase of weapons and ammunition worth Rs 38,900 crore, including 33 new fighter jets for the IAF that is grappling with a shortage of warplanes.

<https://www.hindustantimes.com/india-news/iaf-projects-day-night-all-weather-combat-capability-in-ladakh/story-31G9srT7pcmyg5KYIDzyDO.html>



Wed, 08 July 2020

ITBP not expected to be assigned internal security duties as 60 companies move towards LAC

The Indo-Tibetan Border Police (ITBP) is not expected to be assigned any task related to internal security in the near future as more than 60 companies of the paramilitary force are being deployed all along the LAC in the backdrop of the recent standoff with China in Ladakh, officials said on Tuesday.

Sources in the security establishment said the force is also set to get sanctions from the Union Home ministry to raise at least nine fresh battalions soon. They said in order to bolster troop numbers along the 3,488 kms long Line of Actual Control (LAC) with China, as many as 60 companies have been ordered to move towards the front in various areas like Ladakh, Uttarakhand, Sikkim and Arunachal Pradesh.

An ITBP company has an operational strength of about 100 personnel. Out of the 60, about 40 companies have already reached border battalion camps in various states and the troops are undergoing acclimatisation and COVID-19 quarantine before they are sent to forward bases, they said.

These units have been withdrawn from various internal security duties that they were rendering across the country, officials added.

The ITBP is not expected to be drafted in any internal security duty in the near future like law and order duties to aid state police, deployment during various festivals and also for conduct of Bihar Assembly polls scheduled later this year as their maximum presence is required in the frontier areas of the LAC, they said.

The government is also mulling to sanction it more battalions so that they can be raised and operationalised in the next two years, the officials said.

With the recent sanction of two new commands to the ITBP at Chandigarh (western command) and Guwahati (eastern command) the force needs more manpower.

A plan for grant of about 8-9 fresh battalions (with an operational strength of 1,000 people) to the force is under consideration of the Union Home ministry and a decision is expected soon, they said. At present, the ITBP has about 34 border battalions at 180 posts along the Chinese LAC.

The Indian and Chinese armies are locked in a bitter standoff in multiple locations in eastern Ladakh. The tension escalated manifold after killing of 20 Indian soldiers in Ladakh's Galwan Valley. The Chinese side also suffered casualties but it is yet to give out the details.

The mountain-warfare trained force has 60 operational battalions in total with 56 being regular units and four for logistics like transport and weapons.

Out of the 60 battalions, eight units are deployed for anti-Naxal operations in Rajnandgaon, Kondagaon and Narayanpur districts of Chhattisgarh.

Some of its units are also tasked for VIP security duties, protecting about a dozen high-risk persons like veteran BJP leader Murlu Manohar Joshi and former Jammu and Kashmir Chief Minister Omar Abdullah among others while a contingent drawn from its Delhi-NCR units guards the Rashtrapati Bhavan.

The force was raised in the aftermath of the 1962 Chinese aggression and its posts are located between 9,000 feet-18,700 feet in the western, middle and eastern sectors of this front.

<https://idrw.org/itbp-not-expected-to-be-assigned-internal-security-duties-as-60-companies-move-towards-lac/>

INDIA
TODAY

Wed, 08 July 2020

Indian Army to resume patrolling up to PP14 in Galwan after complete disengagement

Patrolling by the Indian Army up to patrolling point 14 in Galwan will commence after all phases of disengagement are completed. A joint verification of re-location camps will be done to see that "landform is restored", the sources said.

With India and China pulling back its troops in Galwan, the Indian Army will resume patrolling up to Galwan's Patrol Point 14, the site of the bloody clash, once all disengagement phases are completed.

Sources have told India Today TV that patrolling up to PP14 in Galwan will restart after verification on the Line of Actual Control (LAC).

Joint verification of re-location camps will be done to see that "landform is restored" and to "build trust", the sources added.

Till now, India was patrolling up to patrolling point 14.

The present restriction, however, was imposed after India and China agreed to avoid friction and violent incidents. To avoid any escalation, both sides agreed to create a minimum buffer zone of 3 km in the area around Galwan river.

In first signs of disengagement, the Chinese troops on Monday removed tents and pulled back by around a kilometre from the area around PP14 in the Galwan Valley.

Sources said the disengagement is taking place as per a decision arrived at during the military talks on June 30 that both sides will create a minimum buffer zone of 3 km in the area around Galwan river, and Indian troops also moved accordingly.

Government sources said India is strictly monitoring whether China was withdrawing its troops from the friction points.

The Indian and Chinese armies have been locked in a bitter standoff in multiple locations in eastern Ladakh for the last eight weeks. The tension escalated manifold after the killing of 20 Indian soldiers in Galwan Valley. The Chinese side also suffered casualties but it is yet to give out the details.

Both sides have held several rounds of diplomatic and military talks in the last few weeks to ease tension in the region.

On June 30, the Indian and Chinese armies held the third round of Lt General-level talks during which both sides agreed on an "expeditious, phased and step wise" de-escalation as a "priority" to end the standoff.

<https://www.indiatoday.in/india/story/indian-army-resume-patrolling-galwan-joint-verification-lac-1697999-2020-07-07>

नवभारत टाइम्स

Wed, 08 July 2020

सेना को पता है चीन की फितरत...गलवान में पीछे हटने के बावजूद उत्तराखंड बॉर्डर पर IAF चौकस

उत्तराखंड (Uttarakhand China Boder) में चीन और नेपाल सीमा (India China Nepal Border)

पर भारतीय वायुसेना (IAF) के हेलिकॉप्टर ने तीन बार उड़ान भरी। उधर चिन्यालीसौड़

में निर्माणाधीन हवाई पट्टी का काम अंतिम चरण में चल रहा है।

महेश पांडे

हाइलाइट्स

- उत्तराखंड में चीन-नेपाल सीमा पर भारतीय वायुसेना पूरी तरह मुस्तैद
- उत्तरकाशी में हवाई पट्टी से चीन सीमा तक 3 बार हेलिकॉप्टर ने भरी उड़ान
- पिछले शनिवार को भी पिथौरागढ़ से सटी चीन-नेपाल सीमा पर भरी उड़ान
- 10 जून को वायुसेना के मालवाहक जहाज एएन-32 ने की थी लैंडिंग

देहरादून/पिथौरागढ़: लद्दाख की गलवान घाटी में भारत-चीन के बीच दो महीने से जारी तनातनी शांत होने की उम्मीद है। चीनी सेना के 15 जून को एलएसी पर झड़प वाली जगह से पीछे हटने की खबर है। चीनी सैनिक पेट्रोल पॉइंट 14 से 1.5-2 किलोमीटर पीछे हट गए हैं। हालांकि चीन की फितरत को भारतीय सेना बखूबी समझती है। इसलिए अभी कोई जोखिम नहीं लिया जा सकता। इसकी बानगी उत्तराखंड बॉर्डर पर दिखी। यहां चौकस भारतीय वायुसेना ने चीन और नेपाल सीमा के पास चॉपर से तीन बार उड़ान भरकर जायजा लिया।

उत्तराखंड से सटी चीन सीमा पर भी वायुसेना की सक्रियता बढ़ने लगी है। उत्तरकाशी के पास चिन्यालीसौड़ हवाई पट्टी का वायुसेना परीक्षण कर रही है। सोमवार को वायुसेना के हेलिकॉप्टर ने सीमा तक उड़ान भरी और हवाई पट्टी पर तीन बार टेक ऑफ और लैंडिंग की। पिछले महीने दस जून को भी वायुसेना के मालवाहक विमान एएन-32 ने यहां लैंडिंग और टेकऑफ किया था।



देखिए, उत्तराखंड के धारचूला में सीमा के पास उतरा नेपाल का हेलिकॉप्टर

चिन्यालीसौड़ में निर्माणाधीन हवाई पट्टी का काम अंतिम चरण में है। यह उत्तरकाशी जिला मुख्यालय से 30 किलोमीटर दूरी पर स्थित है। यहां से चीन सीमा की हवाई दूरी लगभग 125 किलोमीटर है। यहां पर वायुसेना ने ऑपरेशन गगनशक्ति के तहत भी अभ्यास किया था। पिछले शनिवार को भी भारतीय वायुसेना के फाइटर जेट ने एक

महीने के अंदर दूसरी बार उत्तराखंड के पिथौरागढ़ से सटी चीन और नेपाल सीमा पर उड़ान भरकर दोनों सीमाओं का जायजा लिया था।

भारत-चीन-नेपाल सीमा पर फाइटर जेट से जायजा

सुरक्षा बलों को मदद पहुंचाने के लिए भारतीय वायुसेना ने एक महीने में दूसरी बार फाइटर जेट से सीमा का जायजा लिया। शनिवार को लगभग दस मिनट तक यह फाइटर जेट भारत चीन-नेपाल सीमा के आसमान में नजर आया। भारतीय सुरक्षा बलों की चौकसी के बाद से चीन सीमा पर चीन के सुरक्षा बलों की कोई हरकत नजर नहीं आई है। शुक्रवार को चार लड़ाकू विमानों ने देहरादून में जौलीग्रांट एयरपोर्ट से आवाजाही की थी। लड़ाकू विमानों की तेज आवाजों से लोग घरों से निकलकर छतों पर देखने के लिए आ गए। बता दें कि भारतीय वायुसेना के विमानों ने करीब तीन साल पहले भी कई बार उड़ान भरी थी।

एक महीने पहले चीन सीमा में लिपुलेख पर बने भारतीय टिनशेड हटाने पर विवादित झंडे और बैनर फहराए गए थे। नेपाल ने काला पानी, लिंपियाधुरा और लिपुलेख को अपने नए नक्शे में दिखाकर विवाद पैदा किया था। तब से नेपाल सेना भारतीय सीमा के पास बॉर्डर आउट पोस्ट (बीओपी) बनाने में लगी है। नेपाल, भारतीय सीमा पर अपना सुरक्षा तंत्र मजबूत करने में जुटा है।

चीन की मदद से नेपाल का 4-जी प्लान

चीन की संचार कंपनियों की मदद से नेपाल भारतीय सीमा पर फोर जी सेवा की सुविधा शुरू करने जा रहा है। नेपाल, चीन और भारत के ट्राई जंक्शन पर नेपाल की तरफ चीनी कंपनियां फोर जी सर्विस शुरू करने जा रही हैं। ब्यास के पास नेपाल टेलीकॉम के टावर को फोर जी सेवा से जोड़ने जा रहा है। इससे छंगरू के लोगों को जल्द हाईस्पीड सेवा मिलेगी। साथ ही चीन सीमा के पास तिकर में भी स्काई कंपनी के टावर को लगाने की योजना नेपाल बना रहा है। चीन की Huawei कंपनी नेपाली सीमा पर संचार नेटवर्क को और अधिक स्मार्ट बनाएगी।

चीन सीमा पर गुंजी गांव का थाना हुआ सक्रिय

पिथौरागढ़ जिले में लिपुलेख के भारत, नेपाल और चीन सीमा के ट्राई जंक्शन के नजदीकी गांव गुंजी में पुलिस के अधीन एक ग्रीष्मकालीन थाने को सक्रिय कर दिया गया है। व्यापार और मानसरोवर यात्रा को देखते हुए थाने को 4 महीने के लिए पहले भी चालू रखा जाता था। इस बार न तो भारत-चीन व्यापार चल रहा है, न ही कैलाश मानसरोवर यात्रा लेकिन सीमा पर जारी विवाद को देखते हुए बॉर्डर इलाके में पुलिस को भी एक्टिव मोड में रखा गया है।

पिथौरागढ़ की एसपी प्रीति प्रियदर्शनी ने चीन बॉर्डर लिपुलेख तक का दौरा कर हालात का जायजा लिया। उन्होंने थाने का भी निरीक्षण किया। इस दौरान एसपी प्रीति प्रियदर्शनी ने गुंजी थाने में पुलिसकर्मियों की ब्रीफिंग की। साथ ही उच्च हिमालयी क्षेत्र में पुलिसकर्मियों को होने वाली समस्याओं पर भी चर्चा की। एसपी ने आपदा संबंधी उपकरणों को सुव्यवस्थित रखने की हिदायत देते हुए संचार व्यवस्था को दुरुस्त रखने के लिए जरूरी दिशा-निर्देश भी दिए।

पिथौरागढ़-चंपावत के दुर्गम इलाकों में मोबाइल टावर

पिथौरागढ़ और चंपावत के दुर्गम इलाकों में नेटवर्क की समस्या को देखते हुए 16 मोबाइल टावर लगाए जाएंगे। ये टावर सरकारी कंपनी बीएसएनएल नहीं बल्कि निजी कंपनी जिओ लगाएगी। ये काम भारत सरकार के उपक्रम सार्वभौम सेवा दायित्व कोष (USOF) ने जिओ को दे दिया है। यूएसओएफ ग्रामीण क्षेत्रों में बेहतर संचार सेवा उपलब्ध कराने के लिए फंड मुहैया कराता है। यूएसओएफ ने इस कार्य के लिए जो टेंडर जारी किया उसमें 4 जी स्पेक्ट्रम अनिवार्य कर दिया। चूंकि अब तक बीएसएनएल के पास 4 जी स्पेक्ट्रम नहीं है, इस बहाने उसे टेंडर से बाहर करना आसान हो गया। जबकि अब तक ये काम बीएसएनएल को ही मिलता था। लेकिन इस बार पूरे देशभर के दुर्गम क्षेत्रों 300 से ज्यादा टावर लगाने का काम जिओ को मिला है।

<https://navbharattimes.indiatimes.com/state/uttarakhand/dehradun/uttarakhand-indian-air-force-active-around-china-border-chopper-fly-three-times/articleshow/76826700.cms>

India accelerates weapons purchases in wake of border clash with China

India has accelerated the domestic and foreign purchase of weapons in the wake of a border clash between Indian and Chinese troops.

Sino-Indo relations are suffering after a skirmish with Chinese troops on June 15 in Galwan Valley. India said 20 of its soldiers were killed, as were Chinese soldiers. Chinese officials have not confirmed any casualties.

The Defence Acquisition Council on Friday approved a collection of arms procurement projects worth \$5.55 billion, including domestic efforts worth \$4.44 billion. DAC is an apex-level body that falls under the purview of the Ministry of Defence.



“In the current situation and the need to strengthen the armed forces for the defence of our borders, and in line with our Prime Minister’s clarion call for ‘Atma Nirbhar Bharat’ [self-sufficient India], the DAC, in its meeting of July 2 held under the chairmanship of Defence Minister Rajnath Singh, accorded approval for capital acquisitions of various platforms and equipment required by the Indian armed forces. Proposals for an approximate cost of \$5.55 billion were approved,” the MoD said in a statement.

Under the approval, India will upgrade 59 of its MiG-29 aircraft and buy 21 more from Russia for about \$1 billion. In addition, India will order 12 Russian-made Su-30MKI fighters from the local state-owned company Hindustan Aeronautics Limited for \$1.53 billion.

The government has also approved several indigenous development programs, including ammunition for Pinaka multi-barrel rocket launchers; an armaments upgrade of BMP-2 infantry combat vehicles; software-defined radios; Nirbhay land-attack cruise missiles; and Astra beyond-visual-range missiles.

The government also approved the emergency purchase of Excalibur artillery rounds for M777 ultralight howitzers from the United States, Igla-S air defense systems from Russia and Spike anti-tank guided missiles from Israel.

It’s also granted special financial powers that comes with a ceiling of \$71.42 million to rapidly buy weapons. But these fast-track purchasing programs will still involve a multi-vendor competition. Twenty-five of these procurement programs are for the Army and the Air Force; 10 are for the Navy. The Army is likely to buy ammunition for its T-90 tanks, BMP-2 vehicles, air defense guns, artillery guns and small arms, as well as rockets, missiles and mortars. The Air Force is likely to buy air-to-air missiles, air to-ground missiles, smart bombs, chaffs, flares and precision-guided munitions.

As part of the procurement effort, Indian Defence Minister Rajnath Singh and Defence Secretary Ajay Kumar visited Moscow from June 22-25 and met with Russian Defence Minister Sergei Shoigu, Deputy Prime Minister Yury Borisov and chief of Rosoboronexport Alexander Mikheev.

An MoD official said India requested the immediate supply of spare parts for Su-30MKI fighters, Kilo-class submarines and T-90 tanks, as well as the emergency purchase of missiles and specialized ammunition for Russian-origin fighter jets, tanks, warships and submarines.

Another MoD official said the Indian government plans to sign defense contracts with Russia worth \$800 million to buy weapons and spare parts.

DAC-approved projects are expected to be awarded within a year, with technology induction starting after about three years. For fast-track and emergency purchases, induction is to begin within a month and be completed within a year.

<https://www.defencenews.in/article/India-accelerates-weapons-purchases-in-wake-of-border-clash-with-China-861494>



Wed, 08 July 2020

Srinagar Air Base turns into logistics hub amid tension in Ladakh

IAF has responded with speed, resolve and precision to deploy soldiers, equipment, supplies, machinery and weapons at key points along the LAC (Line of Actual Control)

By Nazir Masoodi

Srinagar: Over the past two months an Air Force base in Jammu and Kashmir's Srinagar has been the nerve centre of a massive logistical exercise by the military, as India responds to the threat posed by the build-up of Chinese forces in eastern Ladakh.

The IAF has responded with speed and resolve to deploy soldiers, equipment, supplies, machinery and weapons at key points along the LAC (Line of Actual Control), the de factor border between the two countries. The deployments also come in the wake of China's attack in the Galwan region on June 15, in which 20 Indian soldiers were killed, and the resulting escalation of tension.

"This air base has always held an important place in the scheme of things for the Air Force. From here we look at the quick induction of army and paramilitary forces; this place is ideally suited for these operations and we've been doing this for many months and years," Group Captain Nishant Singh told NDTV.

Asked if this was the biggest exercise of its kind, the Group Captain said, "Yes, you can call it that".

"You can call it that way because the volume of men and material that has been moved in the past few weeks and months is phenomenal," he added.

This has been aided by the induction of large transport aircraft that can mobilise greater numbers of troops and supplies.

"Our day-to-day jobs is our training and we ensure that all inductions happen as planned, and as quickly and efficiently as possible, regardless of weather conditions," the Group Captain said.

All of this is to counter efforts by the Chinese to intrude into Indian territory. Last month, satellite images accessed by NDTV showed they had crossed over by 423 metres in the Galwan Valley.

A mutual disengagement process is ongoing - both sides have pulled back by two kilometres in the Galwan region and the Chinese have dismantled camps at PP 14.

The Air Force, however, remains vigilant, with Apache attack helicopters conducting night-time sorties from forward bases in Ladakh. India has more than 20 such choppers, which are considered the most formidable attack helicopter in the world.

The Srinagar airbase also played a key role during the Balakote airstrikes last year - when the Air Force carried out precision strikes on terrorist camps across the Pakistan border.

<https://www.ndtv.com/india-news/srinagar-air-base-turns-into-logistics-hub-amid-tension-in-ladakh-2258686>

Indian Army's Sarath BMP 2 in Ladakh ready to foil Chinese misadventure on LAC

The Indian Army has deployed infantry combat vehicles in the Galvan Valley as Chinese troops had deployed their armored vehicles to strengthen their position amid border dispute with India along the Line Of Actual Control (LAC). The deployment of armored vehicles or BMP 2 is to counter threat to the Darbuk–Shyok-Daulat Beg Oldi (DSDBO) road, which is very important for the Indian Army.

The BMP 2 vehicles are not only capable of launching attacks on the enemy with missiles, mortars, rockets, and machine guns, but soldiers sitting inside can also move forward safely amid fire in the field.

The deployment of BMP 2 on the confluence of the Galvan Valley and the Shyok river has created an impregnable wall of defence to deter any possible misadventure of the Chinese Army. The BMP 2 armoured vehicles are also stationed along the DSDBO road and on the mouth of the Galvan Valley, besides on the road going towards the DBO.

The Chinese Army has increased the number of armoured vehicles because of the plain area on the other side of the LAC. It is easy for the Chinese army to bring tanks and other vehicles at a high speed.

A few years ago, the Indian Army started deploying tanks and armoured vehicles in Ladakh. China had already made a network of roads and railways in its occupied Tibet area, but the infrastructure development on the Indian side continued at a slow pace.

Assessing the situation of a possible attack from China, the Indian Army started bringing tanks and armored vehicles to the Ladakh plains. Currently, a large number of tanks and armored vehicles in the Ladakh region have been deployed by the Indian Army to give a befitting reply to the Chinese troops.

Mechanised infantry Sarath BMP 2

The BMP 2 vehicles have been renamed as 'Sarath' and are the mainstay of the mechanised infantry. The key features of these armoured vehicles are:

- It is the best infantry combat vehicles in the world with modern weapon systems.
- It is ideal for fighting battles with speed, surprise, and deadly precision.
- Powered by 300 HP engine, the vehicle is highly mobile to meet all tactical requirements of mobility in a battlefield, traveling at an incredible 65 KMPH with easy steering ability in cross country terrain.
- Sarath BMP 2 is a truly amphibian vehicle which can travel at 7 KMPH on water and can overcome slopes up to 35 degrees and can cross obstacles of 0.7 M.
- It can be easily be transported by air due to its low weight.
- It is protected with armoured plates all around ensuring a high degree of protection to the combatants, besides offering a chameleon-like camouflage with the help of smoke grenades creating a smokescreen.
- Equipped with a rapid-fire 7.62 MM medium coaxial machine gun, a 30 MM cannon, and a second-generation homing type anti-tank guided missile, the Sarath BMP 2 can neutralise all kinds of land-based and low flying military objects.
- The Sarath BMP 2 is also provided with sharp night vision devices and a low silhouette.



Notably, the details on the Sarath BMP 2 is based on the information provided through Ordnance Factory Medak.

<https://www.defencenews.in/article/Indian-Armys-Sarath-BMP-2-in-Ladakh-ready-to-foil-Chinese-misadventure-on-LAC-861484>



Wed, 08 July 2020

India China faceoff – Anything can happen in next 29 Days

By Joydeep Ghosh

Today is 7th July 2020 and we are just 29 days away from 1st anniversary of Article 370 revocation and creation of Union Territory of Jammu Kashmir and Union Territory of Ladakh, on 5th August 2020. The current standoff that has been going on since May 2020 reached a tipping point last month when Indian and Chinese troops clashed in Galwan Valley or Patrolling Point 14. What happened next is known to all that India lost 20 brave soldiers but managed to kill more than 40 Chinese soldiers.

Due to obvious reasons it was important for both India and China to initiate de-escalation to stop any more bloodshed and disengagement to stop eye to eye confrontation through mirror deployment. After several rounds of failed military level talks a video call between Indian NSA Ajit Doval and Chinese Foreign Minister reports say Chinese troop have retreated 1.5 kms from their current position in Galwan valley that meant India too stepped back 1.5 kms from their own position they are holding now as part of CBM or Confidence Building Measure.

Though some reports say India has agreed to not patrol any part of Galwan Valley next 2 months also. China has similarly stepped back from Hot Springs area, but has refused to step back from Finger 4/ Spur4 on Pangon Tso Lake and a large swath of land in Depsang Valley. While further talks are needed to resolve the 2 disputes China can't be trusted to keep its part of promise/comment.

It was a big intelligence failure by NTRO, NSA, RAW and other external intelligence support agencies that they couldn't detect this massive Chinese movement across the border beforehand. Though after the Chinese encroached land resulting clash, a visit by PM Narendra Modi few days back where he said in uncertain terms no aggression will be tolerated at Leh was needed, He however had made a big mistake by saying on TV that 'nobody entered any part of territory of India' earlier. It was a mistake that could have cost India dearly which is why the statement was later removed from official records and communications even youtube.



What needs to be done is to keep permanent eye on China to check its movement, even as it stepped back in 2 areas, because China can't be trusted. Reason being simple, in 1962 also China had stepped back from this Galwan Valley after warning was issued, by Pandit Jawaharlal Nehru. But China returned to Galwan Valley 97 days later, inflicting heavy casualties on Indian troops resulting in death of several Indian soldiers. This resulted in the month long India China 1962 war where unfortunately India lost over 38000 sq.kms of territory in Aksai Chin area. What had happened on that fateful day can be read here in below link:-

it is for this reason India needs to be worried about China, until and unless pre-April 2020 status quo ante is achieved. As the 1st anniversary of revocation of Article 370 and creation of Ladakh union territory approaches on 5th August 2020. India needs to very carefully watch every Chinese moves. India can't lower its guard and has to continuously boost its defence on LAC, not repeating mistakes of 1962.

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<https://idrw.org/india-china-faceoff-anything-can-happen-in-next-29-days/#more-230558>



Wed, 08 July 2020

Indian Army Paratroopers, the elite soldiers guarding our country

Since Paratroopers are the elite soldiers guarding the nation, their training, and other facts always create curiosity about these ferocious fighters

Edited By Arun Kumar Chaubey

New Delhi: Amid ongoing India-China border row in the east Ladakh along the Line of Actual Control, paratroopers of Indian Army are also playing a crucial role in defence of the country. Since Paratroopers are the elite soldiers guarding the nation, their training and other facts always create curiosity about these ferocious fighters.

Key facts about the Indian Army Paratroopers are given below:

- Motto: Shatrujeet (The Conqueror)
- Paratroopers special forces unit "Para Commandos" was formed in 1965.
- Para Commandos specialize in surgical strikes and combat mission in the enemy territory.
- Parachute Regiment consists of PARA and PARA (SF) Battalions, which are the elite volunteer force of the Indian Army.
- The Regiment has the honour of being conferred the 'Bravest of the Brave' distinction.

The Regiment has already been awarded 8 Ashok Chakras, 11 Maha Vir Chakras, 21 Kirti Chakras, 106 Shaurya Chakras, 63 Vir Chakras and 491 Sena Medals and the list continues to grow.

Elite Status: The Paratroopers by virtue of the tough selection, rigorous training and continuous deployment/ preparation are given the elite status throughout the Indian Army. Wearing the maroon beret distinguishes them from the rest and is a recognition of the ELITE across all armies of the world.

Soldiers of PARA and PARA (SF) Regiments are assigned with the tasks, which are of special nature and demand very high standards of physical fitness and mental robustness.

Today the Indian Parachute Regiment and Special Forces are considered amongst the best in the world including the British SAS, US Special Forces, Navy SEALs and Israeli Sayeret Matkal and Flotilla 13.

Few outlaws, few good men started a tradition of valour and sacrifice. The saga continues till date with Parachute Regiment being the most decorated regiment in the world despite it being only raised in WWII and despite it competing amongst the best of the best who have been there for centuries.

These Paratroopers wear the Maroon Beret and pin to their chest 'The Balidaan Badge' — the winged blade of sacrifice, a badge to die for.

Earning this badge is not an easy task as one has to go through exercises which require them to demolish structures, evade capture, survive in the wild, give emergency medical aid and converse in a range of languages.

The official website (<http://www.joinindianarmy.nic.in/>) for recruitment of Paratroopers clearly states about their job profile as: "During operations, soldiers of PARA and PARA (SF) Regiments are assigned with the tasks, which are of special nature and demand very high standards of physical fitness and mental robustness. Upon joining the service and for carrying out the special tasks, they are required to undergo Specialization Training at the respective battalions after clearing their probation and based on their aptitude, they may undergo specialization training."

<https://zeenews.india.com/india/indian-army-paratroopers-the-elite-soldiers-guarding-our-country-2294174.html>

TIMESNOWNEWS.COM

Wed, 08 July 2020

SC gives one more month to Defence Ministry to grant permanent commission to women officers in Indian Army

Centre gets one more month to give permanent commission to women officers in Army. Defence Ministry sought six months time in view of pandemic, said decision making at final stage

By Abhimanyu Sharma

Key Highlights

- *Centre gets one more month to give permanent commission to women officers in Army.*
- *Defence Ministry sought six months time in view of pandemic, said decision making at final stage.*
- *In February this year, SC upheld permanent commission for women officers in Indian Army.*

New Delhi: The Supreme Court has granted one more month to the Union Defence Ministry to comply with its February order and grant permanent commission to women officers in the Indian Army. Ministry of Defence had moved the top court seeking six more months to implement court's February verdict in view of the COVID-19 pandemic. Centre said that decision making was at a final stage and only formal orders were awaited.

On February 17 this year, the apex court had upheld Delhi High Court's 2010 order which allowed permanent commission for women officers in Indian Army, and had asked Centre to comply with the order by May 2020. Centre has agreed to implement court's verdict in letter and spirit.

While delivering its verdict in February, the top court had questioned non-implementation of the high court order by the Centre since it wasn't stayed at any point of time. Centre's earlier submissions on stereotyping of women as physiologically weak were brushed aside by the court, holding that such notions had caused irreparable loss to women officers in terms of service and seniority.

Court's ruling stressed upon need to change attitudes and mindsets after 70 years of independence, pointing towards laurels earned by women officers while working shoulder to shoulder with their male counterparts.

Observing that non-discrimination in employment was a fundamental right under law, court had held that engagement of women officers in army was an evolutionary process. The order criticised the "deeply disturbing" ideas that taking care of family is a woman's primary job, and ruled that it was an insult to both women and the institution of Army aspersions cast on women's ability and achievements.

<https://www.timesnownews.com/india/article/sc-gives-one-more-month-to-defence-ministry-to-grant-permanent-commission-to-women-officers-in-indian-army/617617>



Wed, 08 July 2020

Boeing ropes in HAL and Mahindra defense for F-15EX Push in India

By Raunak Kunde

Strike optimized and latest variant of the F-15E Strike Eagle multirole fighter, F-15EX from Boeing has been offered to India which was confirmed earlier this year and now media reports confirm that state-owned Hindustan Aeronautics Limited (HAL) and Mahindra Defence have also been roped in as Partners if F-15EX is selected by Indian Air Force (IAF) for its requirement of 114 fighter jets in latest Tender.

Hindustan Aeronautics Limited (HAL) and Mahindra Defence are also partners in F-18 E/F Block-III fighter jet which is also on offer to IAF by Boeing. F-15EX is from Heavyweight



class Fighter like Sukhoi Su-30MKI but it was offered to India in response to Russia being allowed to offer India for the first time Sukhoi Su-35 which too belongs to the same class as F-15EX.

Industrial watchers have said that IAF is not keen on F-18 E/F Block-III fighter jet since it is a Carrier-based jet which is largely operational with the United States Navy and also in previous MMRCA Tender it had lost to Eurofighter Typhoon and Dassault Rafale in Technical rounds due to which F-15EX a variant of the F-15 Strike Eagle which is a two-seat fighter that can be flown by one or two aviators and was built for Strike missions is on offer also now.

F-15EX, though, is a fourth-generation aircraft that lacks the stealth characteristics but has been upgraded with latest sensor fusion coming out of the F-35 and F-22 stealth fighter jets which can operate in contested enemy airspace. USAF has plans to induct 80 F-15EX and Qatar signed a contract to buy 36 F-15QA (An export variant of F-15EX).

Industrial watchers feel that F-15EX will be positioned as Strike optimized jet which can deliver long-range standoff munitions and can fill the void left behind by Mig-27 Strike aircraft after there were retired by IAF. F-15 was designed for air superiority in the pre-stealth era but F-15EX added stealth characteristics and optional opt for conformal weapons bay (CWB) which can four Air-to-Air missiles for High-risk missions in heavily contested airspace.

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THE TIMES OF INDIA

Wed, 08 July 2020

Ladakh stand-off: How India also waged a diplomatic war against China

New Delhi: As India and China remained locked in a standoff in eastern Ladakh, the government fielded a number of calls and conversations from different countries offering support, and this helped the Modi government put forward its perspective on the confrontation in the high Himalayas.

Foreign minister S Jaishankar spoke to counterparts from the US, the UK, France, Germany, Indonesia, Australia, Canada and Japan among others, delivering what the government believes are reasonable results. After a conversation with French foreign minister Yves Le Drian, Jaishankar had tweeted: “Wide-ranging discussion with French FM J Y LeDrian. Covered issues of contemporary security and political importance.



Ladakh stand-off: How India also waged a diplomatic war against China

Also agreed to address Covid-related challenges in health and aviation. Thanked him for the strong support in UNSC and look forward to working together.” Jaishankar also used conversations with ministers from Lithuania, Estonia, Latvia, Mexico and Ireland on India’s UNSC term to brief them about China and its aggression in Ladakh and Sikkim.

Diplomatic sources said there was intense curiosity about the India-China clash, the causes, and how India planned to deal with it. In the light of Covid-19 and Chinese actions thereafter, there might have been a receptivity to what India had to say. Government sources said that they believed PM Narendra Modi’s visit to Ladakh amplified the Indian resolve on standing up to Chinese aggression.

That made it easier to push the government messaging to China and to the world. While this was happening, India and China were also engaged in serious discussions at military and diplomatic levels to disengage at the LAC in Ladakh. “We have very quietly but effectively got the international community to understand our perspective. As a result, we have garnered both sympathy and support,” a government source said, referring to the diplomatic effort of the past few weeks to explain India’s position to the rest of the world.

India’s job was made easier by the general sense of aggression shown by China with all its neighbours, both on land and on the seas.

<https://timesofindia.indiatimes.com/india/how-india-also-waged-diplomatic-war/articleshow/76824075.cms>

India reviewing around 50 investment proposals from Chinese firms: Sources

The Indian government is reviewing around 50 investment proposals involving Chinese companies under a new screening policy, three sources familiar with the matter told Reuters.

Under new rules announced by India in April, all investments by entities based in neighbouring countries need to be approved by the Indian government, whether for new or additional funding. China is the biggest of these investors and the rules drew criticism from Chinese investors and Beijing, which called the policy discriminatory.

The new investment rules were aimed at curbing opportunistic takeovers during the coronavirus outbreak. However, industry executives say a deterioration in bilateral relations since a clash along the countries' contested border last month, in which 20 Indian soldiers were killed, could further delay approvals.

"Various clearances are required. We are being a bit more cautious as one would imagine," said a senior Indian government official in New Delhi, when asked about the impact on investment applications since the border clash.

India's industries department under the commerce ministry, which drafted the new policy, did not respond to a request for comment.

The sources declined to name the companies whose investments are pending approvals, due to confidentiality concerns.

The official, and two other sources, said about 40-50 applications involving funding from a Chinese investor have been filed since the rule change and are currently under review.

One of the sources said that multiple Indian government agencies, including the Indian consulates in China, have been communicating with investors and their representatives to seek clarifications on the proposals.

Alok Sonker, a partner at Indian law firm Krishnamurthy & Co, said at least 10 Chinese clients had sought his advice in recent weeks for investing in India, but were waiting for more clarity on the policy outlook in India.

"Uncertainty in timelines for the investment approval is dissuading parties, both Indian and Chinese, from proceeding with business as usual," Sonker said.

Last week India banned 59, mostly Chinese, mobile apps including Bytedance's TikTok and Tencent's WeChat, in its strongest move yet targeting China in the online space since the border crisis erupted last month. The move has potentially dented big Chinese businesses' expansion plans for the South Asian market.

Chinese companies' existing and planned investments in India stand at more than \$26 billion, research group Brookings said in March.

<https://www.defencenews.in/article/India-reviewing-around-50-investment-proposals-from-Chinese-firms-Sources-861490>

Dealing with the China threat: Why New Delhi must urgently craft a long term strategy to win good friends

By Anita Singh

Secretary of state Mike Pompeo's announcement, on June 25, that the US will move some troops from Europe to Asia to counter expansionist China's threat to India and Southeast Asian countries, raised questions about India's long-term 'friends' and 'interests' as it took part in a virtual trilateral with Russia and China (RIC) on June 23. Russia's foreign minister Sergei Lavrov voiced the respect of all three countries for the UN Charter, but they seemed to be strange acquaintances. Given China's recent intrusion into Ladakh and its claims to Indian turf, Lavrov's statement that they were against the illegitimate use of force and foreign interference in the domestic affairs of countries sounded odd.

Yet Moscow, like Washington, favours a peaceful bilateral solution to the Sino-Indian dispute. And both India and China have rejected US mediation to end their conflict. Simultaneously, Russia and China challenge the US and its anti-China concept of 'Indo-Pacific'. Believing that its prestige is enhanced by that concept, India favours it and has also joined the Quadrilateral Security Dialogue, which includes the US and two of its allies, Australia and Japan.



Does this tangled web of key relationships imply that India is maximising its diplomatic options? Perhaps not. The recent Sino-Indian border clashes make it look like a juggler who has dropped his Chinese ball and never knows whether he can catch the Russian one.

Meanwhile, does the juggler pay enough attention to his American ball? India has bought \$18 billion worth of US arms over the last 20 years. But 56% of India's arms come from Russia, which is America's 'other' foe, after China. So there will be limits to stronger strategic ties with the US. America will simply not transfer sensitive military technology to India. On his official trip to India last February, President Donald Trump advised that the US should be India's premier defence partner.

Trump hailed the \$2.6 billion helicopter deal between the two countries. But that is less than half the amount India will pay Russia (\$5.6 billion) to buy the S-400 missile system. Moreover it bought \$14.5 billion worth of Russian arms in 2018-19 alone.

At another level, Russia, like all arms vendors, sells its wares to rivals. It has sold the S-400 missile to both China and India. But New Delhi should pay more attention to the global implications of the China-Russia "comprehensive strategic partnership". First, they are united against their common enemy – the US. Second, joint Sino-Russian naval drills in the Mediterranean and Baltic Seas (in 2015 and 2017 respectively) and in the Indian Ocean in 2019 have established China's claim to be a European and Indian Ocean power. Indo-Russian strategic ties are nowhere as close.

Third, compared to China, India offers Russia little trade. 13% of Russia's exports go to China, 1.7% to India. 22% of its imports come from China, 1.4% from India.

On the other side of the strategic fence, India's logistical agreements with the US and Australia give each country access to the other's military bases but they do not imply an alliance, which entails binding commitments. Understandably, the US invests much more in far stronger military and economic ties with its allies than with India. More American troops in Asia will not change that.

Economic and military prowess are intertwined, so it is unfortunate that India's trade and investment policies are sticking points in its ties with the democratic US and European Union. America continually complains about India's restrictive trade practices and has cut off its tariff-free access to the US market under the Generalised System of Preferences. Meanwhile a free trade agreement with the EU remains stalled because Brussels holds that India fails to provide a sound, transparent, non-discriminatory and predictable regulatory and business environment to European investors.

If India is looking for alternatives to economic dependence on China in key areas including telecom and pharmaceuticals, it could find some of them in Western democracies and Japan, South Korea and Taiwan. So New Delhi should not dismiss their complaints out of hand.

Indeed, it could be asked whether India's increased economic dependence on China under Prime Minister Narendra Modi has been caused, at least in part, by New Delhi's indifference to the investment problems faced by friendly countries, while 'opening an investment sesame' to China, whose aggressive intentions it has misjudged. 14% of India's imports come from China, 5.4% of its exports go to China. Germany buys 2.7% of India's exports and provides India with 2.6% of its imports. The only democracy with which India has more trade than with authoritarian China is the US, which buys 17% of India's exports and supplies it with 7.4% of its imports.

India needs to show how its strategic and economic needs and interests converge with those of friendly countries. As China and the US reshape Asia's geopolitics, India's friends are more likely to aid its rise if it crafts long term strategies and shows resolve in building a well-functioning economy through efficient governance. New Delhi should also show sound judgment in distinguishing between demanding friends and a territorial spoiler. That will certainly be to its advantage and shore up its world standing.

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

<https://timesofindia.indiatimes.com/blogs/toi-edit-page/dealing-with-the-china-threat-why-new-delhi-must-urgently-craft-a-long-term-strategy-to-win-good-friends/>

THE TIMES OF INDIA

Wed, 08 July 2020

Navy's 'White Tigers' squadron completes 60 yrs

Panaji: Indian Navy's premier fighter squadron based at INS Hansa, Goa completed 60 years in service to the nation on Tuesday.

The INAS 300, the longest serving combat unit of the navy, gave birth to the Indian Navy's carrier borne aviation on July 7, 1959 and fighter jets from the squadron participated in Operation Vijay in 1961, Indo-China war in 1962 and the Indo-Pak wars in 1965 and 1971.

The 'White Tigers', as the squadron is popularly known, has the rare distinction of operating all three fighter aircraft of the Indian Navy - Sea Hawk, Sea Harrier and MiG 29K - from all three aircraft carriers - INS Vikrant, INS Viraat and INS Vikramaditya.

"In its current avatar as the MiG-29K training squadron, INAS 300 has the responsibility to produce top-notch, war-ready, deck-borne fighter pilots who can be relied upon to defend the fleet or carry out a precision strike on enemy warships when needed," said a senior naval officer.

In 2016, the navy inducted the MiG-29K with a squadron based at INS Hansa and another squadron of MiG-29K fighters deployed aboard the INS Vikramaditya.

<https://timesofindia.indiatimes.com/city/goa/navys-white-tigers-squadron-completes-60-yrs/articleshow/76843494.cms>

A Guide to what's happened in East Ladakh, and the way ahead for India and China

*The withdrawal by the PLA to its original positions is India's
end objective. India will go by deeds, not Chinese words*

By Ashok K Mehta

This is déjà vu: another declaration of disengagement and de-escalation following the third meeting of opposing generals claiming limited pull-back of 1-2 km from Galwan, Hot Springs and Gogra.

Special representatives (SR) for border talks National Security Advisor Ajit Doval and councilor and foreign minister Wang Yi spoke on Sunday, reaffirming disengagement and de-escalation accompanied by a lot of diplomatese but without mentioning restoration of status quo ante May 5.

If India is also withdrawing same distance from these friction points, it is pulling back from its territory. The People's Liberation Army is withdrawing from incursions it made. India has already been prevented from patrolling by the PLA because of its intrusions. Clearly if reports are accurate, India has accepted buffer zones, it is truce after Narendra Modi's thundering in Ladakh.

It's the right time to take stock of where we are on the Line of Actual Control, where PLA intrusions are going in the context of Modi's pep-talk to troops in Ladakh, warning to China, SR talks that followed, and how this standoff might end. While Modi's Ladakh visit and his speech, akin to military commanders before launching troops into battle, were clearly part of strategic signalling and about Indian resolve, de-hyphenating punitive trade and diplomatic measures from border management, it was also a calibrated political response to the Galwan clash, with a persuasive appeal to China to change its expansionist behaviour.

Calling out China as the enemy without naming it has raised the stakes. The strategic guidelines about maintaining peace and tranquility along the LAC to military commanders given at Wuhan have evaporated, replaced with belligerence, though these were repeated last Sunday.

The euphoria accompanying the Ladakh visit is no substitute for asymmetry in hard power. China's response to Modi's *cri de coeur*, though at a low level, was immediate and sharp: while the Chinese embassy at New Delhi said it was "groundless to view China as expansionist", the foreign ministry spokesman in Beijing said, "New Delhi should avoid a strategic miscalculation with regard to China."

Here is a layperson's guide to developments in East Ladakh.

Situation on the LAC

1. In an act of ultimate defiance, PLA re-installed its post at the confluence of Shyok and Galwan rivers near PP14 after it was destroyed by Colonel Santhosh Babu and his men from 16 Bihar, culminating in the PLA ambush which led to medieval unarmed combat and casualties on both sides.

This shows that PLA declaration to disengage, to de-escalate from friction points by withdrawing nominally from intrusions points, is token movement. Although SRs have invested confidence in the military commanders' dialogue and working mechanism for consultation and coordination on border affairs processes, these will work for limited purpose of removing tension and not addressing the reasons for periodic aggression by the PLA.



An army convoy in Kullu, heading towards Ladakh,
Photo: PTI

2. The multiple intrusions stretching from Depsang to Chushul are a *fait accompli*, articulated with troops extending China's 1959 claim line further east in Ladakh.
 Previous intrusions were vacated with troops going back to their original positions after Indian show of strength and negotiations. This time there was unprecedented violence amounting to barbarity during the fracas while PLA ingressed in uncontested areas like the Galwan river valley.
 Further, PLA has blocked en masse, all Indian patrols from moving up to their claim line. Intrusions appear not to be for bargaining as initially thought but for permanently altering status quo and drawing a new claim line.
3. There is a pattern to PLA aggression from Sumdorong chu (1986-87) to Depsang (2013) to Chumar (2014) and Doklam (2017). The PLA has always been the first mover, with India the responder. But at Sumdorong chu and Doklam, it acted firmly and swiftly, negating PLA advantage and forcing status quo ante. This time reaction to build-up was delayed, with Galwan acting as trigger.
4. After being in denial for seven weeks about intrusions, India finally acted to block, not counter, intrusions. China has imposed costs. It has forced deployment of three infantry divisions – two from outside the theatre – to plug gaps along the LAC, turning it into a de facto LoC.
5. At each of the seven intrusion points, PLA has deployed a combined arms brigade with one infantry battalion up front and remainder brigade in rear, supported by tanks and artillery. Approximately 20,000 to 30,000 troops from South Xinjiang Military Region under Major General Liu Lin are holding fort and belong to the Western Theatre Command under General Zhao Zonqi, who was also the commander during the Doklam face-off. There is mirror Indian deployment at most intrusion points .
6. Behind the entire 3,488 km of LAC, India has occupied high altitude defences inside its territory on key terrain and the watershed. The PLA does not hold ground along or behind its LAC except remote posts from where troops from its border regiments like our ITBP patrol areas to exercise control. Their main garrisons are 500 to 1,000 miles behind from where they move forward for summer battle drills. They are not known to have prepared defences in depth areas like India except near Aksai Chin.
 The biggest challenge for India is logistics – maintaining 30,000 extra troops by air once passes close in winter at Zojila and along Manali. It will not be easy for the PLA either.
7. The Indian Army was reportedly given a free hand after the Galwan clash. It was pure political rhetoric. As of now, the orders are: there will be no shooting. “You shoot, you escalate,” says P.S. Raghavan, chairman of the National Security Advisory Board. Further, Indian troops have been told to limit their movements so as not to provoke the PLA and retaliate if attacked.
8. India lacks a low cost equaliser. India does not want war, even a limited one, like the riposte at Nathu la in 1967. Neither does China, having accomplished the political objective of intrusions. Local tactical action as Galwan has demonstrated it will have strategic implications. Revenge or retribution à la Balakot is just not sustainable. Time for tit-for-tat operations has passed its use-by date.
 However, looking beyond the LAC there are military options in the east Indian Ocean area, especially around choke point of Malacca Straits. The Indian Navy is prepared for coercive action against Chinese vessels. Despite SR talks some options are still on the table.
9. So essentially India is left with diplomatic and economic responses, some of which it has started using like reducing dependence on goods from China. Another Galwan-like incident will mark crossing the rubicon and trigger many sterner measures that will hurt China and more India.
 The crisis is a fillip to India's defence modernisation, stuck on low funding. In his Nimu speech, Modi was economical with truth on his government providing moneys for defence. It has been measly.

Domestic politics

1. After Modi's initial statement at the all-party meeting after the Galwan clash, virtually stating that nothing had happened, the government stayed in denial mode till a week later, when the Ministry of External Affairs spokesperson and the Indian ambassador in Beijing sequentially admonished China for attempting to unilaterally alter the status quo.

Modi has tried to maintain his muscular image even as the Congress party has been taking potshots at him about not naming China. The Modi speech at Nimu, Ladakh has laid to rest that controversy. His ministers are gung-ho saying a befitting reply has been given to China through the digital strike. The Congress will keep nagging Modi, finding holes in his strategic push back following policy lapses along the LAC that allowed PLA intrusions to take place.

Bihar elections being around the corner will keep the sparring going.

2. Calling for unity in this hour of challenge is futile because of the politicisation of national security. During the Kargil skirmish, the Congress was forever attacking the government for intelligence failures that led to Pakistani intrusions opposite the lifeline from the Srinagar valley to Siachen and Ladakh.

Chinese imperatives

1. China will want to stabilise and maintain intrusions intact without further escalations. By now it is eminently clear that the primary motivation for China's aggressive behavior is the stress of the pandemic issues, its mishandling and diverting peoples attention to its periphery and borders.

The Communist Party of China's principal concern is internal stability and its biggest security threat: a breakdown of law and order like Tiananmen Square. Between 1993 and 2008 there were 614,000 protests across China. That is why China spends more money on internal security than on external defence.

India's infrastructure and the threat it poses to the security of G219, the strategic highway from Xinjiang to Tibet through Aksai Chin, is a worry for PLA. Its ability to interdict India's strategic highway from Darbuk to Daulat Beg Oldie from Galwan heights, will be a game-changer and a new challenge for India.

2. The overall pattern of assertion has the Xi Jinping stamp. He recently said every inch of territory lost through unequal treaties has to be reclaimed and asked the PLA to be ready for war. Under Xi, China is showing the political will to redeem its claims even as they go back centuries.

Regional and international implications

1. Not a single country in the South Asian neighbourhood has openly come out in support of India, not even Bhutan. In 2014, on a visit to India, Xi had said that China is a neighbour of South Asia.
2. The China-Pakistan nexus is alive but is not a military threat as long as it is a 'no war, no peace' situation. Pakistan has deployed additional troops in Gilgit-Baltistan due to elections there next month. In fact, Pakistan is worried India may launch a limited war to make up for possible loss of face for Modi in Ladakh.

Pakistan has posted a military officer to China's Central Military Commission Joint Staff Department. China provides Pakistan intelligence, nuclear know-how, armaments and strategic support. It's the only ally it has. In 1962, the US kept Pakistan off India's back.

The prevailing global mood about Chinese aggression extending from the South China Sea to Hong Kong to Taiwan and to India is in New Delhi's favour though only the US, Japan and Australia have condemned Chinese unilateralism in Ladakh.

India's erstwhile best friend Russia is strictly neutral, selling weapons to both China and India. The US's support to India in the event of hostilities will be only in providing intelligence, logistics and transfer of weapon systems.

Way ahead

India has said it hopes China will implement whatever has been agreed to so far by the military commanders. The SRs have spoken. Both dialogues mention disengagement and de-escalation. That is not enough.

The withdrawal by the PLA to its original positions is India's end objective. India will go by deeds, not Chinese words. The PLA did not make concerted intrusions to simply walk back after ten weeks. India has shown exceptional strategic restraint but had little choice. It has also maintained its strategic autonomy.

The bottom line for India is restoring status quo ante May 5. It is unlikely to budge from its stand, backed as it is by strength. A stalemate that hurts China may persuade it to devise a face-saving exit. But it won't be easy for Xi.

The best way to work this out is a high-level back channel facilitated by Russia leading to a Xi-Modi summit but before a harsh winter.

(General Ashok K. Mehta was part of the monitoring team of Defence Planning Staff in MOD of the year long PLA intrusion at Sumdorong chu in 1987/88.)

<https://thewire.in/security/east-ladakh-galwan-china-india>



Wed, 08 July 2020

China's rising missile and Naval capabilities in the Indo-Pacific Region

Security Implications for India and Its Allies

By Thangavel K. Balasubramaniam and Ashok Kumar Murugesan

By overcoming the challenge of decoherence of entangled photons in the turbulent atmosphere over a long distance, China can construct “quantum radar” to locate stealth objects at great distances—potentially thousands of kilometers.



Quantum radar can unmask stealth fighter aircraft and stealth missiles at long ranges, essentially rendering stealth technology obsolete, including “cyber stealth” that causes virtual disappearance

of aircraft in radar by an onboard sophisticated software program that nullifies the image of aircraft in the opponent radar network systems.

China's Indo-Pacific Maritime Strategy in Sri Lanka

Sino-Sri Lankan defense relations were established during the presidency of Mahinda Rajapaksa. From Beijing's perspective, the Liberation Tigers of Tamil Eelam (LTTE) terrorist organization was a potential threat and hindrance to China's future investments in Sri Lanka.

When the civil war persisted in Sri Lanka, the United States declared the LTTE as a deadly terrorist organization, hoping to curb its terrorist attacks and strangle its global criminal network.

Additionally, the LTTE's sea control capability irked China. In April 2007, Sri Lanka signed an agreement with China to purchase the 37.6 million USD worth of weapons, including Jian fighter jets, anti-aircraft guns, and 3D surveillance radars.

In the final years of the island's civil war, China delivered weapons to warehouses in Galle, on the southern coast of Sri Lanka. These were immediately distributed to battlefields in the northeastern part of the island to support the Sri Lankan military.

China granted 1564 million Sri Lankan Rupees to construct an auditorium at the Sri Lanka Military Academy at Diyathalawa. In addition, Sri Lanka procured six MA-60 aircraft from China, worth of 105.4 million USD.

When the civil war persisted in Sri Lanka, the United States declared the LTTE as a deadly terrorist organization, hoping to curb its terrorist attacks and strangle its global criminal network.

The United States provided more military equipment to improve Sri Lanka's maritime security against the LTTE, including sophisticated maritime radar and training Sri Lankan soldiers counterterrorism tactics in Sri Lanka.

However, according to Beijing, it was China's aid that led to the annihilation of LTTE and secured China a position for preferred partnership in future investments.

China influenced Sri Lanka through infrastructure development projects, offering economic "support" in the form of loans, which instead of helping the island rebuild on a stable financial foundation, seduced Sri Lankan leaders into a "debt trap."

Then, when the Sri Lankan government was unable to make payments, China took over its assets to establish its MSR infrastructure project in Sri Lanka.

The construction of the Hambantota port commenced in 2008. By 2010, Beijing had invested 1.5 billion USD in the project. In December 2017, Sri Lanka, unable to make its payments on the port, handed over the Hambantota Port to China for 99 years.

Additionally, Sri Lanka allowed China to construct special economic zones. The strategic location of this port is only a few nautical miles from the main sea lane of the MSR in the Indian Ocean, which connects the Straits of Malacca to China.

Moreover, another Sino-Sri Lankan venture, the Colombo Port City Project (CPCP) would be a transit trade hub for China in the Indo-Pacific region, and once again poses a serious debt trap for the island.

Sri Lanka decided to move its Southern Naval command to Hambantota Port to protect its special economic zone in the southern province of Sri Lanka.

Though, currently, it is used as commercial port, in the future, the Hambantota port could act as a naval dockyard for China in the Indian Ocean.

This would give China an easy means to move its fleet in the Indian Ocean very near to India's sphere of influence in the southern part of India, posing a serious security threat to southeastern India.

Moreover, another Sino-Sri Lankan venture, the Colombo Port City Project (CPCP) would be a transit trade hub for China in the Indo-Pacific region, and once again poses a serious debt trap for the island.

China's Indo-Pacific Strategy in Pakistan

China is developing a China–Pakistan Economic Corridor (CPEC) as a BRI infrastructure development project. India has long objected to the CPEC, as a portion of the project's route passes through Pakistan-occupied Kashmir.

Additionally, China has built the largest deepwater seaport at Gwadar, Pakistan, as a part of the SLOCs for the MSR.

To contain China, India built Chahabar Port in Iran on the Gulf of Oman, as part of an India–Iran–Afghanistan partnership.

To secure the Gwadar port, China decided to build an overseas naval base in Jiwani, near Gwadar port, in Pakistan's Balochistan province. The strategic location of this naval base places it near both Chahabar and Gwadar.

India tested the nuclear-capable Agni-V ICBM, which has a strike range of 5,000 km and is capable of reaching the Chinese mainland. To deter India's missile development, China provides technical assistance to Pakistan for its missile development programs.

Aside from the development of infrastructure projects in Pakistan, China provides conventional weapons, including warships, fighters, short-range missiles, and diesel submarines to Pakistan, which serves to contain India, China's giant competitor on the Asian continent.

China sold Pakistan 48 units of Wing Loong II medium-altitude long-endurance multirole drones, which are designed to carry air-to-surface missiles and laser-guided bombs.

This multi-role drone can be utilized for combat and surveillance operations against India. Additionally, China provides military support to Pakistan to maintain regional strategic stability, which protects China's strategic plan in Pakistan for its BRI project.

India tested the nuclear-capable Agni-V ICBM, which has a strike range of 5,000 km and is capable of reaching the Chinese mainland. To deter India's missile development, China provides technical assistance to Pakistan for its missile development programs.

Pakistan is engaged in developing MIRVs and, in January 2017, successfully conducted its first test launch of its nuclear-capable Ababeel surface-to-surface MRBM with MIRV.

To identify the missile, high-quality imaging optics are essential for gathering visual information of missile from its launch to different phases of flight and reentry of warhead into the atmosphere.

This optical tracking system with an integrated telescope will track the MIRV at a different phase of flight and trace the trajectory of the terminal phase projection of its warheads.

The tracking system is an essential component to accelerate the missile development program to support Pakistan's program.

China sold optical tracking and measurement systems to Pakistan that were developed by the Chinese Academy of Sciences' Institute of Optics and Electronics.

China's assistance will accelerate Pakistan's missile developments, which inevitably raise security threats to India and help Pakistan to monitor India's space defense programs.

North Korea's Missile Threats in the Indo-Pacific Region

In addition to China's rising missile threat, Sino–North Korea relations also threaten regional stability in the Indo-Pacific.

Although, Beijing condemns Pyongyang's nuclear arms and missile tests, both countries maintain diplomatic relations under strain.

China calls for lifting international sanctions on North Korea to avoid the collapse of Kim Jong-un's regime, because China's investments in the Korean Peninsula depend on North Korea, Pyongyang's political and economic stability is an important concern for China.

In addition, North Korea's financial requirements depends on Beijing's aid. Beyond this, both countries want to deter the US presence in the Korean Peninsula.

North Korea's commitment to developing long-range nuclear-capable missiles and IRBMs pose security threats to the countries and military assets in the Indo-Pacific Region.

The US military's demployment of the Terminal High Altitude Area Defense (THAAD) ballistic missile interceptor in South Korea hinders North Korea and Beijing's ballistic missile tests.

Beijing's goal in leveraging its influence in North Korea is for a quid pro quo to weaken US alliance in this region.

On May 2017, North Korea successfully tested its Hwasong-12 mobile intermediate-range ballistic missile (IRBM), which has a maximum strike range of 4,500 km.

When fully operational, this missile will have the capability of reaching northeastern India, the northern part of the Bay of Bengal, and the western entrance to the Straits of Malacca if it is strategically operated from South Hwanghae Province in western North Korea.

Furthermore, North Korea developed long-range nuclear-capable missiles, testing two Hwasong-14 (KN-20) ICBMs in July 2017, which traveled on highly lofted trajectories that over the Sea of Japan, east of North Korea.

These ICBMs have a strike range of 10,000 km, enabling Pyongyang to strike India and as far away as Hawaii, including the US Pacific Missile Range Facility, Barking Sands.

North Korea's commitment to developing long-range nuclear-capable missiles and IRBMs pose security threats to the countries and military assets in the Indo-Pacific Region.

Are India–Indonesia Bilateral Relations a Game Changer in Indo-Pacific Region?

On 29–30 May 2018, Indian Prime Minister Narendra Modi visited Indonesia. During his visit, Modi and Indonesian president Joko Widodo discussed the views of two countries regarding maritime cooperation for promotion of peace, and economic development (including defense manufacturing) in the Indo-Pacific.

The bilateral relationship between these two countries and the creation of a naval base for India at Sabang Island represent a significant strategic deterrent and vulnerable choke point to China in the Straits of Malacca.

Sabang lies at a strategic location near the straits, meaning Chinese vessels would have to pass through Indian Navy–controlled waters in the Andaman Islands.

Sabang's port is ideal for military vessels, including submarines, serving as a naval dockyard for India and Indonesia to establish a combined naval base in this region.

India's naval base in the Andaman Islands and maritime involvement in Sabang Port will create a vulnerable choke point for China to access the western approach to the Straits of Malacca in the Indian Ocean, potentially forcing China to seek alternate sea lanes of transportation for its trade and energy requirements.

One alternative might be the proposed Kra Canal in Thailand, which, if realized, would connect the Gulf of Thailand with the Andaman Sea.

Conclusion

China's commitment to develop new naval, avionics, missiles, direct energy weapons, artificial intelligence technologies and advanced materials for state-of-art technology and quantum communications will raise China's comprehensive (land, air, maritime forces, and cyber space) defense capabilities and further Beijing's intent to become a global superpower.

The advances also strengthen China's abilities to protect its SLOCs in the Indo-Pacific region and expand its blue water naval capabilities—including aircraft carriers, nuclear-powered submarines, and SSBNs—and improve its global trade and hunt for energy resources.

The eastern part of India is prone to be highly insecure due to its proximity to China's strategic launch locations and missile capabilities, specifically China's new HGV, which is capable of reaching vital Indian naval assets in Visakhapatnam and air force assets in Hyderabad.

Besides weapons developments, China's military strategy in other countries, particularly in Sri Lanka and Pakistan, also plays a vital role in deterring its adversaries in the region.

To strengthen India's maritime security, it is necessary to analyze China's strategy in Sri Lanka and Pakistan. In the future, the strategic location of these two countries supports China's ability to project immediate offense force against India, greatly deterring India's security strategy in Asia and the Indian Ocean region.

North Korea's threat in the Indo-Pacific is also a great concern for the United States, its allies, and friends.

The rise of China as a superpower will govern the geo-economics and geopolitics of the BRI in the Indo-Pacific.

Thus, it is necessary for other actors in the region to seek balance for the trade and military power in the region to assure a free-and-open Indo-Pacific region.

Security Implications and Policy Prescriptions

The eastern part of India is prone to be highly insecure due to its proximity to China's strategic launch locations and missile capabilities, specifically China's new HGV, which is capable of reaching vital Indian naval assets in Visakhapatnam and air force assets in Hyderabad.

China's advanced ballistic missile technology challenges India's ability protect its land and maritime domains. It is appropriate to incorporate Indian navy battleships with free-electron lasers to defend against existing and future ballistic missile threats.

The DF-26 is also capable of reaching any portion of India's eastern coast—as is the JL-2, which could launch from anywhere in Chinese waters.

China's surveillance activity in the South Pacific from its optical tracing system in Vanuatu, Beijing's ensnaring of Sri Lanka and control of that island's ports, and the PLAN's increasing maritime activity in the Indian Ocean endangers southeastern India.

India's naval capability should be increased in eastern and southeastern of India to deter the Chinese maritime threat.

Doing so will also ensure the maritime security of the Bay of Bengal region. The Eastern Naval Command at Visakhapatnam is insufficient to protect the entire eastern coast of India.

We suggest the establishment of an additional naval command at Chennai and two new naval-air bases in that eastern naval command to confront Chinese threats to Chittagong Port in Bangladesh, Sittwe Port in Myanmar, and the future Kra Canal region.

The exiting Indian Air Force training base at Kodiyakarai should be upgraded to a Naval Air Base, as it is a strategically important location for containing Sri Lanka's Palaly Military Base formerly Jaffna International Airport, which was recently converted to a Sri Lankan Air Force base.

Other naval-air bases would be appropriately located between Thoothukudi and Kanyakumari in the Indian state of Tamil Nadu to confront tactical multidirectional attack and undermine the first-strike capability of China.

Also, the Ministry of Defense must strengthen INS Parundu naval air base at Uchipuli, (Tamil Nadu), and Thanjavur Air Force Station (Tamil Nadu) to thwart the growing Chinese presence near the Sri Lankan island of Katchatheevu and Northern Province of Sri Lanka.

To deter China's maritime strategy in Thailand, India must establish a combined naval base with Thailand in Surat Thani province to strengthen India's future maritime security and to choke the PLAN's fleet in the Indian Ocean region.

It is appropriate to establish integrated three-layer missile defense in the northeastern and southeastern parts of India to strengthen missile defense against security threats from the Chinese mainland, South Pacific, and Indian Ocean.

We also call for the establishment of a multitier missile defense along with direct energy weapons in northern India to deter missile threats from China's western theater command.

These latter measures will also defend the Eastern Naval Command and northern part of the Bay of Bengal from the threat of China's new HGV.

China's advanced ballistic missile technology challenges India's ability protect its land and maritime domains. It is appropriate to incorporate Indian navy battleships with free-electron lasers to defend against existing and future ballistic missile threats.

To deter against China's stealth-breaking Quantum technology, India's stealth aircraft must be improved—possibly through the use of multicolor entangled photon cloaking with additional quantum-state processes—to attain air superiority over China in the Indo-Pacific.

To deter China in Sri Lanka, we propose establishing joint air force bases in Trincomalee and Batticaloa, creating greater defense cooperation between Indian and Sri Lankan Air Forces and weaning the island from its dependence on China and Pakistan.

Moreover, India and the United States must put diplomatic pressure on Colombo to reach a federal solution to the island's prolonged ethno-religious conflict.

Finally, we argue for the need to develop an architecture of comprehensive security not just for balancing but collective security measures for maintaining order and security in the Indo-Pacific region by India and its allies.

(Thangavel K. Balasubramaniam is a doctoral candidate at the Department of Politics and International Studies, Pondicherry University, India; and Ashok Kumar Murugesan is a doctoral candidate at the Department of Physics, Pondicherry University, India)

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<https://english.khabarhub.com/2020/08/110202/>

THE ECONOMIC TIMES

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India is interested in navigation in the South China Sea region: Philippines

Last Friday the Philippine Foreign Minister warned China of "the severest response" if ongoing Chinese military exercises in the disputed South China Sea spill over into Philippine territory

By Dipanjan Roy Chaudhury

New Delhi: Eyeing to balance China's increasing aggression in the South China Sea (SCS) region, the Philippine Defence Minister has announced that India has expressed its intent to carry out navigation activities in the South China Sea.

Addressing an online forum last week, Defence Minister Delfin Lorenzana said navigation in the South China Sea is open to all countries. "We do not prevent other countries from passing through or doing things there in the South China Sea. The British do passes through the South China Sea. The French, all other countries. We do not invite them to come," he said, adding India can also be present in the area.

Lorenzana further alleged that China's naval exercises in the South China Sea are a cause for a concern.

China is upping the ante in the SCS region and its ties with the Philippines may now run into rough weather. The moves are being made simultaneously with Beijing's belligerence along LAC and despite ASEAN strong emphasis on UNCLOS in SCS.

Last Friday the Philippine Foreign Minister warned China of “the severest response” if ongoing Chinese military exercises in the disputed South China Sea spill over into Philippine territory.

The announcement by the Philippine Defence Minister comes amid telephonic conversation between PM Narendra Modi and Philippine president following which India decided to expand its strategic partnership with Philippines in South China Sea region. Last year navies from India, USA, Philippines and Japan conducted joint sail in the South China Sea region to demonstrate presence of like-minded parties in the SCS region.

Modi’s recent conversation with Philippine President Rodrigo Duterte is significant as it opens up the possibility of wider Indo-Pacific partnership between Delhi and Manila in the backdrop of China’s tough posturing along the LAC and South China Sea region.

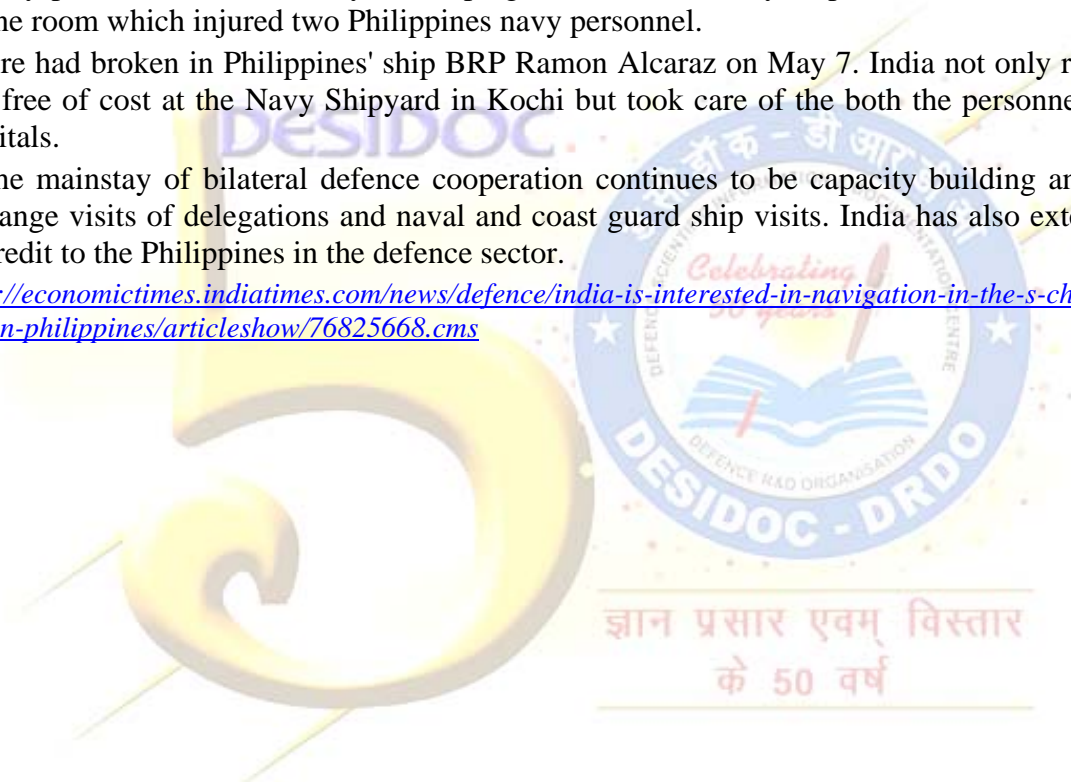
On that occasion both leaders had shared satisfaction in its bilateral relationship, including defense cooperation, with Modi noting how India sees the Philippines as a “vital partner” in the Indo-Pacific region. The Philippines also expressed similar sentiments, ET has learnt. The Philippine President in fact wanted India to play a bigger role in the Indo-Pacific region.

As part of growing defence partnership Philippine Navy Chief Giovanni Carlo J. Bacordo recently praised the Indian Navy for helping out one of its navy ship after a fire broke out in the engine room which injured two Philippines navy personnel.

Fire had broken in Philippines' ship BRP Ramon Alcaraz on May 7. India not only repaired the ship free of cost at the Navy Shipyard in Kochi but took care of the both the personnel in Indian hospitals.

The mainstay of bilateral defence cooperation continues to be capacity building and training, exchange visits of delegations and naval and coast guard ship visits. India has also extended Line of Credit to the Philippines in the defence sector.

<https://economictimes.indiatimes.com/news/defence/india-is-interested-in-navigation-in-the-s-china-sea-region-philippines/articleshow/76825668.cms>





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Making plastic more transparent while also adding electrical conductivity

In an effort to improve large touchscreens, LED light panels and window-mounted infrared solar cells, researchers at the University of Michigan have made plastic conductive while also making it more transparent.

They provide a recipe to help other researchers find the best balance between conductivity and transparency by creating a three-layer anti-reflection surface. The conductive metal layer is sandwiched between two "dielectric" materials that allow light to pass through easily. The dielectrics reduce the reflection from both the plastic and metal layer between them.

"We developed a way to make coatings with high transparency and conductivity, low haze, excellent flexibility, easy fabrication and great compatibility with different surfaces," said Jay Guo, U-M professor of electrical engineering and computer science, who led the work.

Previously, Guo's team had shown that it was possible to add a layer of metal onto a plastic sheet to make it conductive--a very thin layer of silver that, by itself, reduced the transmission of light by roughly 10%.

Light transmission through plastic is a little lower than through glass, but its transparency can be improved with anti-reflection coatings. Guo and his colleague Dong Liu, a visiting professor at U-M from Nanjing University of Science and Technology, realized that they could make an anti-reflection coating that was also conductive.

"It was taken for granted that the transmittance of the conductor is lower than that of the substrate, but we show that this is not the case," said Chengang Ji, first author of the study in *Nature Communications*, who worked on the project as a Ph.D. student in electrical and computer engineering. Ji received his doctorate from U-M in 2019.

The dielectrics chosen by the team in this case are aluminum oxide and zinc oxide. On the side closest to the light source, the aluminum oxide reflects less light back to the source than the plastic surface would. Then comes the metal layer, composed of silver with a tiny amount of copper in it, just 6.5 nanometers thick, and then zinc oxide helps guide the light into the plastic surface. Some light still gets reflected back where the plastic meets the air on the opposite side, but overall, the light transmission is better than the plastic alone. The transmittance is 88.4%, up from 88.1% for the plastic alone.

With the theory results, the team anticipates that other researchers will be able to design similar sandwich-style flexible, highly transparent conductors, which allow even more light through than the plastic alone.

"We tell people how transparent a dielectric-metal-dielectric conductor could be, for a target electrical conductance. We also tell them how to achieve this high transmittance step-by-step," Liu said.

The tricks are selecting the right dielectrics and then figuring out the right thickness for each to suppress the reflection of the thin metal. In general, the material between the plastic and metal should have a higher refractive index, while the material nearest the display or light source should have a lower refractive index.

Guo is continuing to move the technology forward, collaborating on a project that uses transparent conductors in solar cells for mounting on windows. These could absorb infrared light and convert it to electricity while leaving the visible spectrum to brighten the room. He also proposes large panel interactive displays and car windshields that can melt ice the way rear windows can.

https://www.eurekalert.org/pub_releases/2020-07/uom-mpm070620.php



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NUST MISIS scientists develop a biodegradable alloy for bone implants

Moscow: Scientists from NUST MISIS and the University of Western Australia presented an innovative bioresorbable alloy based on magnesium, gallium and zinc. The material can be used for the manufacture of temporary implants in the treatment of fractures and the restoration of surgically removed bone. The results of the study are published in the international scientific journal *Journal of Magnesium and Alloys*.

In modern bone implantology and cardiovascular surgery, biodegradable implants are increasingly being used. This helps minimize the inflammation of the surrounding tissue caused by the implant and eliminates the need for an implant removal operation. The benefits of using such implants are especially noticeable in pediatric orthopedics.

A team of material scientists from Russia and Australia has presented an innovative biodegradable alloy based on magnesium, gallium and zinc, which can be used for osteosynthesis in cases where additional treatment of diseases associated with the destruction and reduction of bone strength is required. Such implant can become a temporary "skeleton" safe for the patient to replace the damaged bone, and as the bone tissue grows, it will be "dissolved" by the body.

"We have chosen gallium as an alloying element due to its unique properties," said one of the co-authors of the work, the head of the Hybrid Nanostructured Materials Laboratory at NUST MISIS Alexander Komissarov. — Gallium is known as an "inhibitor" of bone resorption, it is effective in treating disorders associated with accelerated bone loss, including osteoporosis, hypercalcemia, Paget's disease, and multiple myeloma. Gallium is also involved in biochemical regeneration processes, increasing the thickness, strength and mineral content of the bone. Finally, it has an antibacterial effect, which is especially important in implantology."

A rather low rate of biocorrosion is also a valuable property of the developed alloy. An implant made of such an alloy does not undergo too rapid decomposition in the environment of the human body that is aggressive for metals and will retain its supporting functions throughout the healing process.

"We were able to experimentally establish that the Mg-4%Ga-4%Zn alloy after deformation processing using equal channel angular pressing has a unique profile of characteristics for use in bone implants due to the optimal combination of mechanical properties and corrosion rate," added Alexander Komissarov.

Currently, the team is completing a series of laboratory experiments and is preparing for the preclinical phase of research.

Source: <https://en.misis.ru/university/news/science/2020-06/6680/>

Source: The National University of Science and Technology MISiS

<https://www.prnewswire.co.uk/news-releases/nust-misis-scientists-develop-a-biodegradable-alloy-for-bone-implants-812627239.html>

Novel protein drives cancer progression

Summary:

Researchers have discovered a protein that drives the progression of esophageal cancer and liver cancer and it could be a promising target for cancer drug development.

Cancers arise when the genetic code of normal cells is altered, causing excessive growth. Researchers from the Cancer Science Institute of Singapore (CSI Singapore) at the National University of Singapore (NUS) have discovered a protein that drives the growth of cancers of the esophagus or liver by altering the genetic code in a novel way.

The protein, death associated protein 3 (DAP3), represses a process called adenosine-to-inosine (A-to-I) RNA editing that normally corrects the genetic code to ensure that genes are expressed correctly. By inhibiting RNA editing, DAP3 acts as an oncogene -- a gene that has the potential to cause cancer. This discovery offers the potential of developing novel drugs that target DAP3 for cancer treatment.

The study was led by Assistant Professor Polly Chen, a Principal Investigator at CSI Singapore, and the findings were published in the scientific journal *Science Advances* on 17 June 2020.

Understanding A-to-I RNA editing

RNAs are one of the most important classes of molecules in cells. They not only convert the genetic information stored in DNA to proteins, but also play critical regulatory roles in various biological processes. RNA editing is a process in which RNA is changed after it is made from DNA, resulting in an altered gene product. In humans, the most common type of RNA editing is A-to-I editing, which is mediated by ADAR proteins (ADAR1 and ADAR2). In the past decade, many studies have reported that the accumulation of deleterious changes in A-to-I RNA editing can trigger a cell to develop into cancer. However, the current knowledge of how the A-to-I RNA editing process is regulated in cancer is still limited.

The CSI Singapore research team therefore conducted a research study to understand how DAP3 -- the interacting protein of the A-to-I RNA editing catalytic enzymes (ADAR1 and ADAR2) -- regulates this process in cancer cells.

Promising drug target for cancer treatment

The team demonstrated that DAP3 could destroy the binding of ADAR2 protein to its target RNAs, thereby inhibiting the A-to-I RNA editing in cancer cells. This suppression is likely to be one of the pathways by which DAP3 could promote cancer development.

Their analysis also revealed that the expression of DAP3 is elevated in 17 types of cancer. Further experiments demonstrated that DAP3 acted as an oncogene in esophageal cancer and liver cancer cells. Interestingly, they also identified the gene PDZD7, one of DAP3-inhibited editing targets and discovered that altered editing of PDZD7 generated a new PDZD7 protein product which contributed to the DAP3-driven tumor growth.

Overall, these observations shed light on the complexity of the regulation of the A-to-I RNA editing process in cancer cells, and suggest that DAP3 could be a promising target for future cancer drug development.

"With this new knowledge, we can now look into how we can intervene in the interactions between DAP3 and ADAR proteins in order to interfere with cancer-promoting processes mediated by RNA editing in the cell," said research leader Asst Prof Chen.

Story Source:

[Materials](#) provided by [National University of Singapore](#). Note: Content may be edited for style and length.

Journal Reference:

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<https://www.sciencedaily.com/releases/2020/07/200706114001.htm>

ScienceDaily®

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New class of safer analgesics discovered

Summary:

Researchers have discovered a new class of pipeline drugs to relieve pain and reduce fever without the danger of addiction or damage to the liver or kidneys.

Researchers at LSU Health New Orleans Neuroscience Center of Excellence and colleagues have discovered a new class of pipeline drugs to relieve pain and reduce fever without the danger of addiction or damage to the liver or kidneys. The research is published online in the *European Journal of Medicinal Chemistry*. Current drugs have unwanted side effects. Opioids can not only cause addiction; recent studies have shown they can be no more effective at relieving pain than non-narcotic drugs. Non-steroidal anti-inflammatories (NSAIDs) can cause kidney damage. Acetaminophen is an effective drug, but overuse can result in liver damage.

The research team, led by Drs. Hernan A. Bazan, a professor in the Department of Surgery and Program Director of the Vascular Surgery Fellowship at Ochsner Clinic, and Surjyadipta Bhattacharjee, a post-doctoral researcher at the LSU Health New Orleans Neuroscience Center of Excellence, set out to discover what causes the liver damage associated with acetaminophen and then create a drug structurally similar to acetaminophen -- as effective, but without liver toxicity. Along with the chemistry team led by Professor Julio Alvarez-Builla, Department of Organic Chemistry at the University of Alcalá in Madrid, they tested 21 different compounds as acetaminophen analogs.

Senior author Nicolas Bazan, MD, PhD, Boyd Professor and Director of LSU Health New Orleans Neuroscience Center of Excellence says, "The new chemical entities reduced pain in two in models without the liver and kidney toxicity associated with current over-the-counter analgesics that are commonly used to treat pain -- acetaminophen and NSAIDs. They also reduced fever in a pyretic model. This is particularly important in the search for an antipyretic with a safer profile in the COVID-19 pandemic and its associated kidney and liver disease in critically ill SARS-CoV-2 patients."

Acute and chronic pain management is one of the most prevalent and costly public health issues worldwide. According to the Centers for Disease Control and Prevention, an estimated 50 million - - 20.4% of U.S. adults had chronic pain and 8.0% of U.S. adults had high-impact chronic pain in 2016.

"Given the widespread use of acetaminophen, the risk of hepatotoxicity with overuse, and the ongoing opioid epidemic, these new chemical entities represent novel, non-narcotic analgesics that exclude hepatotoxicity, for which development may lead to safer treatment of acute and chronic pain and fever," adds Dr. Nicolas Bazan.

Other LSU Health New Orleans members of the research team included William C. Gordon, PhD, Professor of Neuroscience and Ophthalmology; Dennis Paul, PhD, Professor of Pharmacology; Scott Edwards, PhD, Associate Professor of Physiology and Neuroscience; Bokkyoo Jun, PhD, Research Instructor; and Amanda R. Pahng, PhD, a post-doctoral fellow in Dr. Edwards' lab. The research team also included Drs. Carolina Burgos, Javier Recio, and Valentina

Abet, at the University of Alcala in Madrid; Jessica Heap, a third-year medical student at the Tulane University School of Medicine and Alexander Ledet, a first-year MD/PhD candidate at the Albert Einstein College of Medicine in New York.

The intellectual property behind these new technologies, which are part of this discovery, have been licensed from LSU Health Sciences Center New Orleans to the life science startup South Rampart Pharma, LLC that is currently developing this new drug in late pre-clinical stages. Drs. Hernan A. Bazan, Carolina Burgos, Dennis Paul, Julio Alvarez-Builla, and Nicolas G. Bazan are named inventors on a patent assigned to LSU Health Sciences Center describing the synthesis and characterization of the novel non-hepatotoxic acetaminophen analogs (PCT/US2018/022029). The company expects to file the first FDA IND (Investigational New Drug) application by early third quarter 2020.

"Our primary goal is to develop and commercialize new alternative pain medications that lack abuse potential and have fewer associated safety concerns than current treatment options, and this peer-reviewed paper describes the discovery of the initial library of compounds as well as several proof of concept animal and molecular studies," says Dr. Hernan Bazan.

Story Source:

[Materials](#) provided by [Louisiana State University Health Sciences Center](#). Note: Content may be edited for style and length.

Journal Reference:

1. Hernan A. Bazan, Surjyadipta Bhattacharjee, Carolina Burgos, Javier Recio, Valentina Abet, Amanda R. Pahng, Bokkyoo Jun, Jessica Heap, Alexander J. Ledet, William C. Gordon, Scott Edwards, Dennis Paul, Julio Alvarez-Builla, Nicolas G. Bazan. **A novel pipeline of 2-(benzenesulfonamide)-N-(4-hydroxyphenyl) acetamide analgesics that lack hepatotoxicity and retain antipyresis.** *European Journal of Medicinal Chemistry*, 2020; 202: 112600 DOI: [10.1016/j.ejmech.2020.112600](https://doi.org/10.1016/j.ejmech.2020.112600)
<https://www.sciencedaily.com/releases/2020/07/200706140907.htm>

ScienceDaily

Wed, 08 July 2020

Researchers develop software to find drug-resistant bacteria

Summary:

The program could make it easier to identify the deadly antimicrobial resistant bacteria that exist in the environment. Such superbugs annually cause more than 2.8 million difficult-to-treat pneumonia or bloodstream infections and 35,000 deaths in the US.

Washington State University researchers have developed an easy-to-use software program to identify drug-resistant genes in bacteria.

The program could make it easier to identify the deadly antimicrobial resistant bacteria that exist in the environment. Such microbes annually cause more than 2.8 million difficult-to-treat pneumonia, bloodstream and other infections and 35,000 deaths in the U.S. The researchers, including PhD computer science graduate Abu Sayed Chowdhury, Shira Broschat in the School of Electrical Engineering and Computer Science, and Douglas Call in the Paul G. Allen School for Global Animal Health, report on their work in the journal *Scientific Reports*.

Antimicrobial resistance (AMR) occurs when bacteria or other microorganisms evolve or acquire genes that encode drug-resistance mechanisms. Bacteria that cause staph or strep infections or diseases such as tuberculosis and pneumonia have developed drug-resistant strains that make them increasingly difficult and sometimes impossible to treat. The problem is expected to worsen in future decades in terms of increased infections, deaths, and health costs as bacteria evolve to "outsmart" a limited number of antibiotic treatments.

"We need to develop tools to easily and efficiently predict antimicrobial resistance that increasingly threatens health and livelihoods around the world," said Chowdhury, lead author on the paper.

As large-scale genetic sequencing has become easier, researchers are looking for AMR genes in the environment. Researchers are interested in where microbes are living in soil and water and how they might spread and affect human health. While they are able to identify genes that are similar to known AMR-resistant genes, they are probably missing genes for resistance that look very unique from a protein sequence perspective.

The WSU research team developed a machine-learning algorithm that uses features of AMR proteins rather than the similarity of gene sequences to identify AMR genes. The researchers used game theory, a tool that is used in several fields, especially economics, to model strategic interactions between game players, which in turn helps identify AMR genes. Using their machine learning algorithm and game theory approach, the researchers looked at the interactions of several features of the genetic material, including its structure and the physiochemical and composition properties of protein sequences rather than simply sequence similarity.

"Our software can be employed to analyze metagenomic data in greater depth than would be achieved by simple sequence matching algorithms," Chowdhury said. "This can be an important tool to identify novel antimicrobial resistance genes that eventually could become clinically important."

"The virtue of this program is that we can actually detect AMR in newly sequenced genomes," Broschat said. "It's a way of identifying AMR genes and their prevalence that might not otherwise have been found. That's really important."

The WSU team considered resistance genes found in species of *Clostridium*, *Enterococcus*, *Staphylococcus*, *Streptococcus*, and *Listeria*. These bacteria are the cause of many major infections and infectious diseases including staph infections, food poisoning, pneumonia, and life-threatening colitis due to *C. difficile*. They were able to accurately classify resistant genes with up to 90 percent accuracy.

They have developed a software package that can be easily downloaded and used by other researchers to look for AMR in large pools of genetic material. The software can also be improved over time. While it's trained on currently available data, researchers will be able to re-train the algorithm as more data and sequences become available.

"You can bootstrap and improve the software as more positive data becomes available," Broschat said.

The work was funded in part by the Carl M. Hansen Foundation.

Story Source:

Materials provided by [Washington State University](#). Original written by Tina Hilding. *Note: Content may be edited for style and length.*

Journal Reference:

1. Abu Sayed Chowdhury, Douglas R. Call, Shira L. Broschat. **PARGT: a software tool for predicting antimicrobial resistance in bacteria**. *Scientific Reports*, 2020; 10 (1) DOI: [10.1038/s41598-020-67949-9](https://doi.org/10.1038/s41598-020-67949-9)

<https://www.sciencedaily.com/releases/2020/07/200706140843.htm>

Explained: Does asthma raise Covid-19 risk? Study suggests it does not

While a person's vulnerability to severe illness caused by Covid-19 increases with age, asthma sufferers tend to be younger than those with reported high-risk conditions, the author of the study noted

New Delhi: A new study suggests that patients of asthma do not seem to be at increased risk of contracting COVID-19, or of more severe illness than someone who is not suffering from asthma. The study, conducted by researchers of Rutgers University in New Jersey, is published in the Journal of Allergy and Clinical Immunology.

While older age and certain conditions — such as heart disease, high blood pressure, COPD, diabetes and obesity — are recognised as risk factors for development and progression of Covid-19, the study found that people with asthma (even those with diminished lung function) seem to be no worse affected by SARS-CoV-2 than a non-asthmatic person.

“There is limited data as to why this is the case — if it is physiological or a result of the treatment to manage the inflammation,” Reynold A Panetteri Jr, director of the Rutgers Institute for Translational Medicine and Science and co-author of a paper, said in a statement.

Among possible reasons, Panetteri proposed that because of increased attention on the effects of Covid-19 on people in vulnerable populations, those with asthma may become hyper-vigilant about personal hygiene and social distancing. “Social distancing could improve asthma control since people who are self-quarantined are also not as exposed to seasonal triggers that include allergens or respiratory viruses. There is also evidence that people are being more attentive to taking their asthma medication during the pandemic, which can contribute to overall health,” he said.

While a person's vulnerability to severe illness caused by Covid-19 increases with age, asthma sufferers tend to be younger than those with reported high-risk conditions, Panetteri noted. As such, “age-adjusted studies could help us better understand if age is a factor in explaining why asthma patients may not be at greater risk for infection”.

Again, SARS-CoV-2 infects human cells by interacting with an enzyme (ACE2) attached to the cell membranes in the lungs, arteries, heart, kidney and intestines. This enzyme, which is increased in response to the virus, is also thought to be beneficial in clearing other respiratory viruses, Panetteri said. *Source: Rutgers University*

<https://indianexpress.com/article/explained/does-asthma-raise-covid-risk-study-suggests-it-does-not-6493500/>



A new study suggests that patients of asthma do not seem to be at increased risk of contracting COVID-19. (Getty Images)

Spanish Covid-19 antibody study suggests herd immunity infeasible

Researchers in Spain, one of Europe's worst-hit countries, randomly selected more than 61,000 people, but found that even in places with high infection rates like Madrid, relatively few people tested positive for antibodies against SARS-CoV-2

By Alaric Dearment

Even in areas hard-hit by Covid-19, few people test positive for antibodies, meaning that hopes for herd immunity against the disease may be futile without a vaccine, according to a new Spanish study.

Conducted by researchers at the Carlos III Health Institute in Madrid and published in The Lancet Monday, the study included 61,075 people in 35,883 randomly selected households throughout the country. After completing a questionnaire between April 27 and May 11 on Covid-19 symptoms, participants received a point-of-care antibody test, followed by a blood draw for a laboratory immunoassay test if they agreed to it. Overall, the study found that only 5% of participants showed a positive result on the point-of-care test, while 4.6% showed a positive result on the lab test. Results varied considerably by region, with residents of Madrid showing a prevalence greater than 10%, while residents of coastal areas showed a prevalence of less than 3%.

Among 195 participants who had received a positive RT-PCR test for Covid-19 more than two weeks prior, positive tests for antibodies ranged from around 88-92%. In 7,273 individuals who had lost their sense of smell or showed at least three symptoms, 15.3-19.3% tested positive for antibodies, while 21.9-35.8% of those who were asymptomatic did as well, meaning that about one-third of infected people did not show symptoms.

“The relatively low seroprevalence observed in the context of an intense epidemic in Spain might serve as a reference to other countries,” the researchers wrote. “At present, herd immunity is difficult to achieve without accepting the collateral damage of many deaths in the susceptible population and overburdening of health systems.”

With 250,545 confirmed cases and 28,385 deaths as of Monday, Spain has the third-highest prevalence of Covid-19 cases in Europe, after Russia and the U.K. The U.S. leads by far, with 2.9 million of the world's 11.5 million cases and 130,007 of its 535,185 deaths. Spain issued new lockdown orders in its Galicia and Catalonia regions amid renewed outbreaks of Covid-19 in those areas, though Europe in general has managed to get the outbreak largely under control. By contrast, the U.S. has seen record spikes in states that reopened prematurely, and it is among those countries whose failure to control the outbreak has resulted in its citizens being mostly barred from traveling to the European Union.

Absent a vaccine being proven safe and effective – which may not become available until next year – there was some hope early on among some experts that herd immunity could provide protection against the disease. However, it remains unclear how protective antibodies against SARS-CoV-2 are or for how long. Moreover, countries that attempted to use herd immunity, such as the U.K. and Sweden, have been among those experiencing the most difficulty getting the outbreak under control.

<https://medcitynews.com/2020/07/spanish-study-suggests-herd-immunity-against-covid-19-may-not-be-possible/>

Wed, 08 July 2020

Hyderabad's Nizam's Institute of Medical Science begins the human clinical trial of COVID-19 vaccine

- *The subject enrolment for Phase-I clinical trial of India's first indigenous vaccine for COVID-19 began at Nizam's Institute of Medical Science (NIMS).*
- *On the direction of the Indian Council of Medical Research (ICMR), authorities at NIMS began the process to register 30-60 subjects for the trial.*
- *Blood and swab samples of the subjects will be collected and if found fit they will be administered the first dose of the vaccine after a week.*
- *Each subject would be given the second dose of the same vaccine after 14 days.*

The subject enrolment for Phase-I clinical trial of India's first indigenous vaccine for COVID-19 began at Nizam's Institute of Medical Science (NIMS) here on Tuesday.

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Blood and swab samples of the subjects will be collected and if found fit they will be administered the first dose of the vaccine after a week.

NIMS Director Dr K. Manohar told reporters that healthy subjects will be screened and their blood and swab samples sent to ICMR-designated lab in New Delhi. After receiving the test reports, the Department of Medicine will analyse the same and issue the fitness certificates to the subjects.

The subjects would be administered two doses of the vaccine. There will be two vaccine dosage of three micrograms and six micrograms, and a placebo.

Each subject would be given the second dose of the same vaccine after 14 days.

For two days after administering the vaccine, the subjects would be monitored for two days in the ICU at NIMS by a team of doctors, after which they would be sent home and monitored through videoconference or phone.

The phase-I clinical trial would go on for 28 days, after which the ICMR and the Drug Controller General of India (DGCI) would accord permission for Phase-II trial with more subjects.

Phase-I would have around 375 subjects across the country and Phase-II 875.

NIMS is one of the hospitals selected by the ICMR to undertake clinical trials of Covaxin, which it is developing in partnership with Hyderabad-based Bharat Biotech International Limited (BBIL).

Meanwhile, the Ethics Committee at King George Hospital (KGH) in Visakhapatnam will hold a crucial meeting on Tuesday to finalise the preparations for the clinical trials. KGH is also one of the hospitals selected by ICMR for the trials.

In a letter to the heads of the selected institutions last week, ICMR Director General Balram Bhargava asked them to fast-track all approvals related to initiation of the clinical trials and ensure that the subject enrollment is initiated no later than July 7.

"It is envisaged to launch the vaccine for public health use latest by August 15, 2020 after completion of all clinical trials. BBIL is working expeditiously to meet the target; however, the final outcome will depend on the cooperation of all clinical trial sites involved in this project," reads the letter dated July 2.

He noted that this is the first indigenous vaccine being developed by India and is one of the top priority projects that is being monitored at the topmost level of the government.

"The vaccine is being derived from a strain of SARS-CoV-2 isolated by ICMR-National Institute of Virology, Pune. ICMR and BBIL are jointly working for the preclinical as well as clinical development of this vaccine," he wrote.

While experts raised doubts on the August 15 target, the ICMR defended it, saying its process is in accordance with the globally accepted norms to fast-track vaccine development for diseases of pandemic potential.

The research body said the Director's letter was intended to cut red tape, without bypassing any necessary process, and speed up recruitment of participants for human trials so that these phases can be completed at the earliest.

BBIL refused to comment on ICMR's August 15 deadline.

The company had announced on June 29 that it had successfully developed Covaxin, India's first vaccine candidate for COVID-19, in collaboration with the ICMR and NIV.

The SARS-CoV-2 strain was isolated in NIV, Pune and transferred to Bharat Biotech. The indigenous, inactivated vaccine has been developed and manufactured in Bharat Biotech's BSL-3 (Bio-Safety Level 3) High Containment Facility located in Genome Valley, Hyderabad, the company said.

The Drug Controller General of India - Central Drugs Standard Control Organization (CDSCO), Ministry of Health & Family Welfare granted permission to initiate Phase I and II human clinical trials after the company submitted results generated from preclinical studies, demonstrating safety and immune response.

<https://www.businessinsider.in/india/news/hyderabad-nizams-institute-of-medical-science-begins-the-human-clinical-trial-of-covid-19-vaccine/articleshow/76833471.cms>

