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# समाचार पत्रों से चयित अंश Newspapers Clippings

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

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Press Information Bureau  
Government of India

Ministry of Defence

*Mon, 19 July 2021 3:14PM*

### **Boosting indigenous capabilities in defence production**

The Government has taken several policy initiatives and brought in reforms to promote indigenisation and self-reliance in defence manufacturing, under AatmaNirbhar Bharat Mission in the defence sector. Important policy initiatives are as under:-

- Ministry of Defence has notified a 'First Positive Indigenisation list' of 101 items on 21st August, 2020 and '2nd Positive Indigenisation list' of 108 items on 31st May, 2021 for which there would be an embargo on the import beyond the timelines indicated against them. This is a big step to promote indigenisation in defence sector. This offers a great opportunity to the Indian defence industry to manufacture these items using their own design and development capabilities to meet the requirements of the Indian Armed Forces. These lists includes some high technology weapon systems like artillery guns, assault rifles, corvettes, sonar systems, transport aircrafts, light combat helicopters (LCHs), radars, wheeled armoured platform, rockets, bombs, armoured command post vehicle, armoured dozor and many other items to fulfill the needs of our Defence Services.
- SRIJAN portal to promote indigenisation was launched on 14 August, 2020. As on date, 10,929 items, which were earlier imported, have been displayed on the portal for indigenisation. The Indian industry has shown interest for 2,890 displayed items so far. DPSUs/OFB are interacting with these industries to facilitate indigenisation of the items as per extant procedures.
- 1,776 components & spares have been indigenised in the year 2020-21 as a result of efforts of indigenisation by DPSUs, OFB & SHQs through their own process of indigenisation (In-house, Make-II & Other than Make-II).
- DPP-2016 has been revised as Defence Acquisition Procedure (DAP)-2020, which is driven by the tenets of Defence Reforms announced as part of 'AatmaNirbhar Bharat Abhiyan'.
- In order to promote indigenous design and development of defence equipment 'Buy {Indian-IDD (Indigenously Designed, Developed and Manufactured)}' category has been accorded top most priority for procurement of capital equipment.
- The 'Make' Procedure of capital procurement has been simplified. There is a provision for funding up to 70% of development cost by the Government to Indian industry under Make-I category. In addition, there are specific reservations for MSMEs under the 'Make' procedure.
- Procedure for 'Make-II' category (Industry funded), introduced in DPP-2016 to encourage indigenous development and manufacture of defence equipment has number of industry friendly provisions such as relaxation of eligibility criterion, minimal documentation, provision for considering proposals suggested by industry/individual etc. So far, 58 projects relating to Army, Navy & Air Force, have been accorded 'Approval in Principle'.
- FDI: The Government of India has enhanced FDI in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route.

- An innovation ecosystem for Defence titled ‘Innovations for Defence Excellence (iDEX)’ has been launched in April, 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, startups, individual innovators, R&D institutes and academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.
- Reforms in Offset policy have been included in DAP-2020, with thrust on attracting investment and Transfer of Technology for Defence manufacturing, by assigning higher multipliers to them.
- Government has notified the ‘Strategic Partnership (SP)’ Model in May, 2017, which envisages establishment of long-term strategic partnerships with Indian entities through a transparent and competitive process, wherein they would tie up with global Original Equipment Manufacturers (OEMs) to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.
- Government has notified a ‘Policy for indigenisation of components and spares used in Defence Platforms’ in March 2019 with the objective to create an industry ecosystem which is able to indigenise the imported components (including alloys & special materials) and sub-assemblies for defence equipment and platform manufactured in India.
- Government has established two Defence Industrial Corridors, one each in the States of Uttar Pradesh and Tamil Nadu. The investments of Rs 20,000 crore are planned in Defence corridors of Uttar Pradesh and Tamil Nadu by year 2024. The progress is reviewed regularly at apex level. So far, investment of approx. Rs 3,342 crore have been made in both the corridors by public as well private sector companies. Moreover, the respective State Governments have also announced their Aerospace & Defence Policies to attract private players as well as foreign companies including Original Equipment Manufacturers (OEMs) in these two corridors.
- An Inter-Governmental Agreement (IGA) on ‘Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other material related to Russian/Soviet Origin Arms and Defence Equipment’ was signed in September 2019. The objective of the IGA is to enhance the After Sales Support and operational availability of Russian origin equipment currently in service in Indian Armed Forces by organising production of spares and components in the territory of India by Indian Industry by way of creation of Joint Ventures/Partnership with Russian Original Equipment Manufacturers (OEMs) under the framework of the ‘Make in India’ initiative.
- Defence Products list requiring Industrial Licences has been rationalised and manufacture of most of parts or components does not require Industrial License. The initial validity of the Industrial Licence granted under the IDR Act has been increased from 03 years to 15 years with a provision to further extend it by 03 years on a case-to-case basis.
- Department of Defence Production has notified 46 items under the latest Public Procurement Order 2017 notified by Department for Promotion of Industry and Internal Trade (DPIIT), for which there is sufficient local capacity and competition and procurement of these items shall be done from local suppliers only irrespective of the purchase value.
- Defence Investor Cell (DIC) has been created in Feb-2018 the Ministry to provide all necessary information including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector. As on date, 1,176 queries had been received and addressed by Defence Investor Cell.
- Technology Development Fund (TDF) has been created under DRDO to promote self reliance in Defence Technology through participation of Public/Private industries especially MSMEs and startups.
- For the year 2021-22, the allocation for domestic procurement has been enhanced compared to previous years and is about 64.09% i.e. Rs 71438.36 crore of the allocated amount for military modernisation

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Sujeet Kumar in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736747>



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

**Ministry of Defence**

*Mon, 19 July 2021 3:13PM*

## **Investment for procurement of indigenously manufactured defence equipment**

In line with Government of India's initiative of 'Atmanirbhar Bharat', it has been decided to earmark an amount of Rs 71,438.36 crore for domestic capital procurement out of the total allocation of Rs 1,11,463.21 crore for Capital Acquisition.

Capital procurement of defence equipment are undertaken from various domestic as well as foreign vendors, based on threat perception, operational challenges and technological changes and to keep the Armed Forces in a state of readiness. During last three financial years i.e. 2018-19 to 2020-21, 102 contracts have been signed with Indian vendors for capital procurement of defence equipment such as aircrafts, missiles, tanks, bullet proof jackets, guns, navy vessels, radars, networks etc.

In order to provide impetus to self-reliance in defence manufacturing as part of 'Atmanirbhar Bharat' initiative, two Positive Indigenization Lists have been promulgated. The first Positive Indigenization List was promulgated in August 2020, which included 101 items, and second list was promulgated in May 2021, which included 108 items. The lists intend to implement the ban in a staggered manner up to December 2025. The aim behind promulgation of the lists is to apprise the Indian Defence Industry about the anticipated requirements of the armed forces, so that they are better prepared to realize the goal of indigenization. It provides a great opportunity for the Indian Defence Industry to manufacture the items in the list by using their own design and development capabilities or adopting those developed by the Defence Research & Development Organisation (DRDO), to meet the requirements of the armed forces in the coming years.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Sambhaji Chhatrapati in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736745>



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

**Ministry of Defence**

*Mon, 19 July 2021 3:11PM*

## **Production of defence equipment in 'Make-In-India' programme**

'Make in India' is implemented in defence sector through various policy initiatives which promotes indigenous design, development and manufacture of defence items. As per Defence Acquisition Procedure (DAP), priority has been accorded to capital acquisition through 'Buy (Indian-IDDMM)', 'Buy (Indian)', 'Buy and Make (Indian)', 'Buy and Make' 'Strategic Partnership Model' or 'Make' categories over Buy (Global) category. In the last three financial years i.e. from 2018-19 to 2020-2021, Government has accorded Acceptance of Necessity (AoN) to 119 Defence proposals, worth Rs.2,15,690 Crore approximately, under the various categories of Capital Acquisition, which promotes domestic manufacturing as per DAP.

Many significant projects including 155mm Artillery Gun system 'Dhanush', Bridge Laying Tank, Thermal Imaging Sight Mark-II for T-72 tank, Light Combat Aircraft 'Tejas', 'Akash' Surface to Air Missile system, Submarine 'INS Kalvari', 'INS Chennai', Anti-Submarine Warfare Corvette (ASWC), Arjun Armoured Repair and Recovery Vehicle, Landing craft utility, etc. have been produced in the country under 'Make in India' initiative of the Government in last few years.

Further, production of indigenous defence equipment and innovations therein is a dynamic process and their development is decided on the basis of operational requirements of the Armed Forces. So, no specific timeline can be assigned in such cases. Procurement of defence equipment is undertaken from various domestic as well as foreign vendors, based on threat perception, operational challenges and technological changes and to keep the Armed Forces in a state of readiness to face the security challenges.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri MV Shreyams Kumar in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736741>

## **BrahMos missile: 1st export contract of Indian-Russian cruise missile to be signed once pandemic ends – Co-Director**

The first contract for the export of BrahMos cruise missiles will be signed once the coronavirus pandemic ends, since such a deal requires an in-person government meeting, co-director of the joint Russian-Indian venture BrahMos Aerospace Alexander Maksichev told Sputnik.

“As for the possibility of concluding the first export contract for the BrahMos missiles, we have managed to agree on many things. Nevertheless, to finalize the agreement, a face-to-face meeting at the government level is necessary, which should take place as soon as the situation with the pandemic improves. We can say that the contract is at the final stage of approval and will be signed very soon,” Maksichev said, without naming the buyer.



File Image: BrahMos Missile

He added that once the export contract is signed, the governments of India and Russia will make a relevant announcement.

“The company is working on this and is fully prepared to meet the requests of foreign customers as they come in,” Maksichev said.

In June, BrahMos Aerospace said that it plans to sign \$1 billion worth of new contracts by the end of the year, which would take the company’s yearly total up to \$6 billion.

BrahMos Aerospace, established in 1998, specializes in producing cruise missiles and supporting equipment, such as launchers and missile guidance systems.

Earlier in the year, Indian Foreign Secretary Vardhan Shringla had stated that India and Russia have developed a strong partnership in the defense industry, exemplified by a wide range of cooperation programs, ranging from joint arms production to technology transfer.

“The two sides are working very closely on the development, the manufacturing of the Brahmos missile system, which is licensed production in India, of Sukhoi aircraft, T-90 tanks. If you see our Republic Day parade on January 26 this year, a lot of the platforms you saw were Russian platforms. That is a measure of cooperation that we have in the defense sector,” he said.

Meanwhile, Maksichev in February 2021 also stated that BrahMos Aerospace is mulling over a lighter version of BrahMos missile for India’s Tejas fighter jet.

“Russian-Indian company BrahMos Aerospace is considering a possibility of creating a lightweight version of the Brahmos for the Tejas fighter. We will inform you as soon as everything is ready,” Maksichev said on the sidelines of Aero India 2021.

According to Maksichev, there is an interest in such a missile. “Our missile has adapted well to the Su-30, and now the new Indian Tejas jet is under consideration as a carrier of our missile. Therefore, there is a wish of the Indian side to adapt the missile,” he explained.

The Brahmos missile was developed in 1998 in a joint venture between the Indian DRDO (Defense Research and Development Organization) and Federal State Unitary Enterprise NPO Mashinostroyeniya of Russia in an inter-government agreement.

Brahmos can be launched from land-based mobile vertical launchers, while its variants can also be fired from warships, as well as fighter jets. It can attack and disable targets from as far as 290

kilometers when launched, by flying as low as five meters in altitude or at 1,400 altitudes as the maximum with a speed of Mach 2.8.

Some of the nations in South-East Asia including the Philippines, Thailand and Vietnam are speculated to be potential customers for the BrahMos missiles.

<https://eurasianimes.com/brahmos-missile-1st-export-contract-of-indian-russian-cruise-missile-to-be-signed-once-pandemic-ends-co-director/>



Tue, 20 July 2021

## TVS, DRDO in talks to manufacture 'Make-in-India' AWACS

*SPV to kickstart TN's Defence Corridor, put India on global map*

*By Hemamalini Venkatraman*

Chennai: The Defence Corridor in Tamil Nadu could be instrumental in placing India on the global map with a landmark manufacturing deal that is taking shape. A consortium of industries, spearheaded by TVS and Sons, is preparing to set up a Special Purpose Vehicle (SPV) that will enable the manufacture of Airborne Warning and Control System (AWACS). When this fructifies, India will join the group of elite nations, and emerge as the fifth country in the world that can produce indigenous AWACS.

It is learnt from multiple sources including the Aerospace Industries Development Association of TN, that discussions are on with Tamil Nadu Industrial Development Corporation (TIDCO) to develop a vendor ecosystem for this investment-heavy proposal. "Talks are still at a preliminary stage but the idea is to create a 'Made-in-India' SPV, to strengthen the defence sector," confirmed an official.



Representative Image

TVS and Sons is taking the lead to set up the SPV unit, multiple sources confirmed to DT Next. "As this is an investment-intensive business, the Chennai-based group has been in talks with stakeholders such as the Defence Research Development Organisation (DRDO) and the state government in this regard," added the official. Entering the defence business will also mark a significant diversification for the logistics player. This new direction would envisage an investment of over Rs 1,000 crore and with the Centre accelerating the 'Aatmanirbhar Bharat' mission, especially in the defence front, it is being seen as a timely decision. When contacted, R Dinesh, Joint MD of TVS and Sons did not confirm the developments. Former DRDO Chairman S Christopher, whose dream has been to produce an aircraft in TN, is at the forefront of this project. When DT Next reached out to confirm the development, he replied in the affirmative. "My aim is to get the TN Defence Corridor started as fast as possible," said the IIT-M alumni. Creating an ancillary ecosystem requires a long gestation project, involving huge investments, however, once the infrastructure is set, it can be used to execute smaller projects, making this a pioneering initiative to kick-start the entire defence corridor, he added.

The IAF currently has just three Israeli Phalcon AWACS, with a 400-km range and 360-degree radar coverage, and two indigenous 'Netra AEW&C aircraft. During Dr Christopher's stint at the DRDO as Chief Designer and Program Director, he was instrumental in giving the indigenous touch to AWACS, used by IAF Wing Commander Abhinandan Varthaman of Balakot-fame. As per a KPMG report, Data Patterns (a leader in indigenously developed electronic systems in the



defence and aerospace domain, Chennai), Mistral Solutions (Bengaluru), Astra Microwave (Hyderabad), TUNGA (Technology Upgradation of Naval, Ground, and Air Systems, an original equipment manufacturer of new-age drone technologies based out of Chennai with its Centre of Excellence in Design Engineering located at IIT Madras research park) and Airworks (Hosur) are the five companies that will be involved in the prestigious project, while TVS and Sons will act as the nodal company driving it.

<https://www.dtnext.in/News/Business/2021/07/20063707/1307713/TVS-DRDO-in-talks-to-manufacture-MakeinIndia-AWACS.vpf>

## Business Standard

Tue, 20 July 2021

### Local procurement for defence to see 6% hike this year: Govt to Parliament

*64% defence capital budget for buys from domestic firms*

*By Ajai Shukla*

New Delhi: The Ministry of Defence (MoD) has earmarked 64 per cent of the defence capital budget for this year for acquisitions from domestic companies, the MoD said in Parliament on Monday.

This is an increase of six per cent from the last financial year, which was the first time a distinction was overtly made between domestic and overseas defence expenditure.

“In line with the government’s initiative of ‘Atmanirbhar Bharat’, it has been decided to earmark an amount of Rs 71,438 crore for domestic capital procurement out of the total allocation of Rs 111,463 crore for capital acquisition,” said the MoD in a written reply to a question from a member.

The figure of Rs 71,438 crore that the MoD has earmarked for domestic capital procurement does not actually go in full to domestic firms. For example, when the MoD signed a contract in January with Hindustan Aeronautics (HAL,) worth Rs 45,696 crore for 83 Tejas Mark 1A fighter aircraft, just about half that figure would be spent in India.

The MoD also stated: “During last three financial years, i.e. 2018-19 to 2020-21, 102 contracts have been signed with Indian vendors for capital procurement of defence equipment such as aircrafts, missiles, tanks, bullet proof jackets, guns, navy vessels, radars, and networks, etc.”

In that same period, “The government has accorded Acceptance of Necessity (AoN) to 119 defence proposals, worth Rs 215,690 crore approximately, under the various categories of capital acquisition, which promote domestic manufacturing as per the Defence Acquisition Procedure (DAP),” stated the MoD.

The DAP categories that promote domestic manufacturing are: Buy (Indian — Indian Designed, Developed and Manufactured)”, “Buy (Indian)”, “Buy and Make (Indian)”, “Buy and Make”, “Strategic Partnership Model”, and “Make” categories.

Amongst the indigenous defence projects the government laid claim to were: The 155 mm Dhanush artillery gun, the Tejas Light Combat Aircraft, Akash surface to air missile system, Scorpene submarine, the destroyer INS Chennai, and the anti-submarine warfare (ASW) corvette. Many of these procurements originated well before the tenancy of this government.



The MoD also laid claim to the “SRIJAN” portal that it launched on August 14, 2020, to promote indigenisation of spares and components. “As on date, 10,929 items, which were earlier imported, have been displayed on the portal for indigenisation. The Indian industry has shown interest for 2,890 displayed items so far. Defence public sector undertakings (DPSUs) and Ordnance Factory Board (OFB) are interacting with these industries to facilitate indigenisation,” said the MoD.

“1,776 components and spares have been indigenised in 2020-21 as a result of efforts by DPSUs, OFB, and service headquarters, via their own processes of indigenisation,” stated the MoD in its reply.

[https://www.business-standard.com/article/economy-policy/local-procurement-for-defence-to-see-6-hike-this-year-govt-to-parliament-121071901434\\_1.html](https://www.business-standard.com/article/economy-policy/local-procurement-for-defence-to-see-6-hike-this-year-govt-to-parliament-121071901434_1.html)



*Tue, 20 July 2021*

## **Signed 102 contracts with local vendors in last 3 years: MoD**

New Delhi: The Defence Ministry has signed 102 contracts with local vendors for capital procurement of defence equipment such as aircraft, missiles, tanks, bulletproof jackets, guns, navy vessels, radars, networks and others in the last three years, Parliament was told on Monday.

In a written reply to BJP Rajya Sabha MP Sambhaji Chhatrapati, Minister of State for Defence Ajay Bhatt said in line with the 'Atmanirbhar Bharat' initiative, it has been decided to earmark an amount of Rs 71,438.36 crore for domestic capital procurement out of the total allocation of Rs 1,11,463.21 crore for capital acquisition.

Capital procurement of defence equipment is undertaken from various domestic as well as foreign vendors, based on threat perception, operational challenges and technological changes and to keep the Armed Forces in a state of readiness.

"During last three financial years i.e. 2018-19 to 2020-21, 102 contracts have been signed with Indian vendors for capital procurement of defence equipment such as aircraft, missiles, tanks, bulletproof jackets, guns, navy vessels, radars, networks etc," the minister said.

In order to provide impetus to self-reliance in defence manufacturing as part of the 'Atmanirbhar Bharat' initiative, two positive Indigenisation Lists have been promulgated.

The first Positive Indigenisation List was promulgated in August 2020, which included 101 items, and the second in May 2021, which included 108 items. The lists intend to implement the ban in a staggered manner up to December 2025.

The aim behind the promulgation of the lists is to apprise the Indian defence industry about the anticipated requirements of the armed forces so that they are better prepared to realize the goal of indigenisation.

"It provides a great opportunity for the Indian defence industry to manufacture the items in the list by using their own design and development capabilities or adopting those developed by the Defence Research and Development Organisation (DRDO), to meet the requirements of the armed forces in the coming years," the minister said.

<https://www.daijiworld.com/news/newsDisplay?newsID=854966>

## COVID 19: DRDO's Contribution

THE TIMES OF INDIA

Tue, 20 July 2021

### Anti-Covid drug 2DG good, but timing is crucial: Investigator

*By Soumitra Bose*

Nagpur: Defence research and development organization's (DRDO) anti-Covid-19 drug 2-Deoxy-D-Glucose oral powder or 2-DG, launched with Dr Reddy's laboratories, may have made a slow start in the city with the positivity rate dropping to almost nil but its availability may augur well for patients in the probable third wave.

Critical care consultant and ICU director Dr Nirmal Jaiswal, a principal investigator of the 2-DG during trial, said efficacy of the DRDO's drug seemed to be good for mild to moderate patients but it must be administered at the right time.

"The drug does not allow the virus to replicate. The RTPCR turns negative quickly and the scale of the severity is also reduced, enhancing recovery time," said Dr Jaiswal, who used the drug, priced around Rs 990 per sachet, on around five patients, all of whom recovered.

Dr Jaiswal stated that even home isolation patients on oxygen can use the drug. "This drug should not be used with Azithromycin or any such medicine," he cautioned.

On condition of anonymity, a doctor said a patient was given 2DG at an advanced stage but he did not survive.

Nitin Gupta of Gupta Agency at Dawa bazaar said hospitals are stocking up the product and there are enquiries too from far off places like Beitul and Chhindwada in Madhya Pradesh.

In addition to 2-DG, the Indian-made Baricitinib tablets too are now available in the city. This drug, which is supposed to be used in combination with Remdesivir, can be used in paediatric patients of two years of age too.

The foreign-made version of Baricitinib, earlier used for rheumatoid arthritis, cost Rs 21,000 for a strip of 10 tablets. The Hyderabad-based Natco pharma limited, which had entered into a voluntary licensing agreement with the original Baricitinib producer Eli Lilly, has released the oral tablet for Rs 419.

Intensivist Dr Amit Khade of East End Hospital, who had used Natco's Baricitinib, said the oral drug was used as an immunomodulator as a compromise replacement for Tocilizumab when it was in short supply. "Patients were seen improving after the combination of Baricitinib, Remdesivir and steroid had been administered. We cannot pin-pointedly state the improvement was due to Baricitinib but the patients' overall condition had improved," he said.

Intensivist Dr Sohal Parate, who too had used the local product, said Baricitinib and Remdesivir was a superior combination which helped in reducing the recovery time and improving the clinical status, especially among patients receiving high-flow oxygen or non-invasive mechanical ventilator.

<https://timesofindia.indiatimes.com/city/nagpur/anti-covid-drug-2dg-good-but-timing-is-crucial-investigator/articleshow/84562919.cms>

## मुजफ्फरपुर के एस्केएमसीएच में 15 अगस्त तक चार प्लांट से आक्सीजन उत्पादन

एस्केएमसीएच परिसर में सेना की ओर से संचालित डीआरडीओ के कोविड केयर सेंटर में रखे गए क्रायोजनिक आक्सीजन टैंक लग रहा है। इसकी क्षमता 20 टन है। यह प्लांट तैयार हो चुका है और पाइप लाइन अस्पताल तक पहुंच गया है। लाइसेंस लेने की प्रक्रिया चल रही है।

By Ajit Kumar

मुजफ्फरपुर: कोरोना की तीसरी लहर की आशंका को देखते हुए स्वास्थ्य विभाग आक्सीजन उत्पादन को लेकर सजग है। उत्तर बिहार के सबसे बड़े एस्केएमसीएच सहित पीएचसी स्तर पर भी आक्सीजन प्लांट लगाने पर काम चल रहा है। एस्केएमसीएच में चार आक्सीजन प्लांट की नींव डाली गई है। 15 अगस्त तक निर्माण कार्य पूरा कर लिया जाएगा। प्लांट निर्माण कार्य को गति देने के लिए परिसर में बिहार मेडिकल सर्विसेस एंड इंफ्रास्ट्रक्चर कॉर्पोरेशन लिमिटेड (बीएमएसआइसीएल) का कार्यालय खुल गया है। बीएमएसआइसीएल के अधिकारी व कर्मी दिनरात निर्माण काम में लगे हुए हैं। इसके साथ एस्केएमसीएच में भवन, नाला एवं अन्य निर्माण की जवाबदेही भी बीएमएसआइसीएल पर है।



एस्केएमसीएच में इस तरह फैल रहा ऑक्सीजन प्लांट का जाल

एस्केएमसीएच परिसर में सेना की ओर से संचालित डीआरडीओ के कोविड केयर सेंटर में रखे गए क्रायोजनिक आक्सीजन टैंक लग रहा है। इसकी क्षमता 20 टन है। यह प्लांट तैयार हो चुका है और पाइप लाइन अस्पताल तक पहुंच गया है। लाइसेंस लेने की प्रक्रिया चल रही है। इसे 31 जुलाई तक चालू करने का लक्ष्य रखा गया है। इसके साथ पेट्रोलियम मंत्रालय के सहयोग से 100 इक्षसलेंडर क्षमता वाला प्लांट लग रहा है। इसके लिए जमीन चयन व निर्माण काम प्रारंभ है। इसके साथ ट्रामा सेंटर के ऊपर 30 बेड का अस्थायी वार्ड बन रहा है। इसमें न्यूरो सर्जरी व केमोथेरेपी से जुड़े मरीजों को भर्ती करने की सुविधा रहेगी। यहां पर भी आटोमेटिक आक्सीजन उत्पादन मशीन लगाने की योजना है। इससे प्रतिदिन 10 सिलेंडर आक्सीजन का उत्पादन होगा। इससे इस वार्ड में भी आक्सीजन को लेकर होने वाली परेशानी दूर होगी। इसके अलावा 150 आक्सीजन कंसेंटेटर की आपूर्ति हुई है। ये मरीज के पास लगाए जाएंगे। यह हवा से पांच लीटर प्रति मिनट के हिसाब से आक्सीजन तैयार कर लेगा। एस्केएमसीएच के अधीक्षक डा.बीएस झा ने बताया कि इस बार ऑक्सीजन को लेकर परेशानी रही। आने वाले दिनों में नहीं होगी। कोरोना या दूसरे मरीजों के इलाज में इसका लाभ मिलेगा। अधीक्षक ने कहा कि 15 अगस्त तक सभी आक्सीजन प्लांट काम करने लगेंगे। यह लक्ष्य लेकर तैयारी चल रही है।

सदर से लेकर पीएचसी तक लग रहा प्लांट

सिविल सर्जन डा.विनय कुमार शर्मा ने बताया कि सदर अस्पताल की तरह यूनिसेफ की ओर से पारू, कांटी और सकरा पीएचसी में आक्सीजन प्लांट लगाए जाएंगे। इसमें प्राकृतिक हवा से खुद आक्सीजन

बनेगी और पाइपलाइन से वार्ड में आपूर्ति की जाएगी। इसकेएमसीएच अधीक्षक डा.बीएस झा ने कहा कि इसकेएमसीएच में चार स्तर पर आक्सीजन प्लांट लगाने का काम चल रहा है। अभी बाहर की एजेंसी से 250 से 300 सिलेंडर लाकर इलाज हो रहा। कोरोना संक्रमण के समय 500 सिलेंडर तक जरूरत थी, लेकिन अब बाहर से आक्सीजन की जरूरत नहीं होगी।

<https://www.jagran.com/bihar/muzaffarpur-oxygen-production-from-four-plants-in-muzaffarpurs-skmch-till-august15-21844415.html>



Tue, 20 July 2021

## नवादा में नहीं होगी ऑक्सीजन की कमी, रजौली में प्लांट लगाने की सभी तैयारियां पूरी, एसडीओ ने लिया जायजा

ऑक्सीजन सिलेंडर की कमी का मामला कई बार उजागर हो चुका है। इसको लेकर रेफर मरीजों की जान तक जा चुकी है। ऑक्सीजन सिलेंडर की कमी और ऑक्सीजन खत्म होने से कई बार प्रसव कराने आर्यी महिलाओं की जान तक जा चुकी है।

By Prashant Kumar

रजौली (नवादा): अनुमंडलीय अस्पताल में ऑक्सीजन जेनेरेशन प्लांट का एसडीओ चन्द्रशेखर आजाद ने सोमवार को निरीक्षण किया। इस दौरान चिकित्सक सह प्रभारी उपाधीक्षक डॉ. दिलीप कुमार एवं मैनेजर मो. इरशाद मौजूद थे।

एसडीओ ने बताया कि ऑक्सीजन जेनेरेशन प्लांट के लिए बिजली हेतु 200 केवी का नया ट्रांसफॉर्मर कनेक्शन, ऑक्सीजन पाइपलाइन, फाउंडेशन जैसी आधारभूत तैयारियां पूरी की जा चुकी है। बहुत ही जल्द ही डीआरडीओ की टीम द्वारा ऑक्सीजन जेनेरेशन प्लांट के उपकरणों को स्थापित कर शुभारंभ किया जाएगा।



अनुमंडलीय अस्पताल में अब मरीजों को ऑक्सीजन के लिए यहां-वहां नहीं भटकना पड़ेगा। ऑक्सीजन प्लांट द्वारा अस्पताल के 83 बेडों के समीप ऑक्सीजन पाइपलाइन के माध्यम से मरीजों को मुफ्त में ऑक्सीजन की सुविधा उपलब्ध हो जाएगी।

बताते चलें कि अनुमंडलीय अस्पताल में पूर्व में ऑक्सीजन सिलेंडर की कमी का मामला कई बार उजागर हो चुका है। इसको लेकर रेफर मरीजों की जान तक जा चुकी है। ऑक्सीजन सिलेंडर की कमी और ऑक्सीजन खत्म होने से कई बार प्रसव कराने आर्यी महिलाओं की जान तक जा चुकी है।

साथ ही कोरोना के दूसरे प्रहार में ऑक्सीजन को लेकर बहुत कमी खली। ऐसे में ऑक्सीजन जेनेरेशन प्लांट की शुरुआत होने से सभी को राहत मिलेगी। साथ ही सम्भावित कोरोना के तीसरे प्रहार से स्वास्थ्यकर्मियों एवं लोगों को काफी मदद मिलेगी।

<https://www.jagran.com/bihar/gaya-there-will-be-no-shortage-of-oxygen-in-nawada-bihar-all-preparations-for-setting-up-a-plant-in-rajauli-completed-sdo-took-stock-21845276.html>

## Industries Minister Sunder Sham Arora opens Rs 1.4-cr oxygen plant

*He said the facility would be operational shortly in the hospital*

Hoshiarpur: Industries Minister Sunder Sham Arora on Monday inaugurated an oxygen generation plant having capacity of 1,000 litres per minute (LPM) at the Civil Hospital

He said the unit would ensure sufficient and continuous oxygen supply to each and every bed in the Covid ward. He added that the plant had been established under the requisite guidance of the DRDO and the NHAI, which would prove to be immensely beneficial for critical patients. The plant has been set up at a cost of around Rs1.40 crore, said the minister adding that besides Covid-19 patients other critical ones could also get supply of oxygen in emergent situation.

He said that the facility would be operational shortly in the hospital. The minister said in view of the problems faced during first and second Covid wave regarding availability of oxygen, the Punjab Government had started the process to establish the plant, which would ensure sufficient supply of gas to further saving people from Covid-19 and other serious ailments.

Those present on the occasion include Mayor Surinder Kumar, Senior Deputy Mayor Praveen Saini, Deputy Mayor Ranjeet Chaudhary, Chairman Improvement Trust Advocate Rakesh Marwaha and ADC (G) Vishesh Sarangal etc.

<https://www.tribuneindia.com/news/jalandhar/industries-minister-sunder-sham-arora-opens-rs-1-4-cr-oxygen-plant-285545>



Industries Minister Sunder Sham Arora on Monday inaugurated an oxygen generation plant having capacity of 1,000 litres per minute (LPM) at the Civil Hospital. - File photo

Tue, 20 July 2021

## ICICI donates ambulance to DRDO Hospital

Jammu : ICICI foundation under CSR initiative donated one ambulance worth Rs 11 lakh to DRDO Hospital, Bhagwati Nagar Jammu.

The keys were handed over to Principal GMC Jammu, Dr. Shashi Sudan Sharma by Shakha Dogra, Centre head ICICI foundation, Jammu at GMC Jammu in presence of Dr. Narender Batyal, Medical Superintendent, DRDO hospital, faculty members and officers of hospital administration.

Dr. Shashi Sudan Sharma appreciated the step taken by ICICI foundation and said that the ambulance shall be helpful in serving the patients of DRDO hospital. She said that the corporate world should come forward and generously help in serving the common people of Jammu province and GMC Jammu is continuously trying to improve in terms of manpower, infrastructure and machinery to serve the people of the UT in the best possible manner.

It is pertinent to mention that 500 bedded DRDO hospital was constructed in very short period of time during the 2nd wave of COVID -19 pandemic and the manpower was recruited on a fast track basis to make it functional. It is continuously being augmented and the staff is being kept in ready mode to fight the expected 3rd wave of COVID-19 pandemic. In addition to it GMC Jammu has also made MCH, Gandhinagar fully functional as a COVID hospital where about 100 surgeries of COVID positive patients were conducted during the 2nd wave and recently the 100 bedded new emergency block was also inaugurated by the LG JK UT Manoj Sinha to add to the already existing infrastructure at GMCH.

<https://indiaeducationdiary.in/icici-donates-ambulance-to-drdo-hospital/>



# Defence Strategic: National/International



Press Information Bureau  
Government of India

Ministry of Defence

*Mon, 19 July 2021 3:13PM*

## Corporatisation of OFB

The Government has ensured safeguarding the interests of the employees of Ordnance Factory Board (OFB) post corporatisation of OFB, inter-alia, in the following manner:-

- It has been decided that all the employees of OFB (Group A, B & C), belonging to the production units and also the non-production units being handed over to the new DPSUs (to be formed) would be transferred to these DPSU(s) on terms of foreign service without any deputation allowance (deemed deputation) initially for a period of two years from the appointed date.
- All the employees of OFB Head Quarter, OFB New Delhi Office, OF Schools and OF Hospitals, would be transferred to the Directorate of Ordnance Factories (to be formed) under the Department of Defence Production, initially for a period of two years from the appointed date.
- Till such time the employees remain on deemed deputation to the new entities, they shall continue to be subject to all rules and regulations as are applicable to the Central Government servants. Their pay scales, allowances, leave, medical facilities, career progression and other service conditions will also continue to be governed by the extant rules, regulations and orders, as are applicable to the Central Government servants.
- The pension liabilities of the retirees and existing employees will continue to be borne by the Government.

Since the announcement of the Government to undertake corporatisation of OFB in May, 2020, the Government has held various discussions with the OFB employees' Federations regarding the corporatisation of OFB under Chairmanship of Secretary (Defence Production). Their concerns and suggestions were noted. Their main concern about safeguarding the interests of the employees of OFB has been adequately addressed as mentioned above. It is pertinent to mention that Chief Labour Commissioner (Central) also held discussions with Government & OFB Federations as part of the conciliation process under the ID Act 1947.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Binoy Viswam in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736746>





## Implementation of CoE recommendations related to defence reforms

The Committee of Experts (CoE) constituted by the Ministry of Defence under the chairmanship of Lt Gen (Retd) DB Shekatkar to recommend measures to enhance combat compatibility and rebalance defence expenditure of the armed forces, submitted its report in December 2016.

The Report was taken up by the Ministry of Defence to frame key action points and roadmap for implementation. Measures recommended by the Committee and taken up for the implementation include:

- Optimisation of Signals Establishments to include Radio Monitoring Companies, Corps Air Support Signal Regiments, Air Formation Signal Regiments, Composite Signal Regiments and merger for Corps Operating and Engineering Signal Regiments.
- Restructuring of repair echelons in the Army to include Base Workshops, Advance Base Workshops and Static/Station Workshops in the field Army.
- Redeployment of Ordnance echelons to include Vehicle Depots, Ordnance Depots and Central Ordnance Depots apart from streamlining inventory control mechanisms.
- Better utilisation of Supply and Transportation echelons and Animal Transport Units.
- Closure of Military Farms and Army Postal Establishments in peace locations.
- Enhancement in standards for recruitment of clerical staff and drivers in the Army.
- Improving the efficiency of the National Cadet Corps.

The implementation of certain recommendations of the CoE involves redeployment/restructuring/optimisation of approximately 57,000 posts, both military and civilian.

Full details are not being placed in the public domain as they include operational aspects of the armed forces, disclosure of which is not in the interest of national security.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri K. Somaprasad in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736743>



Press Information Bureau  
Government of India

Ministry of Defence

Mon, 19 July 2021 2:45PM

## INS Tabar completes maritime partnership exercise with French Navy

INS Tabar, on completion of port visit to Brest, France undertook maritime partnership exercise with FNS Aquitaine, a French naval Frigate in the Bay of Biscay on 15 and 16 Jul 21. A twin engine helicopter (NH 90) from FNS Aquitaine and four Rafale fighter aircraft from French Navy also participated in the exercise.

A wide range of operations like Anti - Submarine, Surface Manoeuvres, Replenishment at Sea approach, Firing on target, Visit Board Search & Seizure (VBSS), Steam Past, Air Defence, Air Picture Compilation, Vertical Replenishment and crossdeck operations were exercised by the ships. The exercise was mutually beneficial in enhancing interoperability and towards consolidating combined operations against maritime threats.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1736729>

## India to introduce sweeping changes in defence land policy for the first time in 250 years

*The new rules come ahead of a series of defence land reforms that is under consideration of the government, which is also working towards finalising a Cantonment Bill 2020, aiming to provide for development in special zones - considered virtually sacrosanct till now*

*By Ranjit Bhushan*

A policy on tinkering with defence land in India for any purpose other than the military has been a strict no-no since the British set up the first cantonment in Bengal's Barrackpore in 1765, shortly after beginning the process of consolidating their rule in the sub-continent.

In April 1801, the East India Company's Governor General-in-Council ordered: "No bungalows and Quarters at any of the Cantonments shall be allowed to be sold or occupied by any person who does not belong to the Army".

What was supposedly then cast in stone may now be recast in 2021.

### **EVI development**

The Narendra Modi government has approved new rules that allow equal value infrastructure (EVI) development for armed forces in lieu of the land procured from them.

The new rules come ahead of a series of defence land reforms that is under consideration of the government, which is also working towards finalising a Cantonment Bill 2020, aiming to provide for development in cantonment zones, considered virtually sacrosanct till now.

According to Ministry of Defence (MoD) officials, who spoke on the condition of anonymity, defence land needed for major public projects – like building of metro, roads, railways, and flyovers – could only be exchanged for land of equivalent value, or after payment of market prices.

Under the new rules, eight EVI projects have been identified, which the acquiring party can provide infrastructure for in coordination with the concerned Service.

They include building units and roads, among other projects. According to the new regulations, the value of land would be determined by a committee headed by the local military authority – in cases under cantonment zones.

For land outside cantonments, the district magistrate will decide on the rate.

### **Connected moves**

There are connected moves on the governmental chessboard as well. The Ministry of Finance (MoF) has pegged monetising defence land as the only way to generate revenue for the proposed non-lapsable modernisation fund.

According to officials, a draft cabinet note on setting up the defence modernisation fund is currently undergoing inter-ministerial consultations, and a final decision is expected soon, following which it will be placed before the Union cabinet for approval.

Says Lt Gen HS Panag (Retd): "Since defence lands are in the most prime areas all over the country, over the years, politicians and civic officials have demanded that they be used for undertaking developmental activities. Now it seems, it is happening."



An Indian army vehicle leaves the Sunjuwan camp in Jammu on February 12, 2018 (Representative image: Reuters/Mukesh Gupta)

All along the GT Road - from Delhi to Peshawar for instance – there are camping grounds and old depots that are not in use any longer, built by the British Indian Army during the Second World War when troops had to be moved from one place to the other.

"You can monetise the land if the army is not using it and provided, they are given alternate land," Panag told Moneycontrol.

But in his reckoning, the estimated money that the government may earn from monetisation of land would barely suffice.

The Department of Military Affairs (DMA), headed by Chief of Defence Staff (CDS) Gen. Bipin Rawat, had told the government last year that proceeds from defence land monetisation would be hardly adequate to meet the armed forces' requirements.

### **Inadequate capital budget**

The DMA had also highlighted that the capital budget of the defence forces is inadequate to meet their committed liabilities and objected to 50 per cent of the funds from defence land monetisation going to the Consolidated Fund of India, as the Ministry of Finance has suggested.

Most agree that it was only a question of time before the defence sector – the biggest landowner in India – would face acquisition issues.

Politicians and developers have long waited to transform the lush green expanse of endless defence land into glass-and-concrete boom towns.

In 1991, the then Defence Minister Sharad Pawar was the first to moot the idea of abolishing cantonments, "these remnants of a colonial past" so that "excess land" could be utilised.

Given the outrage that followed, however, he tempered the statement saying that cantonments will not be scrapped.

According to the Directorate General Defence Estates, the MoD has about 17.95 lakh acres of which about 16.35 lakh acres are outside the 62 cantonments in the country.

This, mind you, does not include lands with the public sector units (PSUs) under the MoD, including Hindustan Aeronautics Ltd, Bharat Electronics Ltd, Bharat Dynamic Ltd, Bharat Earth Movers Ltd. Garden Reach Workshops Kolkata and Mazagon Docks Mumbai, among others and the vast Border Roads Organization, which has constructed over 50,000 km of roads.

There are substantial military lands outside the Cantonments. Camping grounds, abandoned cantonments, ranges, and even discarded airfields of Second World War vintage constitute defence lands, which according to one estimate totals land area of up to five Delhis – old, new and rural areas - put together!

### **Prime property**

From the famous sprawling maidan in front of Victoria Memorial in Kolkata to the huge Delhi Cantonment and Navy Nagar in tony South Mumbai; hill stations like Dalhousie, Lansdowne, Kasauli and the Nilgiris– to name just a few - are owned by the Ministry of Defence and its allied organizations.

In a country where land is extremely scarce, it is tempting for political parties to 'encroach upon' or 'use' defence land for developmental purposes.

Added to the huge land holdings, the armed forces also have veto powers on land sale or construction activities near their stations on grounds of security.

To be sure, however, the concept of a non-lapsable defence modernisation fund is not new.

In the interim Budget of 2003-2004, the then Union finance minister Jaswant Singh had announced such a fund of Rs 25,000 crore, which would be made available to the MoD. However, in the subsequent years, the finance ministry had repeatedly objected to setting up the fund.

The fund has now been recommended again by the 15th Finance Commission, which made its report public on February 1 this year.

The same month, Finance Minister Nirmala Sitharaman said her ministry had agreed in-principle to the fund. "The modalities and the structure will be worked upon," Sitharaman told the Lok Sabha.

Others, like Lt Gen Satish Dua (Retd) believe that surplus defence land can be monetised for modernisation of the armed forces. "The capital generated should form a non-lapsable kitty for modernisation only (not revenue expenditure). A firm recommendation to this effect has been made to the 16th Finance Commission," he told *Moneycontrol*.

Dua, however, points out that monetisation of land under use in cantonments is not being suggested. "Only the land which the Army is forced to accept in some unviable location as barter, may as well be monetised," he said.

### **Civilian glasnost**

The point to be seen is how this civilian glasnost pans out. As of today, military cantonment and lands are governed by a special 1924 Act and they have their own laws and administration, independent of civilian municipalities. Will these unique powers remain or is this fine distinction going to blur?

Officials do admit that encroachment of defence land is a major issue. Between 2017-2020, over 55 acres of encroachments or unauthorised constructions were detected on defence land.

In a country like India with a burgeoning population and the demands of urban living weighing heavily on civic planners, the old consideration of keeping defence areas away from civilian habitats, also seems to be breaking down.

A former Chief of Army Staff told *Moneycontrol* on conditions of anonymity that every country has exclusive defence lands, which is beyond the purview of civilian administration.

Analyst Pravin Sawhney, who retired after 14 years as an officer in the Indian Army and now edits *Force*, a news magazine on Indian defence, believes the new defence land use plans are in consonance with the whole idea of *aatmanirbhar* (self-reliant) India.

"The British were keen to keep the military away from the civilian population, hence their planning was based on those lines. This government wants a peoples' army, where the military lives in proximity with the local populace," he told *Moneycontrol*.

The Directorate General Defence Estates, the ultimate arbiter of defence land in India, notes: "Lord Clive initiated the policy of setting up exclusive habitats for the company's forces, slightly away from the then urban areas...He wished to keep interaction between the Englishmen and local population very limited, in the interest of discipline."

That policy, clearly, is going to be turned on its head.

<https://www.moneycontrol.com/news/india/cantonment-bill-india-set-to-introduce-sweeping-changes-in-defence-land-policy-for-the-first-time-in-250-years-7191001.html>

## LG Ladakh meets Defence Secy, IAF Chief amid standoff on LAC

By Sanjeev Pargal

- *Mathur seeks more IFS officers for UT*
- *Reviews work on Zojila tunnel with NHIDCL MD*

Jammu: Amidst continued standoff in Eastern Ladakh, Lieutenant Governor of Ladakh Radha Krishna Mathur today met Defence Secretary Dr Ajay Kumar and Indian Air Force (IAF) Chief Air Chief Marshal RKS Bhadauria in New Delhi and is understood to have discussed with them the situation prevailing along the Line of Actual Control (LAC) with China.

An official tweet by the Office of LG Ladakh, however, said that Mathur discussed the issues related to Army land, border tourism etc with the Defence Secretary.

“Lt Governor RK Mathur held a meeting with Defence Secretary Dr Ajay Kumar in New Delhi today. Subjects related to Army land, border tourism, BRO India projects and issues pertaining to Wildlife in border areas were discussed during the meeting,” the tweet said.

Significantly, IAF chief Air Chief Marshal RKS Bhadauria also called on the Lieutenant Governor of Ladakh in New Delhi today.

Another tweet by the Office of LG Ladakh said that various issues pertaining to development of Ladakh were discussed during the meeting.

However, according to sources, the situation in Eastern Ladakh is understood to have figured during the meetings Mathur had with the Defence Secretary as well as the Indian Air Force chief in New Delhi.

While no untoward incident has been reported from the Eastern Ladakh for past quite some time, situation in some areas remained tense with no breakthrough on disengagement. Defence Minister Rajnath Singh had visited Ladakh for three days ending last month during which he had also toured LAC with China in Eastern Ladakh and reviewed situation as well as defence preparedness of the troops.

Meanwhile, during his meeting with Union Minister for Forests, Environment and Climate Bhupender Yadav, Mathur has also sought deputation of more Indian Forest Services (IFS) officers of AGMUT cadre to Ladakh.

Mathur had yesterday taken up the issues of ESI benefits to local and migrant workers in Ladakh with Yadav, who also holds the charge of Labour and Employment.

Meanwhile, the Lieutenant Governor of Ladakh also met KK Pathak, Managing Director of National Highway Infrastructure Development Corporation Limited (NHIDCL) in the Union capital and discussed with him progress of work on Zojila tunnel which will connect Ladakh with rest of the world during entire year. Presently, Ladakh remains cut off by road during four months of winter.

Apart from Zojila tunnel, Mathur also discussed with Pathak the progress on other projects under NHIDCL in the Union Territory of Ladakh.



IAF chief RKS Bhadauria during a meeting with LG of Ladakh Radha Krishna Mathur in New Delhi on Monday.

Union Minister for Roads and Highways Nitin Gadkari had recently announced that the Government will make world famous hill station like Davos in Switzerland at 18 kilometers stretch at Zojila Morh.

However, construction of Zojila tunnel is expected to take six years.

### **CECs retain rank of Cabinet Minister, ECs as MoS**

The Union Territory of Ladakh administration has announced that the Chairpersons-cum Chief Executive Councilors (CECs) of Leh and Kargil Autonomous Hill Development Councils will continue to get the status in the Warrant of Precedence which they were already getting. Official sources told the Excelsior that the UT of Ladakh administration has sent its first Warrant of Precedence for approval to the Union Ministry of Home Affairs.

“However, as the MHA was yet to approve the Warrant of Precedence, the UT Administration has declared that Chairpersons-cum-CECs of Leh and Kargil Autonomous Hill Development Councils will continue to get the protocol which they had been accorded by erstwhile State Government of Jammu and Kashmir when Ladakh was also part of the State as third division.

In the existing protocol, the Chairpersons-cum-CECs of the Hill Councils are placed in the rank of Cabinet Ministers of a State while four Executive Councilors each in Leh and Kargil Councils enjoyed the rank of Ministers of State.

<https://www.dailyexcelsior.com/lg-ladakh-meets-defence-secy-iaf-chief-amid-standoff-on-lac/>



Tue, 20 July 2021

## **Southern Army Commander reviews operational preparedness of Trinetra Brigade**

*“The Army Commander emphasised on the changing character of warfare and highlighted that synergised ‘Information Operations’ is a war winning strategy in Future battlefield,” said a press statement from the Southern Command.*

Pune: Southern Army Commander Lieutenant General JS Nain on Monday reviewed the operational preparedness of Trinetra Brigade, a key formation of the Southern Command involved in information operations.

During his visit, Brigadier Rajesh Verma, Commander of the Trinetra Brigade, briefed the Army Commander on various operational, training and administrative initiatives undertaken by the formation to meet the emerging challenges in the Electro Magnetic domain.

“The Army Commander emphasised on the changing character of warfare and highlighted that synergised ‘Information Operations’ is a war winning strategy in Future battlefield,” said a press statement from the Southern Command.

Lt Gen Nain later visited the Army Sports Institute (ASI), Pune, where he was briefed by the institute’s Commandant Colonel Rakesh Yadav on the training methodology and facilities available for the same. “The Army Commander expressed his confidence in the future of sports in the country and extended his best wishes to the Mission Olympics team participating in the Tokyo Olympics,” said the press statement.

<https://indianexpress.com/article/cities/pune/southern-army-commander-reviews-operational-preparedness-of-trinetra-brigade-7412625/>



**Brigadier Rajesh Verma, Commander of the Trinetra Brigade, briefed the Army Commander on various initiatives by the formation.**

Tue, 20 July 2021

## Indian Army ‘modifies’ American SiG 716 rifles to suit local needs

*Customization of the SiG 716 has allowed use of low-priced bullets, additional grip, night vision lenses and the latest one – a bipod*

The newly acquired Sig Sauer assault rifles, popularly known as SiG 716, have got a ‘desi’ touch with the defence establishment modifying the US made weapon into one which the Indian Army would find of utmost utility, reports ThePrint.

The Indian Army got the first consignment of 72,000 SiG 716 G2 Patrol assault/battlefield rifles in December 2019 to strengthen border patrolling along the LoC with Pakistan. It got the second lot of 72,000 more rifles a few days back. The modern-day assault rifle replaces the Indian Small Arms System (INSAS) 5.56x45mm rifles and AK47 rifles. Both the weapons were proving insufficient to effectively man India’s highly sensitive borders and function will full efficiency in counter-insurgency and combat operations.



The Indian soldiers were used to INSAS and AK-47 rifles, which they were very comfortable with. The SiG 716 is a modern-day weapon with a host of advantages, but needed some modifications to suit Indian conditions and soldiers. | Representational image

The Indian soldiers, however, were struggling to get used to the new rifles. Firstly, they had become too comfortable using INSAS and AK-47, which despite their limitations, were very convenient to use.

One of the shortcomings of SiG 716 given to Indian troops was that it did not have optical device, which was not procured from the US to keep the cost low. This was a major shortcoming because without night vision, our soldiers found the new rifles of no use in the dark. The Army overcame this shortcoming by integrating its existing sight systems on the SiG 716. Though all our sight systems do not have a night vision, several of them have, which make them of more utility to the foot soldiers.

“The existing sight system does the trick. While it is not completely compatible with the firing system, it is much better than not having one. With a little bit of training, the soldier is able to shoot directly even in dark,” ThePrint said quoting a defence establishment source.

Besides, the SiG 716 has a higher recoil and calibre than the AK-47s or the INSAS. But the soldiers are adjusting to it because SiG has other advantages like greater accuracy and the ability to ‘shoot to kill’ at a distance of 600 metres while the other rifles had a much lower range and were not designed to kill at longer distances.

Indian soldiers, some of whom had shorter hands, were used to shorter barrel of the AK-47s. They found the SiG’s grip difficult to hold. The Army gave it an additional handle for better grip.

The Indian Army got the 1.40 lakh SiG 716 rifles from the US for a good price, but its bullets still were expensive. To address the challenge, Indian Army used the local made rounds of the 7.62 light machine gun (LMG). On the flip side, the LMG rounds make the SiG’s recoil higher than what the rifle would have had the original bullets been used.

Another customized addition to the American rifle will be a bipod, which is nothing but a stand that allows the soldier to use the rifle in different situations with greater accuracy.

<https://thefederal.com/news/indian-army-modifies-american-sig-716-rifles-to-suit-local-needs/>



# Indian Navy receives two MH-60R Helicopters from the US: Here's all you need to know about deadly Romeo Helicopters

*The Indian Navy received two MH-60R Seahawk multi-role helicopters (MRHs) from the US in a ceremony held at Naval Air Station North Island, San Diego, the United States on 16 July 2021*

*By Arfa Javaid*

In a ceremony held at Naval Air Station North Island, San Diego, the United States on 16 July 2021, the Indian Navy received two MH-60R Seahawk multi-role helicopters (MRHs) from the US. The helicopters were formally accepted by Taranjit Singh Sandhu, Indian Ambassador to the USA.

The delivery of the first two Romeo helicopters marked the beginning of a new era of defence collaboration and partnership between India and the US. It also enhanced the three-dimensional capabilities of the Indian Navy.



Indian Navy inducts deadly Romeo Helicopters

Indian Navy receives two MH-60R helicopters from US: Here's all you need to know

## Key Highlights:

- **World's Most Advanced Maritime Helicopter:** Deployed with the US Navy as the primary anti-submarine warfare anti-surface weapon system for open ocean and littoral zones, Lockheed Martin's MH-60R Seahawk helicopter is considered the world's most advanced maritime helicopter. It is deployed globally, and its mission performance by far is second to none.
- **Capabilities of Romeo Helicopters:** MH-60R helicopters will operate off naval warship decks and perform a range of combat missions including anti-submarine warfare (ASW), anti-surface warfare (ASuW), combat search and rescue (CSAR), vertical replenishment (VERTREP) and medical evacuation (MEDEVAC).
- **Commando Missions:** These MRHs are designed to fly in Special Forces teams into enemy territory for commando missions.
- **All-weather Helicopters:** The all-weather helicopters are designed to support multiple missions with state-of-the-art avionics and sensors.
- **Training of Indian Crew:** In a bid to exploit these potent helicopters, the first batch of the Indian crew is undergoing a training in the US.
- **Exchange of documents:** The ceremony also witnessed the exchange of helicopter documents between Vice Adm Kenneth Whitesell, Commander Naval Air Forces, US Navy and Vice Adm Ravneet Singh, DCNS.

24 Seahawk helicopters were contracted by the Indian Navy at a cost of \$2.12 billion in a government to government deal last year. The deal inked between the two nations includes training of the pilots and ground crew, spare parts and air-to-ground weapons support.

Of these 24 Romeo Helicopters, two have been inducted by the Indian Navy and four others are expected to be delivered this year by Sikorsky Helicopters, part of the world's largest defence firm, Lockheed Martin.

Inducted in US Navy in 2006, are more than 300 Seahawks in service worldwide, including in the US, Danish, Australian and Saudi Arabian navies. They have a 98% mission availability rate and the lowest life-cycle cost in its class, costing less than \$5,000 for each flying hour.

#### **MH-60R Helicopters: Specifications**

The specifications of MH-60R helicopters are as follows:

Climb rate: 8.38m/s

Maximum cruise speed: 267km/h

Range: 834 km

Service ceiling: 3,438m

Weight: 6,89 5kg

Maximum take-off weight: 10,659 kg

#### **MH-60R Helicopters: Modification**

The MH-60R multi-role helicopters will be modified with several India unique equipment and weapons by Lockheed Martin at its Owego, New York; and Stratford, Connecticut, based facilities.

#### **MH-60R Helicopters: Need for Indian Navy**

Successive Indian Navy Chiefs have identified the shortage of MRHs as one of the navy's biggest operational deficits. The Indian Navy has barely 10 Sea King Mark 42B/C helicopters that are decades old. With the retirement of Sea Kings, the helicopter hangars on board the navy's aircraft carriers, destroyers and frigates emptied, severely reducing the warships' combat capability.

To fill this void, the Indian Navy signed a contract for 24 MH-60R Seahawks in fully-built condition under the Foreign Military Sales (FMS) programme, a US-led process without tendering. Instead, the Pentagon acts as an agent of the buyer (the Indian Navy) and negotiates price and supply terms with the US vendor (in this case, Lockheed Martin).

Additionally, given the aggression of China in the IOR, the MH-60 Romeo Seahawks are the need of the hour as they will add lethal capabilities to the Indian Navy.

FMS procurements come with US government guarantees on weapons and equipment performance. In many FMS purchases, the foreign buyer manages to procure the equipment for less than what the US military paid since the Pentagon benchmarks the price to what the US military paid for its last procurement of that equipment.

Alongside the FMS purchase of 24 Seahawks, tendering is underway for another 99 Seahawks proposed to be built in India through the Strategic Partner (SP) route.

According to the Chief of Lockheed Martin India, William L. Blair, "MH-60R is the most advanced maritime multi-mission helicopter in operation - deployed globally, and its mission performance by far, second to none. We appreciate the tremendous confidence placed in Team Seahawk by the Indian Navy through their selection of the Romeo."

<https://www.jagranjosh.com/general-knowledge/mh60r-helicopter-romeo-helicopter-1626694072-1>

## China developing new airbase in Shakche near Ladakh, India watching closely | **Exclusive**

*The Chinese People's Liberation Army Air Force (PLAAF) is developing a military base in Shakche near Ladakh, according to sources in the Indian government*

*By Manjeet Negi*

### *Highlights*

- *India, China have been engaged in a military standoff in eastern Ladakh*
- *Chinese reportedly building new air base in Shackche between Kashgar and Hogan*
- *India has been monitoring as many as seven bases of the PLA Air Force since May of last year*

New Delhi: Amid the ongoing military standoff with China in eastern Ladakh, Indian agencies are closely monitoring the development of a Chinese air base in Shakche. Once developed, this military base could strengthen China's hand along the Line of Actual Control (LAC).

Speaking to India Today, senior government sources said the Shakche air base is being rapidly developed further into a military airbase fit for fighter operations. These developments precede the military standoff triggered between the Indian Army and the Chinese People's Liberation Army (PLA) last year.

China realised that the Indian Air Force (IAF) was able to move into the conflict zone much faster than the Chinese People's Liberation Army Air Force (PLAAF). This realization is believed to have prompted the PLA to begin developing the air base in Shakche.

The Chinese are reportedly building a new air base between Kashgar and Hogan in order to ease PLA Air Force's fighter combat operations.

According to sources, India has been monitoring as many as seven bases of the PLA Air Force since May of last year.

China has upgraded a number of these bases in recent years, including but not limited to the construction of hardened shelters, extension of runways and deployment of additional manpower.

India is keeping a close eye on three PLA Air Force bases opposite eastern Ladakh - Kashgar, Hotan and Ngari Gunsu. Other Chinese airbases on the radar of Indian agencies include Shigatse, Lhasa Gongkar, Nyingchi and Chamdo Pangta.

"Satellites and other forms of surveillance are being used to keep an eye on the seven Chinese military bases which are situated in Xinjiang and Tibet Autonomous Military Region," said top government sources.

<https://www.indiatoday.in/india/story/india-china-eastern-ladakh-lac-standoff-pla-air-base-1830080-2021-07-19>



File photo from the 2017 Chinese People's Liberation Army Air Force Aviation Open Day (Photo Credits: Getty Images)

## A new repulsion model for graphene catalysts

A new mathematical model helps predict the tiny changes in carbon-based materials that could yield interesting properties.

Scientists at Tohoku University and colleagues in Japan have developed a mathematical model that abstracts the key effects of changes to the geometries of carbon material and predicts its unique properties.

The details were published in the journal *Carbon*.

Scientists generally use mathematical models to predict the properties that might emerge when a material is changed in certain ways. Changing the geometry of three-dimensional (3D) graphene, which is made of networks of carbon atoms, by adding chemicals or introducing topological defects, can improve its catalytic properties, for example. But it has been difficult for scientists to understand why this happens exactly.

The new mathematical model, called standard realization with repulsive interaction (SRRI), reveals the relationship between these changes and the properties that arise from them. It does this using less computational power than the typical model employed for this purpose, called density functional theory (DFT), but it is less accurate.

With the SRRI model, the scientists have refined another existing model by showing the attractive and repulsive forces that exist between adjacent atoms in carbon-based materials. The SRRI model also takes into account two types of curvature in such materials: local curvatures and mean curvature.

The researchers, led by Tohoku University mathematician Motoko Kotani, used their model to predict the catalytic properties that would arise when local curvatures and dopants were introduced into 3D graphene. Their results were similar to those produced by the DFT model.

"The accuracy of the SRRI model showed a qualitative agreement with DFT calculations, and is able to screen through potential materials roughly one billion times faster than DFT," says Kotani.

The team next fabricated the material and determined its properties using scanning electrochemical cell microscopy. This method can show a direct link between the material's geometry and its catalytic activity. It revealed that the catalytically active sites are on the local curvatures.

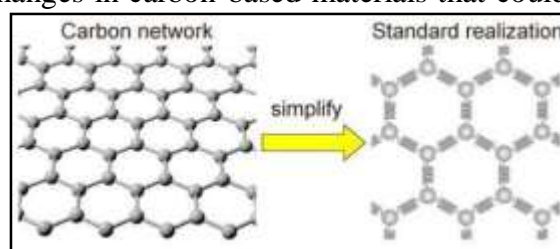
"Our mathematical model can be used as an effective pre-screening tool for exploring new 2-D and 3D carbon materials for unique properties before applying DFT modeling," says Kotani. "This shows the importance of mathematics in accelerating material design."

The team next plans to use their model to look for links between the design of a material and its mechanical and electron transport properties.

**More information:** Andreas Dechant et al, Geometric model of 3D curved graphene with chemical dopants, *Carbon* (2021). DOI: [10.1016/j.carbon.2021.06.004](https://doi.org/10.1016/j.carbon.2021.06.004)

**Journal information:** [Carbon](https://doi.org/10.1016/j.carbon.2021.06.004)

<https://phys.org/news/2021-07-repulsion-graphene-catalysts.html>



The simplification of a carbon network. The carbon network can be replaced with balls and spring for simplification. Credit: Kotani et al

## The era of single-spin color centers in silicon carbide is approaching

Prof. Li Chuanfeng, Prof. Xu Jinshi and their colleagues from Prof. Guo Guangcan's group at the University of Science and Technology of China (USTC) of the Chinese Academy of Sciences (CAS), realized the high-contrast readout and coherent manipulation of a single silicon carbide divacancy color center electron spin at room temperature for the first time. They were working in cooperation with Prof. Adam Gali, from the Wigner Research Centre for Physics in Hungary. This work was published in *National Science Review* on July 5, 2021.



Credit: CC0 Public Domain

Solid-state spin color centers are of utmost importance in many applications of quantum technologies, primarily the nitrogen-vacancy (NV) center in diamond. Since the detection of individual NV defect centers in diamond with room-temperature was reported in 1997, the NV centers in diamond have been applied to versatile fields, including quantum computing, quantum networking and quantum sensing.

Recently, to take advantage of more mature material processing and device integration technologies, researchers seek similar color centers in other semiconductor materials. Among them, the spin color centers in silicon carbide, including silicon vacancies (missing a silicon atom) and divacancies (missing a silicon atom and an adjacent carbon atom), have attracted broad interest due to excellent optical and spin properties.

However, the typical readout contrast via room-temperature coherent manipulation of the single silicon vacancy color centers is only 2%, and the photon count rate is also as low as 10 kilo counts per second. These shortages restrict the practical application of the coherent manipulation of the single silicon vacancy color centers at room temperature.

Researchers from USTC implanted defect color centers in SiC with their ion implantation technique to manufacture a divacancy color center array. They achieved spin-coherent manipulation of the single divacancy color center at room temperature with the optically detected magnetic resonance (ODMR), at the same time, they found that one type of divacancy color centers (called PL6) had a 30% spin readout contrast, whose single-photon emission rate was up to 150 kilo counts per second.

These two important parameters are an order of magnitude higher than the silicon vacancy color center in SiC. For the first time, the spin color centers of SiC showed excellent properties comparable to the diamond NV color center at room temperature. Especially, the coherence time of the electron spin at room temperature was extended to 23 microseconds. Moreover, the research team also realized the coupling and detection of a single electron spin and a nearby nuclear spin in SiC color centers.

This work lays the foundation for building room-temperature solid-state quantum storage and scalable solid-state quantum networks which are based on the SiC spin color center system. It is essential for the next generation of hybrid quantum devices to integrate spin defects with a high readout contrast and a high photon count rate into high-performance SiC electron devices.

**More information:** Qiang Li et al, Room temperature coherent manipulation of single-spin qubits in silicon carbide with a high readout contrast, *National Science Review* (2021). DOI: [10.1093/nsr/nwab122](https://doi.org/10.1093/nsr/nwab122)  
<https://phys.org/news/2021-07-era-single-spin-centers-silicon-carbide.html>

## Understanding the physics in new metals

Researchers from the Paul Scherrer Institute PSI and the Brookhaven National Laboratory (BNL), working in an international team, have developed a new method for complex X-ray studies that will aid in better understanding so-called correlated metals. These materials could prove useful for practical applications in areas such as superconductivity, data processing, and quantum computers. Today the researchers present their work in the journal *Physical Review X*.

In substances such as silicon or aluminum, the mutual repulsion of electrons hardly affects the material properties. Not so with so-called correlated materials, in which the electrons interact strongly with one another. The movement of one electron in a correlated material leads to a complex and coordinated reaction of the other electrons. It is precisely such coupled processes that make these correlated materials so promising for practical applications, and at the same time so complicated to understand.



Thorsten Schmitt at the experiment station of the Swiss Light Source SLS, which provided the X-ray light used for the experiments. Credit: Paul Scherrer Institute/Mahir Dzambegovic

Strongly correlated materials are candidates for novel high-temperature superconductors, which can conduct electricity without loss and which are used in medicine, for example, in magnetic resonance imaging. They also could be used to build electronic components, or even quantum computers, with which data can be more efficiently processed and stored.

"Strongly correlated materials exhibit a wealth of fascinating phenomena," says Thorsten Schmitt, head of the Spectroscopy of Novel Materials Group at PSI: "However, it remains a major challenge to understand and exploit the complex behavior that lies behind these phenomena." Schmitt and his research group tackle this task with the help of a method for which they use the intense and extremely precise X-ray radiation from the Swiss Light Source SLS at PSI. This modern technique, which has been further developed at PSI in recent years, is called resonant inelastic X-ray scattering, or RIXS for short.

### X-rays excite electrons

With RIXS, soft X-rays are scattered off a sample. The incident X-ray beam is tuned in such a way that it elevates electrons from a lower electron orbital to a higher orbital, which means that special resonances are excited. This throws the system out of balance. Various electrodynamic processes lead it back to the ground state. Some of the excess energy is emitted again as X-ray light. The spectrum of this inelastically scattered radiation provides information about the underlying processes and thus on the electronic structure of the material.

"In recent years, RIXS has developed into a powerful experimental tool for deciphering the complexity of correlated materials," Schmitt explains. When used to investigate correlated insulators in particular, it works very well. Up to now, however, the method has been unsuccessful in probing correlated metals. Its failure was due to the difficulty of interpreting the extremely complicated spectra caused by many different electrodynamic processes during the scattering. "In this connection collaboration with theorists is essential," explains Schmitt, "because they can simulate the processes observed in the experiment."

## Calculations of correlated metals

This is a specialty of theoretical physicist Keith Gilmore, formerly of the Brookhaven National Laboratory (BNL) in the U.S. and now at the Humboldt University in Berlin. "Calculating the RIXS results for correlated metals is difficult because you have to handle several electron orbitals, large bandwidths, and a large number of electronic interactions at the same time," says Gilmore. Correlated insulators are easier to handle because fewer orbitals are involved; this allows model calculations that explicitly include all electrons. To be precise, Gilmore explains: "In our new method of describing the RIXS processes, we are now combining the contributions that come from the excitation of one electron with the coordinated reaction of all other electrons."

To test the calculation, the PSI researchers experimented with a substance that BNL scientist Jonathan Pellicciari had investigated in detail as part of his doctoral thesis at PSI: barium-iron-arsenide. If you add a specific amount of potassium atoms to the material, it becomes superconducting. It belongs to a class of unconventional high-temperature iron-based superconductors that are expected to provide a better understanding of the phenomenon. "Until now, the interpretation of RIXS measurements on such complex materials has been guided mainly by intuition. Now these RIXS calculations give us experimenters a framework that enables a more practical interpretation of the results. Our RIXS measurements at PSI on barium-iron-arsenide are in excellent agreement with the calculated profiles," Pellicciari says.

### Combination of experiment and theory

In their experiments, the researchers investigated the physics around the iron atom. "One advantage of RIXS is that you can concentrate on a specific component and examine it in detail for materials that consist of several elements," Schmitt says. The well-tuned X-ray beam causes an inner electron in the iron atom to be elevated from the ground state in the core level to the higher energy valence band, which is only partially occupied. This initial excitation of the core electron can cause further secondary excitations and trigger many complicated decay processes that ultimately manifest themselves in spectral satellite structures. (See graphic.)

Since the contributions of the many reactions are sometimes small and close to one another, it is difficult to find out which processes actually took place in the experiment. Here the combination of experiment and theory helps. "If you have no theoretical support for difficult experiments, you cannot understand the processes, that is, the physics, in detail," Schmitt says. The same also applies to theory: "You often don't know which theories are realistic until you can compare them with an experiment. Progress in understanding comes when experiment and theory are brought together. This descriptive method thus has the potential to become a reference for the interpretation of spectroscopic experiments on correlated metals."

The international team has published its work in the journal *Physical Review X*.

**More information:** Description of resonant inelastic x-ray scattering in correlated metals, *Physical Review X*, 11, 031013 (2021). DOI: [10.1103/PhysRevX.11.031013](https://doi.org/10.1103/PhysRevX.11.031013)

Keith Gilmore et al, Description of resonant inelastic x-ray scattering in correlated metals, arXiv:2011.04509v1 [cond-mat.str-el] [arXiv:2011.04509](https://arxiv.org/abs/2011.04509)

**Journal information:** *Physical Review X*  
<https://phys.org/news/2021-07-physics-metals.html>

# COVID-19 Research News



Press Information Bureau  
Government of India

Ministry of Health and Family Welfare

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## **B.1.617.2, known as the Delta variant, is around 40-60 percent more transmissible than Alpha Variant- Dr. N K Arora, Co- Chair, INSACOG**

*“Current vaccines are effective against Delta Variant as per the studies undertaken by ICMR on the issue”*

*“Any future waves will be controlled and delayed if more people get vaccinated and follow COVID-Appropriate Behaviour effectively”*

*It is difficult to say that the disease caused due to Delta Variant is more severe- Dr. N K Arora*

In a recent interview, Dr N K Arora, co-chair, Indian SARS-CoV-2 Genomics Consortium (INSACOG) elaborates about the Standard Operating Procedure (SOP) for testing and follow-up on variants, what makes the Delta variant so transmissible, how genomic surveillance can help contain its spread, and reemphasises on the importance of COVID appropriate behaviour.

INSACOG is a consortium of 28 laboratories of Ministry of Health & Family Welfare, Dept. of Biotechnology, Indian Council of Medical Research (ICMR) and Council of Scientific and Industrial Research (CSIR) for whole genome sequencing in the context of COVID-19 pandemic. INSACOG was established by Ministry of Health and Family Welfare, Govt of India on 25/12/2020.

### **Recently INSACOG expanded its reach. What is the thought behind its expansion?**

There is a need to keep a strict vigil on the emergence of variants of concern and outbreaks so that they can be contained before they spread to a larger region. The Indian SARS-CoV-2 Genomics Consortium (INSACOG), established in December 2020, was a consortium of 10 laboratories. Recently 18 more laboratories became part of it.

The idea is to have a strong network of laboratories to do genomic surveillance of the SARS-CoV-2 and correlate whole genomics sequencing (WGS) data with clinical and epidemiological data to see whether or not a variant is more transmissible, causes more severe disease, escaping immunity or causing breakthrough infections, affecting vaccine efficacy, and diagnosed by current diagnostic tests.

Then National Center for Disease Control (NCDC) analyse this data. The entire country has been divided into geographical regions and each lab is given the responsibility of one particular region. We have formed 180-190 clusters with around 4 districts in each cluster. Regular random swab samples and samples of patients who develop severe illness, vaccine breakthrough infections, and other atypical clinical presentations, are collected and sent to regional laboratories for sequencing. The current capacity of the country is to sequence over 50,000 samples per month; earlier it was approximately 30,000 samples.



### **What kind of mechanism country has for testing and follow up on variants?**

India has a well-established mechanism of Integrated Disease Surveillance. The IDSP coordinates sample collection and transportation from the districts/sentinel sites to Regional Genome Sequencing Laboratories (RGSL). The RGSLs are responsible for genome sequencing and identification of Variants of Concerns (VOC)/Variants of Interest (VOI), Potential Variants of Interest and other mutations. Information on VOC/VOI is directly submitted to the Central Surveillance Unit for clinical-epidemiological correlation in coordination with State Surveillance Officers. The samples are then sent to the designated bio banks.

RGSLs, upon identification of a genomic mutation which could be of public health relevance, submit the same to Scientific and Clinical Advisory Group (SCAG). SCAG thereafter discusses the Potential Variants of Interest and other mutations with experts and if necessary, recommends to the Central Surveillance Unit for further investigation.

Sharing of information and clinical-epidemiological correlation is done by IDSP, a unit of NCDC, along with the Ministry of Health, the Indian Council for Medical Research, Department of Biotechnology, Council for Scientific and Industrial Research and state authorities.

Finally, the new mutations/variants of concern are cultured and scientific studies are undertaken to see the impact on infectiousness, virulence, vaccine efficacy and immune escape properties.

### **The Delta variant has been in focus as a global concern. What makes this variant so virulent?**

B.1.617.2, a variant of COVID-19 is known as the Delta variant. It was first identified in October 2020 in India, and was primarily responsible for the second wave in the country, today accounting for over 80 percent of new Covid-19 cases. It emerged in Maharashtra and travelled northwards along the western states of the country before entering the central and the eastern states.

It has mutations in its spike protein, which helps it bind to the ACE2 receptors present on the surface of the cells more firmly, making it more transmissible and capable of evading the body's immunity. It is around 40-60 percent more transmissible than its predecessor (Alpha variant) and has already spread to more than 80 countries, including the UK, the USA, Singapore, and so on.

### **Does it also cause more severe disease as compared to other variants?**

There are studies that show that there are some mutations in this variant that promote syncytium formation. Besides, on invading a human cell, it replicates faster. It leads to a strong inflammatory response in organs like the lungs. However it is difficult to say that disease due to delta variant is more severe. The age profile and the deaths during the second wave in India were quite similar to that seen during first wave.

### **Is Delta Plus variant more aggressive than Delta variant?**

The Delta Plus variant—AY.1 and AY.2—has so far been detected in 55-60 cases across 11 states, including Maharashtra, Tamil Nadu, and Madhya Pradesh. AY.1 is also found in countries like Nepal, Portugal, Switzerland, Poland, Japan but AY.2 is less prevalent. The variant is still being studied for its transmissibility, virulence, and vaccines escape characteristics.

### **Are the vaccines effective against the Delta variant?**

Yes, current vaccines are effective against Delta Variant as per the studies undertaken by ICMR on the issue.

### **Some parts of the country are still witnessing a spurt in the number of cases. Why?**

Though there is a significant dip in the number of cases in most parts of the country, some regions are witnessing a high-Test Positivity Rate (TPR) particularly in the north-eastern parts of the country and several districts in the southern states, most of these cases could be due to the Delta variant.

### **Can future waves be prevented?**

A virus begins infecting a part of the population, which is most susceptible and also exposed to the infection. It diminishes after it successfully infects a large proportion of the population and

strikes back when the immunity developed in the people post-natural infection fades. The cases may go up if a new, more infectious variant comes. In other words, next wave will be driven by a virus variant to which significant proportion of population is susceptible.

The second wave is still going on. Any future waves will be controlled and delayed if more and more people get vaccinated and most importantly, people follow COVID-Appropriate Behaviour effectively, especially till a substantial part of our population gets vaccinated.

People need to focus on vaccination and adherence to COVID Appropriate Behaviour to manage COVID-19.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1736665>



पत्र सूचना कार्यालय  
भारत सरकार

स्वास्थ्य एवं परिवार कल्याण मंत्रालय

Mon, 19 July 2021 11:09AM

## अल्फा वैरियंट से बी.1.617.2 डेल्टा वैरियंट 40-60 प्रतिशत अधिक संक्रामक - डॉ. एन के अरोड़ा, सह-अध्यक्ष आईएनएसएसीओजी

*“इस विषय पर आईसीएमआर द्वारा किये गये अध्ययन के  
अनुसार मौजूदा वैक्सीन डेल्टा वैरियंट पर कारगर”*

*“ज्यादा से ज्यादा लोगों को टीके लगने और कोविड उपयुक्त व्यवहार  
के कड़े अनुपालन से महामारी की भावी लहरों को नियंत्रित और टाला जा सकता है”*

यह कहना कठिन है कि डेल्टा वैरियंट के कारण होने वाली बीमारी ज्यादा गंभीर होती है: डॉ. एन के अरोड़ा हाल के एक साक्षात्कार में इंडियन सार्स-कोव-2 जेनोमिक्स कॉन्सॉर्टियम (आईएनएसएसीओजी) के सह-अध्यक्ष डॉ. एनके अरोड़ा ने वैरियंट की जांच और उसके व्यवहार के हवाले से मानक संचालन प्रक्रिया (एसओपी)के बारे में चर्चा की। यह जांच यह जानने के लिये की जाती है कि डेल्टा वैरियंट इतना संक्रामक क्यों है। उन्होंने यह भी बताया कि किस तरह जेनोमिक निगरानी के जरिये इसे फैलने से रोका गया। उन्होंने फिर जोर देकर कहा कि कोविड उपयुक्त व्यवहार बहुत अहमियत रखता है।

आईएनएसएसीओजी, स्वास्थ्य एवं परिवार कल्याण मंत्रालय, बायोटेक्नोलॉजी विभाग, भारतीय चिकित्सा अनुसंधान परिषद (आईसीएमआर) तथा वैज्ञानिक और औद्योगिक अनुसंधान परिषद (सीएसआईआर) की 28 प्रयोगशालाओं का संघ है, जो कोविड-19 महामारी के संदर्भ में जिनोम सीक्वेंसिंग करता है। आईएनएसएसीओजी को स्वास्थ्य और परिवार कल्याण मंत्रालय ने 25 दिसंबर, 2020 को गठित किया था।

आईएनएसएसीओजी ने हाल में अपना दायरा बढ़ाया है। इस विस्तार के पीछे की क्या सोच है?

अति गंभीर रूप से बीमार करने वाले वैरियंट के उभरने पर कड़ी नजर रखने की जरूरत थी। उसके फैलाव को भी बराबर देखना था, ताकि बड़े इलाके में उसके फैलाव को पहले ही रोका जा सके। आईएनएसएसीओजी को दिसम्बर 2020 में गठित किया गया था, जो उस समय दस प्रयोगशालाओं का संघ था। हाल में 18 और प्रयोगशालायें उससे जुड़ गई हैं।

सार्स-कोव-2 की जिनोम आधारित पड़ताल करने के लिये प्रयोगशालाओं के मजबूत तंत्र की जरूरत महसूस की गई, ताकि उनके जरिये जिनोम सीक्वेंसिंग के सारे आंकड़ों का रोग और महामारी वाले आंकड़ों के साथ मिलान किया जाये तथा देखा जाये कि वैरियंट-विशेष कितना संक्रामक है, उससे बीमारी कितनी गंभीर होती है, वह शरीर की रोग-प्रतिरोधक क्षमता को चकमा दे सकता है या नहीं या टीके लगवाने के बाद उससे दोबारा संक्रमण हो सकता है या नहीं; यानी, उससे वैक्सीन के प्रभाव पर कितना असर पड़ता है और निदान का जो मौजूदा तरीका है, वह उसके लिये पर्याप्त है या नहीं।

राष्ट्रीय रोग नियंत्रण केंद्र (एनसीडीसी) फिर इन आंकड़ों का विश्लेषण करता है। पूरे देश को भौगोलिक क्षेत्रों में बांटा गया है और हर प्रयोगशाला को किसी न किसी विशेष क्षेत्र की जिम्मेदारी दी गई है। हमने 180-190 क्लस्टर बनाये हैं और हर क्लस्टर में चार-चार जिलों को रखा है। हम औचक रूप से नमूनों की जांच करते रहते हैं। साथ ही गंभीर रूप से बीमार, टीका लगवाने के बाद संक्रमित लोगों के नमूनों की भी जांच करते हैं। इसके अलावा लक्षण रहित लोगों के नमूनों को भी देखा जाता है। इन सब नमूनों को जमा करके उनकी सीक्वेंसिंग करने के लिये इलाके की प्रयोगशाला में भेज दिया जाता है। इस समय देश में हर महीने 50 हजार से अधिक नमूनों की सीक्वेंसिंग करने की क्षमता है। पहले हमारे पास लगभग 30 हजार नमूनों को हर महीने जांचने की ही क्षमता था।

वैरियंट की जांच और उसके व्यवहार की निगरानी करने की क्या प्रणाली देश के पास है?

भारत के पास बीमारियों पर नजर रखने के एक मजबूत प्रणाली मौजूद है, जो इंटीग्रेटेड डिजीज सर्वेलांस प्रोग्राम (आईडीएसपी) के तहत काम करती है। आईडीएसपी नमूनों को जमा करने और उन्हें जिलों/निगरानी स्थलों से क्षेत्रीय जिनोम सीक्वेंसिंग प्रयोगशालाओं (आरजीएसएल) तक पहुंचाने का समन्वय करता है। आरजीएसएल की जिम्मेदारी है कि वह जिनोम सीक्वेंसिंग करे, गंभीर रूप से बीमार करने वाले (वैरियंट ऑफ कंसर्न - वीओसी) या किसी विशेष वैरियंट (वैरियंट ऑफ इंटेरेस्ट - वीओआई) की पड़ताल करे और म्यूटेशन पर नजर रखे। वीओसी/वीओआई की सूचना सीधे केंद्रीय निगरानी इकाई को दी जाती है, ताकि राज्य के निगरानी अधिकारियों के साथ रोग-महामारी के आपसी सम्बंध पर समन्वय बनाया जा सके, ताकि उन्हें मालूम हो सके कि यह रोग या महामारी कितनी भीषण है। उसके बाद नमूनों को बायो-बैंकों में भेज दिया जाता है।

आरजीएसएल जब जन स्वास्थ्य से जुड़े किसी जिनोम म्यूटेशन की पहचान कर लेती है, तो उसकी रिपोर्ट वैज्ञानिक और उपचार सलाहकार समूह (एससीएजी) को सौंप देती है। एससीएजी उसके बाद वीओआई और अन्य म्यूटेशन पर विशेषज्ञों की राय लेता है और अगर जरूरी हुआ तो आगे पड़ताल के लिये केंद्रीय निगरानी इकाई को उसकी सिफारिश करता है।

एनसीडीसी की इकाई आईडीएसपी रोग-महामारी के आपसी सम्बंध और अन्य सूचनाओं को स्वास्थ्य मंत्रालय, भारतीय चिकित्सा अनुसंधान परिषद्, बायोटेक्नोलॉजी विभाग, वैज्ञानिक और औद्योगिक अनुसंधान परिषद तथा राज्य के अधिकारियों के साथ साझा करती है।

आखिर में, नये म्यूटेशन/गंभीर रूप से बीमार करने वाले वैरियंट को प्रयोगशाला में जांचा जाता है और उसकी संक्रामकता, घातकता, वैक्सीन के प्रभाव और शरीर की रोग-प्रतिरोधक क्षमता को चकमा देने की ताकत का मूल्यांकन किया जाता है।

पूरी दुनिया में डेल्टा वैरियंट से चिंता फैली हुई है। यह वैरियंट इतना घातक क्यों है?

कोविड-19 के बी.1.617.2 को डेल्टा वैरियंट कहा जाता है। पहली बार इसकी शिनाख्त भारत में अक्टूबर 2020 में की गई थी। हमारे देश में दूसरी लहर के लिये यही प्रमुख रूप से जिम्मेदार है। आज नये कोविड-19 के 80 प्रतिशत मामले इसी वैरियंट की देन हैं। यह महाराष्ट्र में उभरा और वहां से घूमता-घामता

पश्चिमी राज्यों से होता हुआ उत्तर की ओर बढ़ा। फिर देश के मध्य भाग में और पूर्वोत्तर राज्यों में फैल गया।

यह म्यूटेशन स्पाइक प्रोटीन से बना है, जो उसे एसीई2 रिसेप्टर से चिपकने में मदद करता है। एसीआई2 रिसेप्टर कोशिकाओं की सतह पर मौजूद होता है, जिसे यह मजबूत से चिपक जाता है। इसके कारण यह ज्यादा संक्रामक हो जाता है और शरीर की रोग-प्रतिरोधक क्षमता को चकमा देने में सफल हो जाता है। यह अपने पूर्ववर्ती अल्फा वैरियंट से 40-60 प्रतिशत ज्यादा संक्रामक है और अब तक यूके, अमेरिका, सिंगापुर आदि 80 से ज्यादा देशों में फैल चुका है।

अन्य वैरियंट की तुलना में क्या यह ज्यादा गंभीर रूप से बीमार करता है?

ऐसे अध्ययन हैं, जो बताते हैं कि इस वैरियंट में ऐसे कुछ म्यूटेशन हैं, जो संक्रमित कोशिका को अन्य कोशिकाओं से मिलाकर रुग्ण कोशिकाओं की तादाद बढ़ाते जाते हैं। इसके अलावा जब ये मानव कोशिका में घुसपैठ करते हैं, तो बहुत तेजी से अपनी संख्या बढ़ाने लगते हैं। इसका सबसे घातक प्रभाव फेफड़ों पर पड़ता है। बहरहाल, यह कहना मुश्किल है कि डेल्टा वैरियंट से पैदा होने वाली बीमारी ज्यादा घातक होती है। भारत में दूसरी लहर के दौरान होने वाली मौतों और किस आयुवर्ग में ज्यादा मौतें हुईं, ये सब पहली लहर से मिलता-जुलता ही है।

क्या डेल्टा वैरियंट के मुकाबले डेल्टा प्लस वैरियंट ज्यादा घातक है?

डेल्टा प्लस वैरियंट - एवाई.1 और एवाई.2 - अब तक 11 राज्यों में 55-60 मामलों में देखा गया है। इन राज्यों में महाराष्ट्र, तमिलनाडु और मध्यप्रदेश शामिल हैं। एवाई.1 नेपाल, पुर्तगाल, स्विट्जरलैंड, पोलैंड, जापान जैसे देशों में भी मिला है। इसके बरक्स एवाई.2 कम मिलता है। वैरियंट की संक्रामकता, घातकता और वैक्सीन को चकमा देने की क्षमता आदि का अध्ययन चल रहा है।

क्या डेल्टा वैरियंट के खिलाफ वैक्सीन कारगर है?

जी हां। इस मुद्दे पर आईसीएमआर के अध्ययन के अनुसार मौजूदा वैक्सीनें डेल्टा वैरियंट के खिलाफ कारगर हैं।

देश के कुछ भागों में अब भी मामलों में तेजी देखी जा रही है। ऐसा क्यों?

देश के तमाम भागों में मामलों में गिरावट दर्ज की जा रही है, लेकिन कुछ हिस्सों में आज भी पॉजीटिविटी दर ऊंची है, खासतौर से देश के पूर्वोत्तर क्षेत्रों और दक्षिणी राज्यों के कई जिलों में। इनमें से ज्यादातर मामले डेल्टा वैरियंट के कारण हो सकते हैं।

क्या महामारी की भावी लहरों को रोका जा सकता है?

वायरस ने आबादी के उस हिस्से को संक्रमित करना शुरू किया है, जो हिस्सा सबसे जोखिम वाला है। संक्रमित के संपर्क में आने वालों को भी वह पकड़ता है। आबादी के एक बड़े हिस्से को संक्रमित करने के बाद वह कम होने लगता है और जब संक्रमण के बाद पैदा होने वाली रोग-प्रतिरोधक क्षमता कम होने लगती है, तो वह फिर वार करता है। अगर नये और ज्यादा संक्रमण वाले वैरियंट पैदा हुये, तो मामले बढ़ सकते हैं। दूसरे शब्दों में कहें, तो अगली लहर उस वायरस वैरियंट की वजह से आयेगी, जिसके सामने आबादी का अच्छा-खासा हिस्सा ज्यादा कमजोर साबित होगा।

दूसरी लहर अभी चल रही है। ज्यादा से ज्यादा लोगों को टीके लें, लोग कड़ाई से कोविड उपयुक्त व्यवहार करें और जब तक हमारी आबादी के एक बड़े हिस्से को टीके न लग जायें, हम सावधान रहें, तो भावी लहर को नियंत्रित किया जा सकता है और उसे टाला जा सकता है। लोगों को कोविड-19 के खिलाफ टीके और कोविड उपयुक्त व्यवहार पर ज्यादा से ज्यादा ध्यान देने की जरूरत है।

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