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# समाचार पत्रों से चयित अंश Newspapers Clippings

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### Indian Army briefed PM Modi, Cabinet on LAC status a day after China began build-up near Ladakh: Report

*Within a day after the Chinese notoriety began along the border, senior Indian Army officials met Prime Minister Narendra Modi and Defence Minister Rajnath Singh to discuss the issue*

#### *Key Highlights*

- *Indian and Chinese troops have been on a standoff since early May and have held dialogues at multiple military levels – battalion commander to Major General*
- *Soldiers from both sides have now disengaged from their stand-off locations along the Patrolling Point 14 (Galwan valley), PP 15 (114 Brigade area) and PP 17 (Hot Springs)*

New Delhi: The build-up along the Line of Actual Control by the Chinese army has increased tensions between India and them over the past one month. The People's Liberation Army of China began bolstering its troops along the LAC since May 4, a diversion created from a major military exercise held in its territory.

Within a day after the Chinese notoriety began along the border, senior Indian Army officials met Prime Minister Narendra Modi and senior Cabinet ministers, such as Defence Minister Rajnath Singh, and discussed the issue “involving a neighbouring country”, news agency ANI quoted government sources as saying.

“At that time, the India Army briefed the Prime Minister and his cabinet colleagues on the Chinese Army activities on the LAC near the Patrolling Point 14 in the Galwan Nala area and other points,” one of the sources claimed.

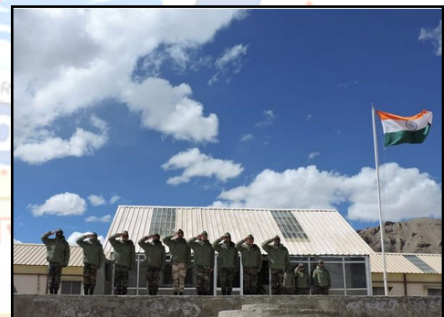
Others in the knowhow said that the India Army had been monitoring the cross-border activities from the 14 Corps Headquarters and had started organising a counter offensive since that very day.

However, the government sources refused to agree that the Indian Army lacked preparedness, allowing the Chinese troops to ramp up their forces in Ladakh along the LAC. They said that if the Indian troops weren't prepared and deployed, the Chinese army would have been able encroach into to other areas.

Soldiers from both sides have now disengaged from their stand-off locations along the Patrolling Point 14 (Galwan valley), PP 15 (114 Brigade area) and PP 17 (Hot Springs) following Lieutenant General-level talks held between the two countries on June 6.

Indian teams are, however, in Chushul to discuss modalities at the local level in areas where the issue first began.

Indian and Chinese troops have been on a standoff since early May and have held dialogues at multiple military levels – battalion commander to Major General.



A meeting of Major General-rank officers of the two countries is expected to be held on June 10 as well, according to news agency ANI.

<https://www.timesnownews.com/india/article/indian-army-briefed-pm-modi-cabinet-on-lac-status-a-day-after-chinese-build-up-began-near-ladakh-report/603980>

**hindustantimes**

Wed, 10 June 2020

## India, China disengage in three sectors at LAC

*More military talks are planned in the coming days to ease tensions along the LAC, including one between major general-ranked officers at Patrolling Point 14 near the Galwan area on Wednesday, a senior officer said*

*By Rahul Singh, Shishir Gupta & Rezaul H Laskar*

New Delhi: China has begun withdrawing its soldiers from three hotspots along the contested Line of Actual Control (LAC) in eastern Ladakh, with India reciprocating by pulling back its forces deployed in those pockets as both sides step up efforts to resolve a month-long tense border confrontation, two senior officers familiar with the development said on Tuesday.

“Limited military disengagement” has taken place at the Galwan valley, Patrolling Point 15 and the Hot Springs area where Chinese soldiers have pulled back two to three km along with their infantry combat vehicles, said one of the two officers, both of whom requested anonymity.

“It’s a step towards returning to status quo ante (as of early April). Indian soldiers have also withdrawn from the forward positions held by them in these areas,” said the second officer.

Hindustan Times first reported on Monday that activity at the three sites declined after a seven-hour long meeting between the military commanders of the two armies, Lt Gen Harinder Singh, commander of the Leh-based 14 Corps and Maj Gen Liu Lin, commander of the PLA in the South Xinjiang region, at Moldo on the Chinese side of the LAC.

Pangong Tso, where it all began has also started to see “de-escalation” but “it will take time to complete the process here,” said a third army officer who asked not to be named

More military talks are planned in the coming days to ease tensions along the LAC, including one between major general-ranked officers at Patrolling Point 14 near the Galwan area on Wednesday, said the second officer.

This will be the fourth round of talks between major generals to break the stalemate that began with a violent confrontation between rival patrols near Pangong Tso on the night of May 5-6.

“Colonels and brigadiers will also hold a series of meetings with their Chinese counterparts at locations along the LAC to resolve the border situation. Hotlines at the tactical level are also functional,” the officer said.

Experts said that the beginning of disengagement at the three hotspots along the border was a positive development.

“It’s a good sign if tensions are easing at the three locations where the alignment of the LAC wasn’t disputed. We can now focus on resolving the situation on the northern bank of Pangong Tso,” said former Northern Army commander Lieutenant General DS Hooda (retd).

Around 250 soldiers of the two armies clashed near Pangong Tso last month with the scuffle leaving scores of troops injured. While an immediate flare-up was avoided as both armies stuck to protocols to resolve the situation, tensions swiftly spread to other pockets along the LAC.



PM Narendra Modi with Chinese president Xi Jinping at Hyderabad House in New Delhi in September 2014. (Bloomberg File Photo)



Specifically, the stand-off was in three locations, marked as the Indian army's patrolling points 14, 15, and 17. At point 14, the Chinese objected to India building a 60-metre long bridge on a rivulet to give its troops easy access to Daulat Beg Oldi, the last Indian military post south of the Karakoram pass. The Chinese have retreated from point 14, a government official who asked not to be named said.

At point 15, Chinese soldiers have been camping in tents for the past month, staring down at Indian soldiers doing the same. 'Both sides have started reducing their presence here,' the government official added.

At point 17, both sides had amassed troops and armour. The armoured vehicles have been moved back, the official said, and the troops will follow.

Even in Pangong Tso, the Chinese have moved back the 15 interceptor boats and the 124 vehicles they moved in, the official added.

China marshalled close to 5,000 soldiers and deployed tanks and artillery guns on its side of the disputed border in the Ladakh sector where India also sent military reinforcements.

India and China will continue military and diplomatic contacts to resolve the standoff, the external affairs ministry said in a statement on Sunday. The ministry said that "the two sides will continue military and diplomatic engagements to resolve the situation and to ensure peace and tranquility in the border areas."

India has dismissed China's contention that its soldiers were hindering the activities of Chinese troops along the LAC, and accused Chinese forces of hampering patrols on the Indian side. The Indian government has made it clear it won't allow any change in the status quo along the LAC, and that it will tackle the prevailing situation with "strength and restraint."

India has also told China that it will not halt construction within the Indian boundary, including the strategic Darbuk-Shyok-Daulat Beg Oldi (DS-DBO) road that provides connectivity to the country's northern-most outpost, Daulat Beg Oldi.

India is also working on another road from Sasoma to Saser La that could eventually provide an alternative route to DBO near the Karakoram pass, as reported by Hindustan Times on June 9.

India was initially surprised by the PLA's movement, the government official said but reacted quickly to match deployment and started negotiations. External affairs minister S Jaishankar and diplomats in Delhi and Beijing were involved in the process as were army chief Manoj Mukund Naravane, NSA Ajit Doval, and the chiefs of security agencies.

HT was the first to report on May 10 about tensions flaring up between India and China in north Sikkim where 150 soldiers were involved in a tense standoff a day earlier. Four Indian and seven Chinese soldiers were injured at Naku La during the confrontation.

Jayadeva Ranade, president of the Centre for China Analysis and Strategy, said the issue had not ended with Tuesday's developments.

"This is a welcome first step towards defusing the situation. They have talked about the easiest places [related to the stand-off] but there are more places along the LAC," he said.

"Even if the situation is defused and the Chinese troops pull back, the question remains – why did they come in such large numbers at so many places? Were they testing our response? Is the plan to pull back and come in again? They know what they are going to do, and the larger agenda is yet to happen," Ranade added.

<https://www.hindustantimes.com/india-news/india-china-disengage-in-three-sectors-at-lac/story-EmSacJaICw7Qv4YjNX3v6L.html>

## Indian Army gains psychological edge as Chinese troops withdraw from eastern Ladakh

*Chinese troops had advanced on four positions on the Line of Actual Control; three in the Galvan Valley and one in Pangong Lake, where the troops of both the nation were face to face*  
*By Arun Kumar Chaubey*

New Delhi: The symbolic disengagement of Indian and Chinese armies from few areas in eastern Ladakh has shown their intent to resolve the border standoff peacefully ahead of another round of military talks on Wednesday. The gesture explains that the dialogue between the two countries was successful and China too understood that bullying tactics will not work against India.

China recently released propaganda videos to show its military preparations and the strategy perhaps was to build a psychological pressure on India but disengagement of its troops in eastern Ladakh today simply showed the hollowness of the Chinese Army in front of India's global diplomatic might.

Chinese troops had advanced on four positions on the Line of Actual Control; three in the Galvan Valley and one in Pangong Lake, where the troops of both the nation were face to face. Now, from three places in the Galvan Valley, Chinese troops have gone back nearly two and a half kilometers. The Chinese troops had earlier reached Finger 4 of Pangong Lake in Ladakh and confronted the Indian soldiers. Indian and Chinese troops have been engaged since May 5 following a violent clash in Pangong Tso.

Even as the disengagement of Chinese troops is being considered a moral victory of India, some people in the country tried to undermine the spirit of nation just to nourish their political career. Of these, Congress leader Rahul Gandhi's statements can be rightly referred to.

Rahul Gandhi should peep into the pages of history to know the blunders committed by his great grandfather Jawaharlal Nehru, who happened to be the first Prime Minister of India. During the Nehruian rule, China occupied 43,000 square kilometers of land in Aksai Chin and Ladakh after the 1962 war. Of this, China had seized 38,000 square kilometers in the 1962 war, and about 5000 square kilometers of land was handed over to it by Pakistan. The 43,000 square kilometers of land can house country like Denmark, Netherlands, or Switzerland.

Because of Prime Minister of Jawaharlal Nehru's folly, Pakistan managed to occupy over 85,000 square kilometers of land in Kashmir. This includes the territory of Pakistan occupied Kashmir and Gilgit Baltistan. These facts show that more than 1.28 lakh square kilometers of land had gone to China and Pakistan when Pandit Nehru was the Prime Minister. The area is almost equal to the size of Bangladesh and there are about 90 countries in the world which are smaller than this tract.

The failure of India's first Prime Minister Jawaharlal Nehru to assess China is the reason behind Sino-India border dispute. China first occupied Tibet and then strategised to take the possession of Aksai Chin.

Nehru is alleged to have committed several other mistakes while China continued to strengthen its military might. In 1952, the Kulwant Singh Committee had warned the then Indian government about the Chinese build up but this went unheard.

Nehru's biggest mistake is stated to be that he did not allow Indian Air Force to participate in the 1962 war, otherwise the consequence of the faceoff would have been different.

China's psychological warfare, however, has now failed in front of India. Chinese Army fought a war 41 years ago in 1979, and had suffered defeat at the hands of Vietnam. Currently, there is hardly any officer in the Chinese army who would have the experience of the war.

On the contrary, Indian Army had defeated Pakistan badly in Kargil war nearly 21 years ago. The Indian Army also has the experience of penetrating into the enemy's territory. The examples can be seen in the surgical strikes and air strikes against Pakistan.

Notably, India-China border dispute covers the 3,488-km-long LAC. China claims Arunachal Pradesh as part of southern Tibet while India opposes it.

<https://zeenews.india.com/india/indian-army-gains-psychological-edge-as-chinese-troops-withdraw-from-eastern-ladakh-2289043.html>

## Business Standard

Wed, 10 June 2020

### Ladakh standoff: Indian Army in Chushul for talks with China in a few days

*The team has been provided with directions and instructions from the Army headquarters and government officials to help in the resolution of the matter which has entered its second month now*

Amid efforts to resolve the ongoing dispute in Eastern Ladakh, members of the Indian military team are in Chushul preparing for talks with China which are likely to be held in the next few days.

"Members of the military team are in Chushul and preparing for talks expected to be held in the next few days," sources told ANI.

The team has been provided with directions and instructions from the Army headquarters and government officials to help in the resolution of the matter which has entered its second month now.

Talks between the two sides were held on June 6 at the military commanders' level, including the 14 Corps Commander Lt Gen Harinder Singh from the Indian side while the Chinese side was represented by its South Xinjiang Military District commander Major General Liu Lin at Moldo opposite Chushul in Ladakh.

Even though the talks had not yielded any immediate results on the ground as both sides continue to be in a standoff position opposite each other, they had agreed to continue talks at both diplomatic and military levels to find a solution to the problem.

On Monday, Defence Minister Rajnath Singh had stated that "Talks with China are on at military and diplomatic level. The June 6 talks were very positive and both the countries have agreed to continue talks to resolve the ongoing tussle" while assuring the country that "leadership of the country is in strong hands and we will not compromise on India's pride and self-respect."

The issue started early last month when the Chinese started building up militarily along the Line of Actual Control (LAC) in Eastern Ladakh and started deploying troops at multiple locations along the LAC including Finger area, Pangong Tso Lake, and the Galwan valley.

The Chinese also wanted to carry out deeper incursions into the Indian territory but they were checked because of the timely deployment of troops at the right locations by the Indian side. After the Chinese side built up at a rapid pace on the Indian front, the Indian side also rushed in troops from other locations to more than match it.

The Chinese troops have been engaged in multiple face-offs with the Indian security forces in the disputed areas and injuries have been caused to soldiers from both the countries.

[https://www.business-standard.com/article/defence/ladakh-standoff-indian-army-in-chushul-for-talks-with-china-in-a-few-days-120060900815\\_1.html](https://www.business-standard.com/article/defence/ladakh-standoff-indian-army-in-chushul-for-talks-with-china-in-a-few-days-120060900815_1.html)



The delegation will brief the top Army brass including Army Chief Gen MM Naravane and the Northern Army Commander Lt Gen YK Joshi about the talks. (Source: ADGPI)



## India's Mountain Troops win rare praise from Chinese Defence Expert

*"With more than 200,000 troops in 12 divisions, the Indian mountain force is the largest mountain fighting force in the world," said Huang Guozhi, senior editor of Modern Weaponry magazine*

Beijing: The Indian Army won a rare public compliment from a Chinese military expert who said India has the world's largest and experienced plateau and mountain troops equipped with some of the best weapons suited for such terrain in the Tibetan border.

"At present, the world's largest and experienced country with plateau and mountain troops is neither the US, Russia, nor any European powerhouse, but India," Huang Guozhi, senior editor of Modern Weaponry magazine, wrote in an article published by China's thepaper.cn on Tuesday.

Mountain brigades being raised by India are mostly [meant for the Chinese border](#), especially the Tibetan plateau, and it is perhaps the first time a Chinese military expert publicly complimented their strength and strategic importance.

"With more than 200,000 troops in 12 divisions, the Indian mountain force is the largest mountain fighting force in the world," Huang wrote.

Huang said that since the 1970s, the Indian military has established and expanded the size and personnel of the mountain troops on a large-scale, and also plans to create a mountain strike force of more than 50,000 troops.

"Mountaineering is an essential skill for almost every member of the Indian mountain army. To this end, India even recruited a large number of professional mountaineers and amateur mountaineers from the private sector," he said.

Referring to the Indian Army's presence in the Siachen glacier, he said, "The Indian Army has set up hundreds of outposts in the Siachen Glacier area with an altitude of more than 5,000 metres, with 6,000 to 7,000 fighters stationed. The highest post has reached 6,749 metres."

The Indian military is equipped with a large number of weapons adapted to the highland and mountain operating environment through procurement and domestic research and development, he said.

The Indian military has also spent heavily on advanced heavy equipment from the United States, including the M777, the world's lightest 155mm towed howitzer, and the Chinook heavy transport helicopter that lifts the gun, to boost its fire support and anti-armour capabilities, he said.

"In addition, there are many conflicts and differences between the Indian Army and the Indian Air Force. This has also led the Indian Army to decide to equip its own US-made AH-64E Longbow Apache attack helicopters instead of relying entirely on airfield support from the air force," Huang wrote.

Highlighting the difficulties for the troops, Huang said the mountain region, especially the plateau mountain region, is the most severe and difficult operational environment recognised by all countries in the world.

In this environment, combatants must not only do their own warm protection, but also prevent acute altitude sickness due to low pressure and hypoxia, he said.

<https://www.ndtv.com/india-news/indias-mountain-troops-win-rare-praise-from-chinese-defence-expert-2243677>



## सीमा पर तनाव के बीच चीनी एक्सपर्ट ने बांधे भारतीय सेना की तारीफों के पुल, 'US, रूस किसी के पास नहीं ऐसी फोर्स'

चीन के एक मिलिट्री एक्सपर्ट ने भारतीय सेना की जमकर तारीफ की है।

उनका कहना है कि दुनिया में सबसे बड़ी पहाड़ी और पठारी सेना भारत के पास है।

### हाइलाइट्स

- चीन के मिलिट्री एक्सपर्ट ने की भारतीय सेना की तारीफ
- दुनिया में सबसे बड़ी और अनुभवी पहाड़ी सेना बताया
- पर्वतारोहण को दी जाती है अहमियत, इसलिए फायदा
- बेहतरीन हथियारों से लैस सेना सबसे ऊंचाई पर मौजूद
- भारत और चीन में तनाव के बीच चीनी एक्सपर्ट की राय



**पेइचिंग:** लद्दाख सीमा पर जारी तनाव के बीच भारतीय सेना की चीन के मिलिट्री एक्सपर्ट ने तारीफ की है। उनका कहना है कि भारत के पास दुनिया में सबसे बड़ी और सबसे अनुभवी पठारी और पहाड़ी सेना है, जिसके पास बेहतरीन हथियार हैं जो तिब्बत सीमा जैसे इलाकों में बहुत फायदेमंद हो सकते हैं। मॉडर्न वेपनरी मैगजीन के सीनियर एडिटर हुआंग जुओझी ने एक आर्टिकल में लिखा है, 'इस वक्त दुनिया की सबसे बड़ी और अनुभवी पहाड़ी और पठारी सेना न अमेरिका के पास है, न रूस के पास और न किसी यूरोपीय देश के पास लेकिन भारत के पास है।'

### पहली बार किसी चीनी एक्सपर्ट ने की तारीफ

गौर करने वाली बात है कि भारत में पहाड़ी टुकड़ियों को चीन की सीमा को ध्यान में रखकर तैयार किया जाता है, खासकर तिब्बत के पास। ऐसा शायद पहली बार है कि चीन के मिलिट्री एक्सपर्ट ने सेना की ताकत और रणनीतिगत अहमियत की तारीफ की है। हुआंग ने लिखा है, '12 डिविजनों में 2 लाख से ज्यादा टुकड़ियों के साथ भारत का पहाड़ी बल दुनिया में सबसे ज्यादा है।' हुआंग का कहना है कि 1970 के बाद से भारत की मिलिट्री ने पहाड़ी टुकड़ियों को बड़े स्तर पर स्थापित किया है और विस्तार किया है। साथ ही 50,000 स्ट्राइक फोर्स तैयार करने का प्लान भी है।

### सियाचिन में ऊंचाई पर भी मौजूद भारतीय सेना

हुआंग का कहना है कि पर्वतारोहण भारतीय पहाड़ी सेना में हर सदस्य के लिए अहम है। इसके लिए भारत ने बड़ी संख्या में प्रफेशनल और नए पर्वतारोहियों को प्राइवेट सेक्टर से रिक्रूट किया है। सियाचिन ग्लेशियर में भारतीय सेना की मौजूदगी को लेकर हुआंग ने कहा, 'भारत की सेना ने सियाचिन ग्लेशियर में सैकड़ों आउटपोस्ट बनाए हैं जिनमें कुछ 5 हजार मीटर ऊंचाई तक पर हैं और इनमें 6 से 7 हजार फाइटर तैनात हैं। सबसे ऊंचा पोस्ट 6,749 मीटर पर बनाया गया है।'

### बाहर से मंगाए, खुद तैयार किए हथियार

भारतीय सेना के इक्विपमेंट की बात करते हुए हुआंग ने कहा है, 'उनके पास ऊंचाई और पहाड़ी मौसम में चलाने के लिए बड़ी संख्या में हथियार हैं, जो उन्हें बाहर से हासिल किए हैं और खुद भी घरेलू रिसर्च एंड डिवेलपमेंट के जरिए तैयार किए हैं। भारतीय सेना बड़ी कीमत US से अडवांस्ड हेवी इक्विपमेंट लेने पर खर्च करती है जिसमें M777 सबसे हलकी होवित्जर और चिन्नूत हेवी ट्रांसपोर्ट हेलिकॉप्टर हैं जो गन उठा सकता है। इससे सेना का फायर सपोर्ट और एंटी-आर्मर क्षमता बढ़ती है।'

**अभी पूरी तरह खुद में सक्षम नहीं**

हुआंग का कहना है कि भारतीय सेना ने खुद को अमेरिका का AH-64 E LongBow Apache लड़ाकू हेलिकॉप्टरों से लैस करने का फैसला किया है ताकि उसे पूरी तरह एयरफील्ड सपोर्ट पर निर्भर न रहना पड़े।' खामियों के बारे में उन्होंने लिखा कि भारतीय सेना हथियारों के मामले में पूरी तरह खुद से सक्षम नहीं है। खासकर तब जब भारत पश्चिमी क्षमता का इस्तेमाल कर बड़ी संख्या में अत्याधुनिक हल्के हथियार खरीदता है तो गोला-बारूद की आपूर्ति एक बड़ी समस्या बन जाती है।'

<https://navbharattimes.indiatimes.com/world/asian-countries/chinese-expert-praises-indian-mountain-and-plateau-troops-as-worlds-largest-and-most-experienced/articleshow/76289642.cms>

**hindustantimes**

Wed, 10 June 2020

## **India has largest, most experienced mountain army in the world, says Chinese military expert**

*Huang Guozhi, senior editor of Modern Weaponry magazine, has said that the world's largest and experienced country with plateau and mountain troops is neither US nor Russia but India*

*By Sutirtho Patranobis*

Beijing: India has the world's largest and most experienced troops trained for high-altitude battles, a military expert affiliated to China's leading maker of equipment for the People's Liberation Army (PLA) has said, adding that mountaineering is an "essential skill" for each Indian soldier deployed in the mountains.

"At present, the world's largest and experienced country with plateau and mountain troops is neither the US, Russia, nor any European powerhouse, but India," wrote Huang Guozhi, senior editor of Modern Weaponry magazine.

The magazine, considered a comprehensive military and defence journal, is affiliated to the state-owned China North Industries Group Corporation Limited (NORINCO), which describes itself as "the main platform responsible for developing mechanised, digitised and intellectualised equipment for PLA".

It's one of the world's largest defence contractors and is also closely involved in President Xi Jinping's legacy project, the Belt and Road Initiative.

The write-up comes in the backdrop of a stand-off between Indian and Chinese border troops along the line of actual control (LAC) in the mountainous Ladakh region. It began last month and was the topic of talks between military commanders last weekend.

Huang's article published in thepaper.cn is a rare critique of an Indian army wing in Chinese media, which usually takes the more nationalistic tone of brandishing its own capabilities along the border with India.

Huang's take was nuanced.

"Mountaineering is an essential skill for almost every member of the Indian mountain army. To this end, India even recruited a large number of professional mountaineers and amateur mountaineers from the private sector," Huang wrote.

"With more than 200000 troops in 12 divisions, the Indian mountain force is the largest mountain fighting force in the world," Huang wrote.

Huang said that since the 1970s, the Indian military has established and expanded the size and personnel of the mountain army on a large-scale, and also plans to create a mountain strike force of more than 50,000 troops.

Giving the example of the Siachen Glacier, Huang wrote: “The Indian army has set up hundreds of outposts in the Siachen Glacier area with an altitude of more than 5,000 metres, with 6,000 to 7,000 fighters stationed. The highest post has reached 6,749 metres.”

Huang didn't mention the source of the information but went on to give a list of weaponry that the Indian army has deployed in the mountains suitable to high-altitude battles.

“In terms of equipment, the Indian military, through procurement from abroad and domestic research and development, has equipped a large number of main battle weapons adapted to the combat environment of the plateau and mountains.”

“The Indian military has also spent heavily on advanced heavy equipment from the US including the M777, the world's lightest 155mm-towed howitzer, and the Chinook heavy transport helicopter that lifts the gun, to boost its fire support and anti-armour capabilities”.

Huang also mentioned the high-calibre sniper rifles that Indian soldiers deployed at high-altitudes are now equipped with.

The author also listed shortcomings of the Indian army mountain troops including lack of self-sufficiency in weaponry and ammunition especially needed for western weaponry.

“In addition, there are many conflicts and differences between the Indian Army and the Indian Air Force. This has also led the Indian Army to decide to equip its own US-made AH-64E Longbow Apache attack helicopters instead of relying entirely on airfield support from the air force,” Huang wrote.

Incidentally, India and the US signed an estimated \$800 million contract in February this year in New Delhi for the delivery of six Boeing AH-64E Apache Guardian attack helicopters to the Indian Army's Aviation Corps (AAC).

<https://www.hindustantimes.com/india-news/india-has-largest-most-experienced-mountain-army-in-the-world-says-chinese-military-expert/story-4eR8hDrrshV7j59QHvYfIYO.html>

INDIA  
TODAY

Wed, 10 June 2020

## 1962≠2020: US study explains India's conventional edge over China

*Can India take China head-on in the event of a full-scale escalation or will we suffer a 1962-like setback? A US study says India holds a conventional advantage which makes 2020 nothing like 1962*

*By Ankit Kumar*

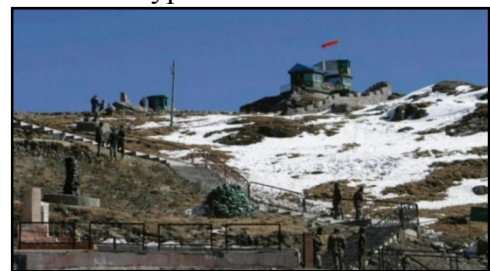
### HIGHLIGHTS

- *Is India ready to face China in a head-on challenge?*
- *A US study says that if the situation escalates India can hold off Chinese advances*
- *It says that India holds a conventional advantage to ward off a 1962-type setback*

New Delhi: India holds a conventional advantage to ward off a 1962-type setback in the event of a full-scale escalation with China primarily because of its Beijing-centric deployments across air, land and high-altitude platforms, according to a US study.

The research paper, published by the Belfer Center for Science and International Affairs at the Harvard Kennedy School earlier this year, analysed comparative data of Indian and Chinese strategic assets.

The study, however, noted New Delhi's conventional advantage remains "under-appreciated" in Indian discourse.



File photo of military installation on Indo-China border (Photo Credits: Reuters)



The publication introduced a new data compilation based on "published intelligence documents, private documents sourced from regional states, interviews with experts based in China, India, and the United States".

It gave a comprehensive assessment of "the location and capabilities of Chinese and Indian strategic forces". The two authors of the study are Dr Frank O'Donnell, who is a non-resident fellow at the Stimson Center's South Asia Program and Dr Alexander K Bollfrass, a senior researcher at the Center for Security Studies at the Swiss Federal Institute of Technology in Zurich.

### **Conventional Forces**

The research estimated that India's total available army strike forces near China's border areas to be around 225,000 personnel against an estimated 200,00-230,000 Chinese ground forces under the Western Theater Command, and Tibet and Xinjiang military districts.

But then the study found the Chinese numbers misleading.

"Even in a war with India, a significant proportion of these forces will be unavailable, reserved either for Russian taskings or for countering insurrection in Xinjiang and Tibet," it says.

The authors observed that a majority of Chinese troops are located further from the Indian border, "posing a striking contrast with the majority of forward-deployed Indian forces with a single China defence mission".

### **Air Capabilities**

The Chinese Air Force (PLAAF), according to the authors, also suffers from a numerical disparity to the Indian Air Force (IAF) in the border region.

China's Western Theater Command controls all regional strike aircraft in this area, the proportion of which are needed to be reserved for "Russia-centric missions", the study said.

China, it added, hosts a total of around 101 fourth-generation fighters in this theatre, which also include Russian defence, against around 122 Indian comparables solely directed at China.

China would likely be compelled to rely more upon its rear-area air bases, which will "exacerbate its limited fuel and payload problems", the authors say.

Most PLAAF pilots are over-reliant upon ground control for tactical direction, which the study notes may turn out to be counterproductive.

According to the study, the Indian fighter pilots have a level of institutional experience in actual networked combat due to ongoing conflicts with Pakistan.

Although China has a superior missile force, it is unlikely to overcome the PLAAF disadvantage at once.

"If the PLAAF attacks just three airfields, it will require 660 ballistic missiles per day for attacking the runway and taxi track alone. China's stock of 1,000-1,200 MRBMs/SRBMs (medium- and short-range ballistic missiles) will be over in less than two days when attacking just three airfields, with no other major target systems being addressed," wrote the authors, quoting a former IAF official.

The authors believe that China may permanently station large forces nearer to the border but it will give time for a counter-build-up by India.

### **LAC Stand-Off an Intelligence Failure**

Frank O'Donnell, the lead author, told India Today TV that their assessment of the disposition of major Chinese and Indian combat forces has not changed since the publication in March.

That said, he pointed out that such a large movement by the PLA would have been picked up by Indian and US intelligence much in advance.

"What has happened in this episode is that a large Chinese military exercise near the border areas was used as a feint, with Chinese forces then being diverted toward the positions they occupy today," O'Donnell said.

He termed the current situation an outcome of "a significant intelligence failure" and suggested that "there should be a Kargil Review Committee-level public inquiry as to how this intelligence failure was permitted to occur and provide recommendations for preventing a recurrence".

### **Possible Solutions**

Asked about the possible solution to end the stand-off, O'Donnell suggested an aggressive diplomatic strategy, similar to that New Delhi executed following the 2008 Mumbai attacks.

"China is intensely sensitive to its global image and how it is portrayed. The 2008 Mumbai playbook of regular MEA briefings of scores of foreign ambassadors regarding the nature and extent of the Chinese LAC violation, and pressuring these governments to publicly criticize China for these actions and demand that it withdraw will raise the international costs to China's reputation in continuing the occupation."

In his opinion, Russia should be a particular target of Indian diplomacy with regard to China.

"To intercede with China as its closest partner to tell it to pull back, Russia is reportedly already very distressed with the Chinese actions," O'Donnell added.

The final diplomatic option, in O'donnell's view, is the cancellation of an invitation to China for next year's BRICS summit, which India is hosting. "PM Modi can publicly state that at present he cannot see how he could invite China to attend if it is occupying Indian territory," says O'Donnell.

He noted that the Doklam crisis ended soon before the scheduled commencement of the 2017 BRICS summit.

<https://www.indiatoday.in/india/story/us-study-explains-india-s-conventional-edge-over-china-1687213-2020-06-09>

## **Business Standard**

*Wed, 10 June 2020*

### **Border situation cooling, says Army; military officers meet again today**

*The sources also claimed that both sides have 'retreated a bit' after the Saturday meeting*

*By Ajai Shukla*

New Delhi: Top Army sources on Tuesday said, based on a decision taken at the meeting between Indian and Chinese generals in Ladakh on Saturday, lower-ranked officers from both sides will meet over the coming 10 days to discuss conflicts in their respective areas of responsibility.

The sources said that in this series of "higher military commander level" (HMCL) meetings, the first will be held on Wednesday at Patrolling Point 14 (PP14), near the Pangong Tso.

The sources also claimed that both sides have "retreated a bit" after the Saturday meeting. Describing the meeting between Indian and Chinese corps commanders on Saturday, the Army sources said they met one-to-one for almost three hours before engaging further at delegate-level talks.

The sources said the two sides "mutually agreed and identified five locations of conflicts" between the People's Liberation Army (PLA) and Indian troops. These conflict locations are PP14, PP15, PP17, the north bank of Pangong Tso and Chushul.

Countering criticism that the PLA intrusions took the Army by surprise, the sources claimed "there has not been any Intelligence failure" and that the "Indian Army has stopped the PLA quickly and strongly." They claimed the army "has matched (the PLA) in terms of men and machinery at every location."



**The Army sources said they met one-to-one for almost three hours before engaging further at delegate-level talks**

“The Indian side has conveyed that construction will not stop, including on the DSDBO road, as it is well within the Indian boundary,” they said. Denying that any heads would roll, the sources expressed full satisfaction with the way the Leh corps commander and the northern army commander had handled the intrusions.

In a statement of resolve, they said the Army “is fully prepared for a long and permanent deployment if the PLA does not retreat.”

Portraying a coherent Indian military-political response, the sources stated: “All three services, the chief of defence staff, the [national](#) security advisor, the defence minister and the ministry of external affairs are coordinating well amongst themselves.”

On the broader military-political perspective, the sources said: “The core issue is the undecided Line of Actual Control (LAC). Until that is solved, these episodes and issues will continue to happen.” The sources criticised the PLA’s militarisation of the border areas. “China has deployed fighter bombers, rocket forces, air defence radars, jammers, etc. India has deployed all its major assets along the LAC... just a few kilometres away from the frontline. India will continue to have major build up until China withdraws the build up (it has) done there,” said the sources.

The sources indicated that it was proposed during the corps commanders’ meeting on Saturday that such meetings should be held “once or twice every year for better interaction between the two armies at a higher level.”

[https://www.business-standard.com/article/current-affairs/border-situation-cooling-says-army-military-officers-meet-again-today-120061000070\\_1.html](https://www.business-standard.com/article/current-affairs/border-situation-cooling-says-army-military-officers-meet-again-today-120061000070_1.html)

TIMESNOWNEWS.COM

Wed, 10 June 2020

## Smoking mirrors: The illusion of the LAC

*It is China’s eventual strategic aim to push India to the west of the Indus somewhere near Kargil by catching Indian forces in a pincer between Chinese and Pakistani forces*

*By Iqbal Chand Malhotra*

The Aksai Chin region of Ladakh is a very mineral and resource-rich territory and is a part of the geographical construct called the Tarim Basin which lies to its northeast in southern Sinkiang. In the summer of 1949, the Soviets airlifted PLA troops into Sinkiang in a fleet of 40 transport aircraft to secure the region from the opposition Kuomintang. The Chinese invasion of Aksai Chin started in March 1950 after Soviet dictator Joseph Stalin kept Chinese Communist Party Chairman Mao Tse Tung in Moscow from December 1949 to February 1950, only letting him leave after the two of them signed the momentous Sino-Soviet Treaty of Friendship and Mutual Assistance on 14 February 1950 after intense negotiation. The Soviets were interested in the Tarim Basin and its extension Aksai Chin’s generous deposits of thorium, beryllium and uranium, without which the Soviet nuclear programme located nearby in Semipalatinsk would be gasping for breath.

The Soviets also identified lake Lop Nor in the Tarim Basin as the site of the new Chinese nuclear testing facility. This lake was fed by the Tarim River. The two main tributaries of the Tarim River were the Karkash River originating in Aksai Chin and the Shaksgam River originating in the Shaksgam Valley. It was, therefore, necessary to build a road from Sinkiang into Aksai Chin and then connect the latter through to Tibet which was also being eyed by these two dictators. However, the entire operation had to be shrouded in secrecy away from the prying eyes of the western powers.

At that point of time in early 1950, India was still selling arms and ammunition to the Tibetan Army. India’s military outpost at Gartok in Western Tibet was also able to keep a watch on Sino-Soviet activities in Sinkiang as was her Consulate in Kashgar, Sinkiang. In order to eliminate this Indian presence, Stalin urged Mao to consolidate Chinese control in northwestern Tibet bordering Sinkiang by building a road to Gartok and sending troops from Sinkiang to keep a watch on the



hostile lamas in Tibet who he alleged were up for sale to the highest bidder be it America, Britain or India. This is why China was -- and is -- determined to control Aksai Chin by hook or by crook.

That was the situation in the 20th century. Today, in the 21st century, China is enmeshed in a critical cold war with the US. At the heart of this cold war is the denial by the US, Japan and Taiwan of the sale of high-end microprocessors to China after the Huawei scandal broke out in 2018. That year China imported over US\$ 200 billion worth of microprocessors from these two countries. When the US placed an embargo on China denying it these microprocessors, it had no choice but to try and build them through a process of self-reliance. Towards this end, it set up a giant polysilicon factory near Kashgar in Sinkiang. Microprocessors require vast amounts of freshwater. For China, this water can only be harnessed from the Himalayas and the Karakorum's rivers. It has invested around US\$ 25 billion to build five dams on the Indus River in PoK with water storage reservoirs of over 225 km in length. For these dams to be unmolested from any possible curtailment of the flow of the waters of the Indus River, the Shyok River, the Chip Chap River, the Galwan River, the Nubra River and the Chang Chen Mo River, all of them have to be controlled by China.

It is China's eventual strategic aim to push India to the west of the Indus somewhere near Kargil by catching Indian forces in a pincer between Chinese and Pakistani forces. To this end, it will first try and annex Daulat Beg Oldie (DBO) to cut India off from the Karakoram Pass and use the DBO airstrip as a launchpad to attack the Siachen base camp with aerial and heliborne forces. To this end, all the settlements on the newly-constructed DBO road like Qizil Langar, Burtsa Gongma, Murgo, Sultan Chhushku, Kataklik, Mandaltang et al are highly vulnerable. The Chinese have the jokers in the pack as of now. India's only joker is the presence of political will and this needs to be used. They have India where Musharraf had us in Kargil in 1999. This is our Kargil nightmare come alive.

Today, the Indian Army cannot peacefully patrol beyond Finger 4 at the Pangong Lake; it cannot patrol up to the Kongka La Pass and it cannot cross to the east bank of the Galwan River. The PLA, in one swift move, now dominates the heights overlooking the Galwan River. The Chinese posts on these heights can direct kinetic fire at the DBO road, which is only a couple of kilometres away.

India has enough satellites in the sky and it is amazing that all of this PLA activity was not noticed by the intelligence bureaucracy safely ensconced in Lutyens Delhi. Such complacency in analyzing, communicating and acting is unforgivable.

For some strange reason, the Indian bureaucracy and in particular the MEA has never recovered from the utter rubbish of the Panchsheel Agreement of 1954, the disastrous concept of non-alignment and the fear of the "Chinese" after the 1962 war. This entrenched fear has overridden the actual vulnerability of the Chinese and their much-vaunted PLA. The Chinese are but a paper tiger using a tape recorder in the background to constantly growl at us.

Since 2003, when the Chinese rejected Indian maps of the actual ground position of the Indian Army and PLA in Ladakh, they have been freed from being bound to India's perception of the LAC. Yet 17 long years have passed and we have been sitting complacent, letting the Chinese ring up huge trade surpluses against us. The last financial year's trade deficit with China was in excess of USD 50 billion. We have transferred in excess of USD 500 billion to China since 2010 in this way.

The latest crisis in Pangong Tso and the Galwan Valley in Ladakh and at Naka La in Sikkim is unique because of the geographical spread. The Chinese are clearly sending a message. From Prime Minister Narendra Modi and President Xi Jinping's post-Doklam summit meetings in Wuhan in 2018 and Mamallapuram in 2019, it appears that China not only wishes India to acquiesce to vacating more territory in Ladakh but it also wants India to sit down with both China and Pakistan in a trilateral setting and resolve the issue of Jammu and Kashmir to their advantage and satisfaction. They are not going away this time. It looks like they will travel the whole way.

India has to rapidly build up its alliances and military strength.

Vedic astrologers are aware that the planet Mars enters Aries on 16 August 2020 and will remain there till 4 October 2020. The Dragon's Tail or the south node of the moon known as Ketu enters Scorpio on 23 September 2020. The intersection of these movements makes the period 23 September to 4 October pretty ominous for the world.

Is India caught in a Catch-22?

*(Iqbal Chand Malhotra is a guest contributor. Views expressed are personal.)*

<https://www.timesnownews.com/columns/article/india-china-lac-latest-news-tension-issue-dispute-agreement/603723>



Wed, 10 June 2020

## L&T-made major cryostat base installed in world's largest nuclear fusion project in France

Engineering and construction giant Larsen & Toubro (L&T) on Tuesday said it has achieved a major milestone by manufacturing the 1,250 tonne single largest section of the world's largest nuclear fusion reactor in France, and the section has been successfully placed into a reactor building there.

Assembly tools of the 1,250-tonne cryostat were delivered during the lockdown by the heavy engineering arm of L&T to ensure the uninterrupted assembly of cryostat in reactor pit in southern France. The cryostat forms the vacuum-tight container surrounding the reactor vacuum vessel and the superconducting magnets and acts essentially as a very large refrigerator.



India is among the seven elite countries funding the USD 20 billion International Thermonuclear Experimental Reactor (ITER) programme in Cadarache, France. This is one of the world's largest research project that seeks to demonstrate the scientific and technical feasibility of fusion power.

“L&T Heavy Engineering – manufactured 1250 MT Cryostat base, the single largest section of the world's largest nuclear fusion reactor, was successfully lifted and placed into a reactor building in France recently, accomplishing a major milestone in the nuclear engineering world,” the company said in a statement.

“The reactor base, the single largest and heaviest Tokamak component of the world's largest stainless-steel, high-vacuum, pressure chamber cryostat, will eventually contain the rest of the reactor,” it said.

Bernard Bigot, Director-General, ITER organization said, We thank L&T for the timely deliveries, in the current difficult circumstances, of the cryostat base alignment tool & shims which are critical to install cryostat base, as brilliantly manufactured by L&T since 2015.”

This installation into the ITER Tokamak building is a significant activity for other downstream activities to achieve the mission for a first plasma as soon as possible by the end of 2025, he said.

“This could have been possible, amidst COVID-19 lockdown period, only due to the extraordinary dedicated efforts of L&T team and invaluable support of the Indian government authorities. L&T has always been a trusted partner in meeting the goals of ITER,” he added.

<https://idr.org/lt-made-major-cryostat-base-installed-in-worlds-largest-nuclear-fusion-project-in-france/#more-228871>

## अगले महीने से शुरू हो सकेगी एयरफोर्स के नए बैच की ट्रेनिंग, कोविड-19 की वजह से हुए कोर्स लेट

भारतीय वायुसेना के नए बैच की ट्रेनिंग अगले महीने से शुरू हो सकती है। कोरोना महामारी की वजह से नए बैच की ट्रेनिंग शुरू नहीं हो पाई थी, हालांकि पहले से शुरू हो चुकी ट्रेनिंग सोशल डिस्टेंसिंग के साथ जारी रखी गई थी। वायुसेना चीफ आरकेएस भदौरिया के अनुसार ट्रेनिंग के पैटर्न में अब बदलाव किया गया है।

पूनम पाण्डे

### हाइलाइट्स

- अगले महीने से वायुसेना के नए बैच की ट्रेनिंग शुरू हो सकती है
- कोरोना संकट की वजह से नए बैच का ट्रेनिंग शुरू नहीं हो पाई थी
- वायुसेना चीफ ने दी ट्रेनिंग पैटर्न में बदलाव की जानकारी
- नियम के अनुसार जून में ही शुरू हो जानी चाहिए थी ट्रेनिंग

नई दिल्ली: कोविड-19 की वजह से मिलिटरी ट्रेनिंग पर भी फर्क पड़ा है। इंडियन एयरफोर्स ने जहां कुछ ट्रेनिंग सोशल डिस्टेंसिंग के साथ जारी रखी थी वहीं ट्रेनिंग का नया बैच शुरू नहीं हो पाया। अब जुलाई से नए बैच की ट्रेनिंग शुरू होने की उम्मीद है।

### टाइम से हो जाएगा पूरा

एयरफोर्स चीफ आरकेएस भदौरिया ने कहा कि सोशल डिस्टेंसिंग को ध्यान में रखते हुए अकेडमी में ट्रेनिंग पैटर्न में बदलाव किया गया। कई कोर्स कोविड-19 की वजह से लेट भी हो गए लेकिन एयरफोर्स के पास यह क्षमता है कि वह इस वक्त की भरपाई कर सकती है। उन्होंने कहा कि ट्रेनिंग के नए बैच की ट्रेनिंग जुलाई से शुरू की जा सकती है।

हालात की लगातार समीक्षा की जा रही है। एयरफोर्स के एक अधिकारी ने बताया कि हर साल दो बैच पासआउट होते हैं। एक बैच जनवरी से शुरू होता है दूसरा जून से। उन्होंने कहा कि जो कोर्स लेट हुआ है उसे शनिवार-रविवार को भी कर वक्त पर पूरा किया जा सकता है।

### महिलाओं को फाइटर पायलट बनने के मिलते रहेंगे मौके

एयरफोर्स में इस वक्त 111 महिला पायलट हैं जिनमें से 9 महिला पायलट फाइटर स्ट्रीम में हैं। इन 9 पायलट में से 4 महिला फाइटर पायलट ऑपरेशनल हैं यानी अगर युद्ध जैसे हालात बने तो यह महिला फाइटर पायलट फाइटर जेट उड़ा सकती हैं। 2 महिला पायलट स्टेज-3 ट्रेनिंग में हैं जबकि 3 फाइटर स्ट्रीम में आई ही हैं और उनकी ट्रेनिंग बाकी है।

एयरफोर्स चीफ ने कहा कि 'महिला पायलट को फाइटर स्ट्रीम में शामिल करने के लिए 2015 में स्कीम शुरू की गई थी। यह स्कीम प्रयोग के लिए लाई गई थी लेकिन हम इसके नतीजों से संतुष्ट हैं।' एयरफोर्स के एक अधिकारी के मुताबिक यह स्कीम पहले पांच साल के लिए ही थी एयरफोर्स इसे आगे भी जारी रख सकती है। यानी आगे भी महिलाओं को फाइटर पायलट बनने के मौके मिलते रहेंगे।

### राफेल फाइटर पायलट की ट्रेनिंग में नहीं होगी देरी

एयरफोर्स चीफ ने कहा कि जुलाई आखिर में राफेल फाइटर जेट का पहला बैच भारत आ जाएगा। उन्होंने कहा कि हमारे पायलट और टेक्निशियन फ्रांस में एयरक्राफ्ट उड़ा भी रहे हैं और मेनटेन भी कर रहे हैं। उन्होंने कहा कि पायलटों की ट्रेनिंग और राफेल की डिलीवरी में देरी की संभावना नहीं है।



एयरफोर्स को मिलने वाले 83 तेजस एयरक्राफ्ट के बारे में एयरफोर्स चीफ ने कहा कि एचएएल के साथ नेगोशिएशन पूरी हो गई है और हमें उम्मीद है कि जल्दी ही कॉन्ट्रैक्ट साइन हो जाएगा। उन्होंने कहा कि कॉन्ट्रैक्ट साइन होने के 3 साल में डिलीवरी शुरू हो जाएगी।

<https://navbharattimes.indiatimes.com/india/training-of-new-batch-of-indian-airforce-might-start-next-month/articleshow/76289127.cms>

THE ECONOMIC TIMES

Wed, 10 June 2020

## GRSE delivers fifth ship in Fast Patrol Vessels' series to Indian Coast Guard

*GRSE had earlier made deliveries of FPVs ICGS Priyadarshini, ICGS Annie Besant and ICGS Amrit Kaur in this series to the Indian Coast Guard, it said in a statement*

Kolkata: Premier warship builder Garden Reach Shipbuilders and Engineers Ltd (GRSE) on Tuesday delivered ICGS Kanaklata Barua, the fifth and final ship in the series of Fast Patrol Vessels (FPV) for the Indian Coast Guard, an official said here. This is the 105th vessel delivered by the Defence PSU shipyard based on the banks of river Hooghly here.

GRSE had earlier made deliveries of FPVs ICGS Priyadarshini, ICGS Annie Besant and ICGS Amrit Kaur in this series to the Indian Coast Guard, it said in a statement.

The fourth ship in the series of FPVs is earmarked for export delivery to the Seychelles Coast Guard and is likely to be delivered shortly after completing the related formalities, GRSE said.

The warship builder will make another ship for the ICG as a replacement to the one diverted to the Seychelles Coast Guard and related formalities of signing contract with the amendments to the existing one are underway and will be completed shortly, it said.

The fast patrol vessels, which have been entirely designed by GRSE's Central Design Office, can achieve speeds exceeding 34 knots with an endurance of more than 1,500 nautical miles, the statement said.

These fuel-efficient and powerful platforms are well suited for operations like patrolling, anti-smuggling, anti-poaching and rescue, GRSE said.

Fitted with 40/60 mm gun as main armament, these ships have improved habitability features with fully air-conditioned modular accommodation for 35 personnel, the statement added.

<https://economictimes.indiatimes.com/news/defence/grse-delivers-fifth-ship-in-fast-patrol-vessels-series-to-indian-coast-guard/articleshow/76290118.cms?from=mdr>



## Rear Admiral Atul Anand assumes charge at NDA, Khadakwasla

*He has taken charge as the deputy commandant and chief instructor of the National Defence Academy (NDA), Khadakwasla*

Pune: Rear Admiral Atul Anand has taken charge as the deputy commandant and chief instructor of the National Defence Academy (NDA), Khadakwasla from Rear Admiral SK Grewal.

Anand is a second generation armed forces officer whose father is also an alumnus of the NDA (13th course). Commissioned in 1988 in the executive branch of the Indian Navy, the flag officer is a specialist in navigation and direction. The admiral is an alumnus of the NDA (71st course), Defence Services Command and Staff College, Bangladesh and National Defence College, New Delhi. He has also attended the prestigious advance security cooperation course at the Asia-Pacific centre for security studies, Hawaii, USA.

A recipient of the Vishisht Seva Medal, the Admiral has commanded Indian Naval Ships Torpedo Recovery Vessel A72, Missile Boat INS Chatak, Corvette INS Khukri and the Destroyer INS Mumbai. INS Chatak was awarded the Unit Citation and thereafter INS Mumbai was adjudged as the Best Ship of Western Fleet during his Command. He also served as Direction Officer of the Sea Harrier Squadron INAS 300 and Executive Officer of the Destroyer INS Delhi. His important staff appointments include Joint Director Staff Requirements, Directing Staff at the Defence Services Staff College, Wellington, Director Naval Operations, Director Naval Intelligence (Operations), Principal Director Naval Operations and Principal Director Strategy, Concepts and Transformation. Prior to this appointment, he served as the Assistant Chief of Naval Staff (Foreign Cooperation and Intelligence) at IHQ MoD (Navy), New Delhi.



Rear Admiral Atul Anand (HT PHOTO)

<https://www.hindustantimes.com/pune-news/rear-admiral-atul-anand-assumes-charge-at-nda-khadakwasla/story-W4kr7H4JrFCZoNu0MP5YcO.html>

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## India-Nepal ties must be dominated by opportunities of future, not frustrations of past

*Nepal-India relations are deep, wide-ranging, and unique, but also fraught with complexities. Much of the complexity stems from the fact that the political leadership handles only a small part of this very important bilateral relationship*

*By Dinesh Bhattarai*

New Delhi: The inauguration of the “new road to Mansarovar” on May 8 in the midst of a global pandemic by India’s defence minister, Rajnath Singh, has strained the relations between Nepal and India. A section of the road passes through the territory of Nepal and links with the Tibetan Autonomous Region of China through the Lipu Lekh pass in Nepal. The 1816 Sugauli Treaty between Nepal and British India placed all the territories east of the Kali (Mahakali) river, including Limpiyadhura, Kalapani and Lipu Lekh at the northwestern front of Nepal, on its side. The borders of Nepal, India and China intersect in this area. Given the situation in 1961, Nepal and China fixed pillar number one at Tinker pass with the understanding that pillar number zero (the tri-junction of Nepal, India, and China) would be fixed later. Lipu Lekh pass is 4 km northwest and Limpiyadhura 53 km west of Tinker pass.

The dispute over the Kalapani area has spanned the last seven decades. The issue of Indian presence in the area came to the frontline of Nepali politics after the advent of democracy in 1990. Since that time, Nepal has been raising this issue with India at prime ministerial levels. Both Nepal and India have recognised it as an outstanding border issue requiring an optimal resolution. In August 2014, when Prime Minister Narendra Modi became the first Indian Prime Minister to visit Nepal in 17 years, Nepal’s Prime Minister Sushil Koirala raised this issue again. The two



The dispute over the Kalapani area has spanned the last seven decades. The issue of Indian presence in the area came to the frontline of Nepali politics after the advent of democracy in 1990.

prime ministers agreed to resolve the issue on a priority basis and directed their foreign secretaries “to work on the outstanding boundary issues including Kalapani and Susta”. In a 45-minute speech to Nepal’s Constituent Assembly, Prime Minister Modi “touched the hearts and minds of all the Nepalese people”. He erased many long-standing misperceptions about India and laid “the foundation for new relationship” between the two countries.

However, this euphoria took no time to evaporate. There was virtually no progress on the ground. In May 2015, Prime Minister Modi visited China, and the two countries agreed to “enhance border areas cooperation” and “transform the border into a bridge of cooperation and exchanges, at ...Lipu Lekh pass”. The May 2015 agreement is a broad one compared to the 1954 India-China agreement “on trade and intercourse between Tibet Region of China and India”, which mentions Lipu Lekh pass as one of the six passes “through which traders and pilgrims of both countries may travel”.

Nepal protested against the inclusion of its territory, Lipu Lekh, in the joint statement without its consent and demanded that the two countries make necessary corrections to reflect the ground realities. The protest was ignored. This is a flagrant violation of the principle of “sovereign equality of all states”. Welcoming the improved relations between India and China and their greater cooperation as a development of great international significance, Nepal stands ready to facilitate



connectivity between its two neighbours while also demanding that they “respect its core concerns of sovereignty and territorial integrity”.

Nepal published a new map including Limpiyadhura, Kalapani and Lipu Lekh. The chief of the Indian Army described Nepal’s protests as triggered at the “behest of someone”, widely considered to be alluding to China. This is an insult to Nepali people who are fiercely proud of their historic independence. Nepal judges every issue on its merits without “fear or favour” and takes positions in the supreme interests of the nation. Nepal’s political parties, despite their ideological differences, have shown the capacity to forge a consensus in safeguarding the country’s sovereignty and territorial integrity.

The tone of Nepal-India relations appears to be dominated by frustrations of the past and traditional attitudes more than the opportunities of the future. The widening gap in understanding each other’s concerns has helped feed Nepali nationalism and create a dense cloud of distrust and suspicion between the two countries. True friends on either side of the border should not want this to happen. The gap widened after India chose to impose an economic blockade in response to Nepal’s sovereign decision to promulgate an inclusive democratic constitution in September 2015 under the leadership of the Nepali Congress. It is no secret that the current ruling Communist Party of Nepal made people’s anger over the blockade its campaign plank during the 2017 general election, while projecting the NC as pro-Indian.

Nepal-India relations are deep, wide-ranging, and unique, but also fraught with complexities. Much of the complexity stems from the fact that the political leadership handles only a small part of this very important bilateral relationship. India as a big neighbour is rarely seen grasping the psychological dimensions of the relationship. Officials handling these multifaceted relations may momentarily influence the atmospherics but they rarely touch the core of these relations, let alone reorient or transform them in the rapidly changing context. This is manifest in the deferring of substantive conversations on the outstanding boundary issue for decades. The foreign secretary level mechanism has not met even once to discuss the border issue since its formation. There are over three dozen bilateral mechanisms between Nepal and India to engage at various levels. The meetings of these mechanisms are rarely regular.

Geography, history, and economy make Nepal and India natural partners, sharing vital interest in each other’s freedom, integrity, dignity, security and progress. People-to-people relations are unique strengths of bilateral relations. Prime Minister Jawaharlal Nehru told the Indian Parliament in 1950, “...we desire above all a strong and progressive, independent Nepal... our chief need, not only our need but also the world’s need is peace and stability in Nepal at present” Prime Minister Modi in 2014 told Nepal’s Constituent Assembly, “How can India be happy if Nepal is unhappy?” Nepal is unhappy with the developments at the border. Yet, the two countries who sit so close to each other are far from having solution-oriented dialogues, which are perceived to be an indispensable part of the “neighbourhood first” policy.

The border dispute looks minor, but allowing it to fester is likely to sow the seeds of immense competition and intense rivalry in the sensitive Himalayan frontier with far-reaching geopolitical implications. Nepal wants to prosper as an independent and sovereign state and be helpful to its neighbours, emerging as the main pillar of a world order that is struggling to be born, and remain productively and constructively engaged with the wider international community.

*(This article appeared in the print edition of June 10, 2020, under the name ‘How to be friends in deed’. The writer has been advisor on foreign affairs to prime ministers of Nepal and ambassador to the UN)*

<https://indianexpress.com/article/opinion/columns/rajnath-singh-nepal-india-relations-road-to-mansarovar-6451070/>



Wed, 10 June 2020

## ISRO working on eliminating space debris in collaboration with ARIES

*By Sharmishte Datti*

Space exploration is certainly one of the most exciting ventures for mankind. However, in the course of exploring and better understanding celestial bodies, we have left a long trail of space debris, floating in outer space. ISRO is now teaming up with Nainital-based Aryabhata Research Institute of Observational Sciences (ARIES) to safeguard space assets from space debris.

### **What is space Debris?**

Space debris, also known as space waste, space trash, and even space garbage, is made up of man-made objects in space. It is primarily floating in Earth's orbit and serve no useful function. It could be anything like non-functional spacecraft or an abandoned launch vehicle stage. As these fragmented space debris float around, they pose a risk to functional spacecraft.

A lot of astronomers and researchers have voiced the dangers of space debris. Former ISRO chairman Kiran Kumar has also stressed that as the number of private space agencies is increasing, a lot of smaller satellites are getting into the Earth's orbit. This also means that the number of non-functional objects too is increasing.

### **ISRO MoU to Clear Space Debris**

The treats from space debris can wreak havoc for space missions. This is why ISRO has signed an MoU with ARIES for cooperation in the field of astrophysics and Space Situational Awareness (SSA). ISRO notes that the MoU will be useful "in safeguarding the Indian space assets from critical threats from space debris".

ARIES comprises of experts in observational astronomy, astrophysics, and atmospheric sciences, who will aid with the new agenda. "Today, every orbiting satellite keeps an eye on these objects and if they are likely to come in the vicinity of our operational satellite, we have to do some maneuvers to ensure that there is no collision," Kumar said in a press meet.

ISRO will be gathering data from the public domain on orbiting objects and has set up observation stations. In this way, ISRO will be contributing to the larger global community and make space exploration safer. ISRO will also pave the way for future collaborations with ARIES for the same. Optical telescope observational facilities for tracking, research, development, and more will be done as well.

<https://www.gizbot.com/news/isro-aries-partner-to-eliminate-space-debris-068187.html>

## Research reveals insights into bioprinted skeletal muscle tissue models

*SUTD collaborates with NTU to provide in-depth analysis of 3D in vitro biomimetic skeletal muscle tissue models, highlighting the great potential of bioprinting technology*

Skeletal muscle can be functionally compromised by genetic myopathies, aging, traumatic injuries and tumor ablation. Under some conditions, such as severe traumatic injuries and volumetric muscle loss, the regeneration process is significantly hindered by fibrous scar tissue formation and therefore causing muscle dysfunction.

Even though numerous bioengineering approaches have been explored to construct in vitro skeletal muscle tissues, an in vitro model that is capable of restoring mature muscle, vasculature, and extracellular matrix composition to the damaged tissue has yet to be achieved. Meanwhile, it was found that by incorporating the exogenous factors such as physical, chemical, and electrical cues, tissue engineering scaffolds have achieved remarkable progress in skeletal muscle regeneration.

Researchers from the Singapore University of Technology and Design (SUTD) and their research collaborators from the Nanyang Technological University (NTU) developed insightful analyses of these in vitro skeletal muscle tissue models. They also reviewed the state-of-the-art status of these bioengineering approaches in mimicking skeletal muscle tissues. Their paper 'Bioprinting of 3D in vitro skeletal muscle models: A review' was published in *Materials & Design*.

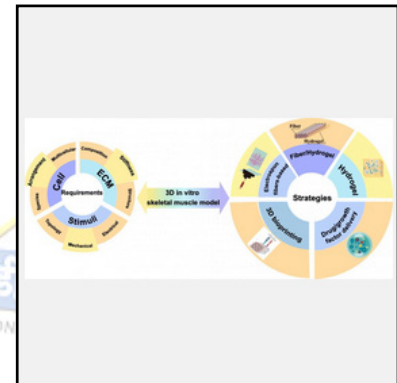


Image: The overview of strategies and requirements for biomimetic 3D in vitro skeletal muscle tissue.

An in-depth analysis of the design considerations related to skeletal muscle models was also presented and various influential parameters including matrix, cells and structures that are associated with myogenesis were discussed. In addition, effects of topological, mechanical, and electrical stimuli were addressed to provide a deeper understanding of the myogenesis. Major bioengineering strategies including electrospinning, hydrogel-based, fiber/hydrogel based, drug delivery and bioprinting have been comprehensively reviewed and compared (refer to image).

The review paper also notes that despite great strides taken in this field, there are still challenges ahead for replicating the native muscle. Besides materials and the multicellular environment, issues such as how to achieve the proper innervation and vascularization have to be addressed in order to rebuild a fully functional muscle.

However, collaborative research efforts in areas such as microfluidic technology, spheroids, programmed control release and electrospinning will pave the way in realizing the full potential of bioprinting.

"In recent years, with bioprinted skeletal muscle demonstrating great flexibility in constructing functional tissue models, almost every organ of the human body can be bioprinted. While our review paper seeks to maximize the potential in 3D skeletal muscle tissue models, we expect our work to also inspire deeper research in eventually replicating native muscle," said principal investigator Prof Chua Chee Kai from SUTD.

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[https://www.eurekalert.org/pub\\_releases/2020-06/suot-rri060920.php](https://www.eurekalert.org/pub_releases/2020-06/suot-rri060920.php)



## Private sector can use ISRO facilities, other relevant assets to improve their capacities

*Private companies to be provided level playing field in satellites, launches and space based services*

*By Pushkar Tiwari*

New Delhi: The Deputy Minister of Department of Atomic Energy, Dr Jitendra Singh on Tuesday (June 9, 2020) said here that private sector will be allowed to use Indian Space Research Organisation (ISRO) facilities and other relevant assets to improve their capacities.

Briefing about India's achievement in the field of Space Technology during the first year of the second term of the Modi Government, Dr Jitendra Singh stated that the Modi Government's 'Atmanirbhar Bharat' roadmap towards self-relied India, as spelt out by Finance Minister, envisages the initiative to boost private participation in Space activities. Indian private sector will be a co-traveller in India's Space sector journey.

Private companies to be provided level playing field in satellites, launches and space-based services. Future projects for planetary exploration, outer space travel will be open to the private sector.

Updating about India's first-ever Human Space Mission 'Gaganyaan' to be undertaken by ISRO, Dr Jitendra Singh said the selection of the astronauts was accomplished and their training in Russia had also started but got interrupted because of the Corona pandemic. He said the project would be followed up soon.

Inspired by Prime Minister Narendra Modi, Dr Jitendra Singh said that in the year that has just gone by, ISRO launched a special programme for young school children called 'Young Scientists Programme - YUVIKA'.

The programme is primarily aimed at imparting basic knowledge on Space Technology and its applications to the younger generations, he said.

Even during the COVID-19 pandemic, ISRO scientists have been engaged in search of the best methods to provide essential medical devices, protective kits and other equipment.

<https://zeenews.india.com/india/private-sector-can-use-isro-facilities-other-relevant-assets-to-improve-their-capacities-2289032.html>



Wed, 10 June 2020

## Indian companies working on Covid-19 vaccine

*By Priyankaraj*

COVID-19 cases in India have crossed the 2.66 lakh-mark today. This was reported after the biggest one-day surge of 9,987 cases that came out yesterday. The primary reason could be the easing of curbs after a prolonged lock down period. And the global COVID-19 cases have crossed the mark of 7 million today. India is among the largest Manufacturer of vaccines and Generic drugs in the world. It is inhabited by around half a dozen major vaccine makers in the world and also has some smaller ones. They are all involved in making vaccines against diseases like Polio, Pneumonia, Rota virus, Meningitis, BCG, Mumps, Rubella and Measles, among other diseases.

Currently, we have seven Indian companies working towards COVID-19 vaccine development. Thereby they have joined the global endeavor to find a quick preventive measure for the fatal virus infection. And it needs to be faster to prevent the virus spreading rapidly across the world.

### **Breaking down the Virus**

Drug and vaccine industry experts believe the genome sequencing of the COVID-19 virus provided by scientists in China clearly shows it shares 79 per cent similarity in the genetic material as Severe Acute Respiratory Syndrome (SARS) and around 50 per cent with Middle East Respiratory Syndrome (MERS) which also affects humans, bats and camels. This solid information allows developers to use the foundation work already created in research for vaccines for these viruses. An important feature of the vaccine development system for COVID-19 is the range of technology platforms being analysed, including virus-like particle, inactivated virus approaches, nucleic acid (DNA and RNA) and live weakened virus.

### **Why COVID-19 vaccine is so important?**

Unless and until we have a vaccine for COVID-19, sheltering-in-place measures and social distancing are the most efficient ways to prevent the spread of this deadly virus. Vaccines have greatly increased the average life expectancy. The importance of COVID-19 vaccine can be deciphered from the fact that when you receive a vaccination, your body develops an immune response to an altered or weakened virus. This happens because your body builds up antibodies so if you're exposed to that particular virus in future your body can fight it off before you develop an infection.

### **Companies working on COVID-19 vaccine**

#### **1. Zydus Cadila**

Ahmadabad-based Indian pharmaceutical giant Cadila Healthcare/Zydus Cadila has emerged as a big leader at the forefront of India's battle to fight the COVID-19 virus. The research team at Zydus Cadila is constantly working towards an accelerated vaccine research programme which can fight against COVID-19.

Zydus has adopted a two-pronged approach for the development of a vaccine which includes a DNA based vaccine and secondly a live attenuated recombinant vaccine to combat the virus. Previously Zydus Cadila was researching on two vaccine prototypes, the work on ramping up the production of hydroxychloroquine (HCQ) and development of rapid diagnostic kits. But now the company is also exploring the use of a biologic drug Interferon alfa-2b to treat the COVID-19 virus.

## **2. Serum Institute of India**

The Pune based 50-year-old vaccine giant Serum Institute of India has left behind all other Pharma companies in its fight against the COVID-19 virus. On June 4, British drug maker AstraZeneca declared that it has partnered with Serum Institute of India to supply 1 billion doses of University of Oxford's potential COVID-19 vaccine firstly to low-and-middle-income countries (LMICs). And according to this deal, Serum will provide 400 million doses before the end of 2020 as a part of the agreement. Now the significance of this partnership is that if all goes well according to the plan, millions of Indians will get access to the COVID-19 vaccine shots produced by Serum Institute way before the end of 2020.

## **3. Bharat Biotech International limited**

Hyderabad-based Bharat Biotech International Ltd (BBIL) has collaborated with the Indian Council for Medical Research (ICMR) to develop a COVID-19 vaccine. In this collaboration, ICMR will provide continuous support to BBIL for vaccine COVID-19 vaccine development. Both the firms are working towards seeking fast-track approvals to accelerate vaccine development in India. This will include clinical evaluation of candidate vaccine and subsequent animal studies, all of which will be completely indigenous to India.

## **4. Indian immunological's Limited**

Indian Immunologicals Limited which is a Hyderabad based pharmaceutical company, is one of the largest vaccine manufacturers in the world. They have collaborated with the Griffith University of Australia to develop Covid-19 vaccine using the latest codon De-optimization technology. According to a statement released by the company the vaccine has the potential to provide long-lasting protection with just a single-dose administration. Moreover, the vaccine will come with an anticipated safety profile similar to other licensed vaccines used for active Immunisation.

## **5. Mynvax**

Mynvax is a Bangalore based biotechnology startup involved in making next-generation flu vaccines in India. This startup is situated at the Indian Institute of Science, Bangalore. It has also taken up the responsibility of beating COVID-19 virus and is developing an indigenous vaccine to prevent COVID-19 infections. It anticipates the vaccine to be ready in about 18 months. To pace up and scale up the entire process, Mynvax has applied for Rs 15 crore in funding from the Biotechnology Industry Research Assistance Council (BIRAC).

## **6. Auro vaccines and Gennova Bio pharmaceuticals**

Recently Hyderabad-based Auro Vaccines and Pune's Gennova Bio pharmaceuticals are the latest to announce their entry into making the COVID-19 vaccine. Both the companies have approached the Department of Biotechnology with their respective vaccine candidates and are looking forward to a quick response.

Also to support Atmanirbhar Bharat government has allocated Rs 100 crores from the PM-CARES (Prime Minister's Citizen Assistance and Relief in Emergency Situations) Fund to support the companies to develop a novel Corona Virus vaccine. The entire funds will be utilized under the supervision of Principal Scientific Advisor, K Vijay Raghavan.

<https://www.inventiva.co.in/stories/priyankaraj/indian-companies-working-on-covid-19-vaccine/>



## Coronavirus (Covid-19) vaccine latest update: Imperial College promises low-cost access to vaccine; China's first jab by autumn

*Coronavirus (Covid-19) Vaccine Latest Update: UK's Imperial College vaccine to enter phase one and two human clinical trials on June 15; China's first Covid-19 vaccine may be ready for use by autumn*

New Delhi: Coronavirus (Covid-19) vaccine latest update: While some potential vaccines have emerged in the global race to find a way to stop the spread of Covid-19, there seems to be a prestige battle going on between the US and China over which country can immunise its citizens first. As of Tuesday, Covid-19 has affected more than 7.11 million people globally and resulted in 406,225 deaths.

Just days after President Donald Trump said the US had already produced two million doses that are “ready to go” if they “check out for safety”, China recently claimed that the country could have a Covid-19 vaccine as early as autumn.

In other developments, scientists from London's Imperial College said they hope to bring a low-cost vaccine to the world early next year via a social enterprise — a company that seeks to do good as well as making a profit.

As of now, there are 224 candidate vaccines in development globally, according to the data collected by the Coalition for Epidemic Preparedness Innovations (CEPI). While North America has the largest number of projects — 49 per cent — China is the furthest along the track with five vaccines in phase II human trials, more than any other country.

### **Coronavirus (Covid-19) vaccine latest updates:**

□ London's Imperial College, which is developing a coronavirus vaccine based on self-amplifying RNA technology, has set up a special company to distribute it if they are successful, rather than partnering with a big pharmaceutical company, to ensure access for the world's poorest.

“Right now we think the focus should be on how to solve the problem rather than how to make money out of it,” said Simon Hepworth, director of enterprise at Imperial. The social enterprise, called VacEquity Global Health (VGH), is backed by Imperial College and Hong Kong-based Morningside Ventures.

The RNA vaccine developed by Imperial College delivers genetic instructions to muscle cells to make the “spike” protein on the surface of coronavirus. The presence of this protein provokes an immune response, offering protection against Covid-19.

The vaccine is now due to enter phase one and two human clinical trials on June 15 with 300 people. A further trial involving 6,000 people is planned for October and if these prove successful, Imperial hopes the vaccine could be distributed in the UK and abroad early next year.

With China promising to strengthen international cooperation in future clinical vaccine trials, a top respiratory expert has claimed that the country could have a jab for ‘emergency use’ within months.

Dr Zhong Nanshan said during an event that a coronavirus vaccine could be available as early as this autumn even though he stopped short of naming the candidate. “Some of them could be used for emergency maybe by the end of this year. We believe in the autumn or winter this year if they are needed for an emergency,” he said.

Nanshan, who had appointed to lead China's fight against coronavirus outbreak, said mass vaccination, not herd immunity, could help tackle the pandemic.

A government white paper “Fighting COVID-19: China in Action” published on Sunday revealed that at least five vaccines developed by Chinese scientists are undergoing human trials. The white paper stated that the country’s researchers are developing vaccines using five technical routes – inactivated vaccines, recombinant protein vaccines, attenuated influenza virus vaccines, adenoviral vector vaccines and nucleic acid vaccines, reported CGTN.

Britain’s AstraZeneca, which last week said it had started to mass-produce its experimental AZD1222 vaccine developed by Oxford University, has approached US rival Gilead Sciences about a possible merger, Bloomberg reported.

Gilead has also been in the vanguard of Covid-19 treatments and its remdesivir antiviral is the first drug to lead to improvement in patients in formal clinical trials.

Such a deal would unite two of the drug makers at the forefront of the industry’s efforts to fight the new coronavirus and could be politically sensitive as governments seek control over potential vaccines. If combined, the two companies would have a market capitalisation of about \$232 billion.

“So far we’re still on track... we are starting to manufacture this vaccine right now, and we have to have it ready to be used by the time we have the results,” AstraZeneca chief executive Pascal Soriot told BBC radio. “Our present assumption is that we will have the data by the end of the summer, by August, so in September we should know whether we have an effective vaccine or not,” he further said.

□ Researchers at Children’s Hospital of Philadelphia (CHOP) in the US have identified regions of the SARS-CoV-2 virus that causes Covid-19 to target with a vaccine, by harnessing tools used for the development of cancer immunotherapies.

The researchers employed the same approach used to elicit an immune response against cancer cells to stimulate an immune response against the novel coronavirus, PTI reported.

“In many ways, cancer behaves like a virus, so our team decided to use the tools we developed to identify unique aspects of childhood cancers that can be targeted with immunotherapies and apply those same tools to identify the right protein sequences to target in SARS-CoV-2,” said John M Maris, a pediatric oncologist at CHOP, and a professor at the University of Pennsylvania.

The researchers looked for regions that would stimulate a memory T-cell response that, when paired with the right B cells, would drive memory B cell formation and provide lasting immunity and do so across the majority of human genomes.

□ Coming to India, Bharat Serums and Vaccines Ltd (BSVL) has said it had received approval from the drug regulator to conduct clinical trials on existing drug “Ulinastatin” for potential treatment of patients with Covid-19 suffering from acute respiratory distress syndrome.

A PTI report said BSVL has received approval to conduct phase-III clinical study on ulinastatin for mild-to-moderate acute respiratory distress syndrome (ARDS) patients with COVID 19. Ulinastatin is currently approved in India for severe sepsis and acute pancreatitis.

“The clinical trials will be conducted in Covid-19 patients who are serious and are being hospitalised because of ARDS. Identifying effective antiviral agents and therapies to combat underlying pathology of COVID-19 is the need of the hour,” BSVL MD and CEO Sanjiv Navangul told PTI.

Patients with severe coronavirus infection can develop fatal lung damage from a cytokine storm due to increase in pro-inflammatory cytokines. Ulinastatin could combat underlying inflammatory condition in Covid-19 patients experiencing mild-to-moderate ARDS, BSVL said.

<https://indianexpress.com/article/coronavirus/coronavirus-covid-19-vaccine-june-update-imperial-college-astrazeneca-oxford-moderna-gilead-6450257/>

## The race for Covid-19 vaccine

*Biotechnology emerging as a major element in global power equations*

*By Manoj Joshi*

Even as the US is tightening the screws on China on account of 5G technology, another, perhaps more consequential, front may be opening up in its new Cold War with China. According to a report, Beijing may deploy a coronavirus vaccine as early as September, even if the clinical trials are not finished. This is being justified as an effort to protect ‘at risk’ groups like medical personnel, but it is also about who comes first in the race for an effective vaccine.

While a ‘gold standard’ vaccine will take time, the contest is as much about prestige as about saving millions of lives and earning billions of dollars.

This contest is as much about prestige, as about saving millions of lives and earning billions of dollars. For China, it is also about redemption, given its inexplicable delay in informing the world about the outbreak.

We can only hope that following the unseemly conduct of countries in restricting the export of medicines and medical equipment at the outbreak of Covid-19, we will not see ‘vaccine nationalism’ when their efforts bear fruit.

The Chinese see themselves against a US effort triggered by President Trump’s call, in mid-May, for developing a vaccine at ‘warp speed’. To meet the target of a vaccine by October — in part motivated by the US elections in November — the US’s Biomedical Advanced Research & Development Authority (BARDA) said they would provide \$1.2 billion support to Oxford University-AstraZeneca to deliver 300 doses of their potential vaccine by the end of September.

As of now, there are 224 candidate vaccines in development globally, according to the data collected by the Coalition for Epidemic Preparedness Innovations (CEPI). While North America has the largest number of projects — 49 per cent — China is the furthest along the track with five vaccines in phase II human trials, more than any other country.

Of the 10 vaccines that are at the stage of human trials, six are Chinese, and it is the only country with a vaccine which has advanced to phase II. This is the Can Sino Biologics-Beijing Institute of Biotechnology product using the ‘non-replicating viral vector’ design, similar to the Oxford University one, and whose phase I trial was reported on May 22 by Lancet.

Other leading candidates are being developed by Pfizer and BioNTech of Germany, Moderna and Inovio of the US, and a clutch of Chinese institutions like Sinovac Biotech, the Wuhan Institute of Biological Products and the Shenzhen Geno-Immune Medical Institute. Most of them are completing their phase I trial.

Both the US and Chinese militaries are active in the vaccine development front. The Beijing Institute of Biotechnology, which is working with Can Sino, is part of the Academy of Military Medical Sciences, whose star is a top virologist, Major General Chen Wei. In the US, the Army Medical Research Institute and the Walter Reed Institute of Research are also working to develop a vaccine.

The effort is seeing innovative approaches and new kinds of partnerships to ensure that, when certified, the vaccine will be available at the fastest speed and most widely distributed. Besides AstraZeneca, BARDA has also agreed to give \$483 million to Moderna and \$500 million to



**NECK & NECK:** Of the 10 vaccines that are at the stage of human trials, six are Chinese.



Johnson & Johnson for their efforts. But, BARDA's 300 million doses are obviously aimed to cover all US citizens. The real battle is to ensure that it reaches the globe's billions.

For this reason, Oxford University has a prior agreement with AstraZeneca to distribute the potential vaccine at no profit for the duration of the epidemic. Another British effort through the Imperial College's laboratory would bypass the drug industry entirely. According to the New York Times, the vaccine, using specifically engineered genetic material—RNA—is cheaper and easier to make than Moderna's, which uses a similar technique, and so would be ideal for global use.

A major player in these efforts is CEPI, launched in Norway in 2017 to finance new vaccines. It has among its sponsors, the Norwegian and Indian governments, the Bill and Melinda Gates Foundation and the Wellcome Trust. CEPI has provided initial support and funding to Curevac, Inovio, Moderna, Novavax, University of Queensland, University of Hong Kong and Oxford University and a consortium led by Institut Pasteur and Clover Biopharmaceuticals.

AstraZeneca has arrived at a \$750 million agreement with CEPI and GAVI to provide 300 million doses of their vaccine for the poorer countries by the end of the year. A major share of this effort will be achieved through the partnership with the Serum Institute of India, the world's biggest vaccine maker based in Pune, to make a billion doses of their vaccine eventually.

Vaccines against viruses are notoriously difficult to develop. There is none, despite huge expenditure and effort, against HIV as yet. They can take a great deal of time, but the coronavirus pandemic is pushing its own envelope. A 'gold standard' vaccine—giving protection of six months, at least 50 per cent effective and able to prevent the transmission of the virus—will take time. The early vaccines may provide limited protection for frontline workers and medical personnel.

Technology has always been a major element in global power equations. Some of it has been good, and some bad. In some cases like nuclear power, it has both facets. But now, for the first time, we may be seeing biotechnology emerge as a factor as well.

<https://www.tribuneindia.com/news/comment/the-race-for-covid-19-vaccine-96464>

**THE TIMES OF INDIA**

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## **Coronavirus vaccine: Researchers identify targets for COVID-19 vaccine using cancer immunotherapy tools**

A team of cancer researchers have applied the strategy of using the tools used for the development of cancer immunotherapies and adapted them to identify the 'right protein sequences to target in SARS-CoV-2,' the virus that causes coronavirus.

Using this strategy, the researchers at Children's Hospital of Philadelphia (CHOP) believe a resulting vaccine would provide protection across the human population and drive a long-term immune response.

The strategy is described in Cell Reports Medicine.

"In many ways, cancer behaves like a virus, so our team decided to use the tools we developed to identify unique aspects of childhood cancers that can be targeted with immunotherapies and apply those same tools to identify the right protein sequences to target in SARS-CoV-2," said senior author John M. Maris, MD, a pediatric oncologist in CHOP's Cancer Center and the Giulio D'Angio Professor of Pediatric Oncology at the Perelman School of Medicine at the University of Pennsylvania.

"By adapting the computational tools developed and now refined by lead author Mark Yarmarkovich, PhD in the Maris Lab, we can now prioritize viral targets based on their ability to

stimulate a lasting immune response, predicted to be in the vast majority of the human population. We think our approach provides a roadmap for a vaccine that would be both safe and effective and could be produced at scale," Maris added.

The COVID-19 pandemic has led to an urgent need for the development of a safe and effective vaccine against SARS-CoV-2, the virus that causes the COVID-19 disease. An optimally designed vaccine maximizes a long-lasting immune response while minimizing adverse reactions, autoimmunity, or disease exacerbation.

To increase the likelihood that a vaccine is both safe and effective, the research team prioritized parameters in identifying regions of the virus to target. The researchers looked for regions that would stimulate a memory T-cell response that, when paired with the right B cells, would drive memory B cell formation and provide lasting immunity and do so across the majority of human genomes.

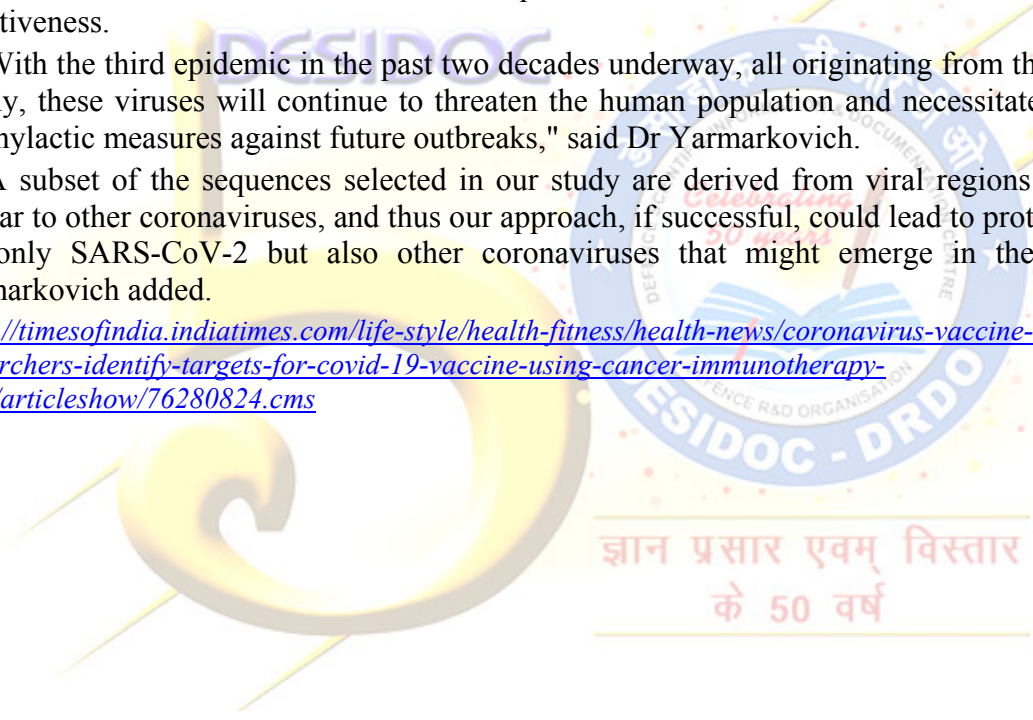
They targeted regions of SARS-CoV-2 that are present across multiple related coronaviruses, as well as new mutations that increase infectivity, while also ensuring that those regions were as dissimilar as possible from sequences naturally occurring in humans to maximize safety.

The researchers propose a list of 65 peptide sequences that, when targeted, offer the greatest probability of providing population-scale immunity. As a next step, the team is testing various combinations of a dozen or so of these sequences in mouse models to assess their safety and effectiveness.

"With the third epidemic in the past two decades underway, all originating from the coronavirus family, these viruses will continue to threaten the human population and necessitate the need for prophylactic measures against future outbreaks," said Dr Yarmarkovich.

"A subset of the sequences selected in our study are derived from viral regions that are very similar to other coronaviruses, and thus our approach, if successful, could lead to protection against not only SARS-CoV-2 but also other coronaviruses that might emerge in the future," Dr. Yarmarkovich added.

<https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-vaccine-update-researchers-identify-targets-for-covid-19-vaccine-using-cancer-immunotherapy-tools/articleshow/76280824.cms>



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