

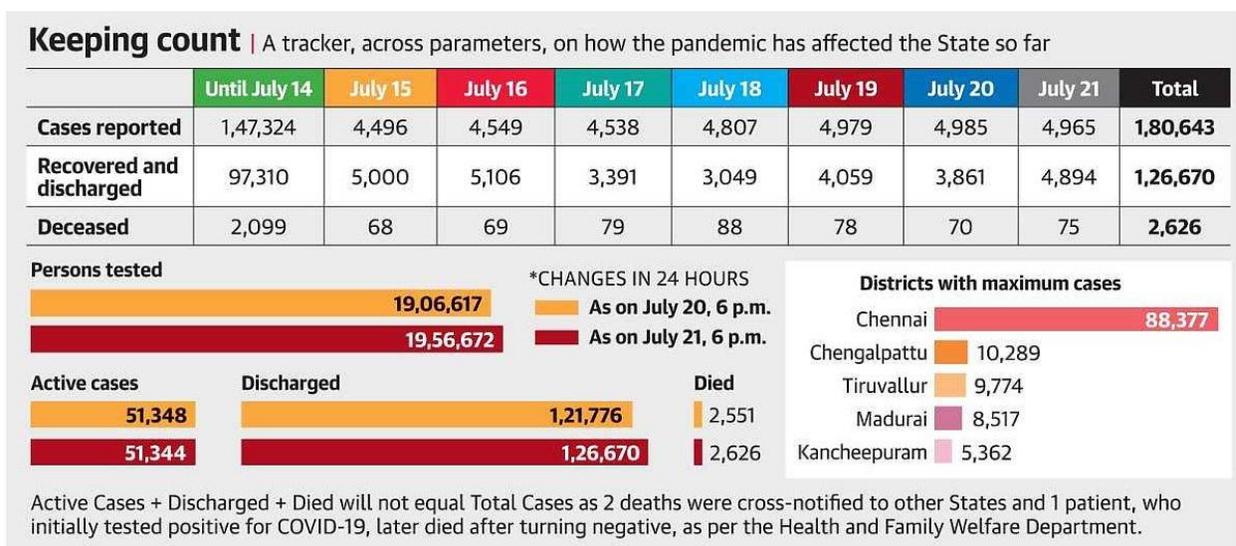
## EVERYDAY CURRENT AFFAIRS – JULY 22, 2020

### TAMIL NADU

- **Tamil Nadu - has been allocated ₹5,990 crore, accounting for around 6% of the ₹1 lakh crore earmarked for the Agriculture Infra- structure Fund.**
- ✓ The Fund has been created by the Centre as part of the Rs 20 lakh economic package -Atmanirbhar Bharat Abhiyan, unveiled by the Prime Minister Narendra Modi on May 12
- ✓ The scheme facilitates the grant of loans to organisations working for agriculturists.
- ✓ The beneficiaries of the scheme include primary agricultural cooperative societies, farmer producer organisations, joint liability groups, agri-entrepreneurs and start-ups
- ✓ The scheme will be implemented over the next 10 years.
- ✓ The 'tentative' allocation of the funds was made on the basis of the ratio of the total value of the output of agriculture and allied sectors in a State to the Gross State Domestic Product, as per the Union government's Department of Agriculture, Cooperation and Farmers Welfare (DAC&FW)
- ✓ In the southern region, Andhra Pradesh will get the highest share of ₹6,540 crore, followed by Karnataka-₹4,525 crore, Telangana-₹3,075 crore, Kerala-₹2,520 crore and Puducherry-₹48 crore.
- ✓ The organizations can use these funds for post-harvest management projects and those aimed at building community farming assets such as organic inputs and bio-stimulant production units.
- ✓ The loans granted to the beneficiaries will carry an interest subvention of 3% up to a limit of ₹2 crore.
- ✓ Participating institutions will have to sign memoranda of understanding with the National Bank for Agriculture & Rural Development and the DAC&FW.

- ✓ The new scheme is independent of the existing ones and it does not preclude its beneficiaries from getting covered under the old schemes such as Agrimarket Infrastructure Fund and Warehouse Infrastructure Fund
- **SRM Medical College Hospital and Research Centre - has started screening volunteers for the human trials of Covaxin, a drug that has been indigenously developed to fight Covid-19 infection.**
  - ✓ SRM is among the 12 institutions and the only medical institution from the State to be chosen for the trial.
  - ✓ It has started conducting medical checks on the participants
  - ✓ Already, the phase 1 of trial has begun in the All India Institute of Medical Science, Patna, Goa's Redkar hospital, Post Graduate Institute of Medical Sciences, Rohtak, and Nizam's Institute at Hyderabad.
  - ✓ Volunteers who are taking part in the trial at these institutes have been given the first dose of vaccine.
  - ✓ The second dose will be administered after 14 days.
  - ✓ Bharat Biotech and the Indian Council of Medical Research (ICMR) have jointly begun the human trials of India's indigenous Covid-19 vaccine named COVAXIN.
  - ✓ The vaccine has been developed in collaboration with the National Institute of Virology, Pune
  - ✓ It has been developed at the Bio-Safety Level 3 (BSL-3) high containment facility of Bharat Biotech in Hyderabad.
  - ✓ The vaccine is also known as BBV152 Covid Vaccine.
  - ✓ The Covaxin has received the DCGI approval to undergo the Phase I & Phase II of Clinical Trials that will be conducted on humans.
  - ✓ In Phase 1 of the human trials, 375 volunteers of 18-55 years age will be administered with a dose of the experimental vaccine across the country.
  - ✓ In phase II trials, 750 people of 12-65 years age will be participating across the country.
  - ✓ AIIMS Delhi began the human trials of the vaccine by first screening the volunteers
- **The labour department – has launched an online portal for fresh registration of eligible workers from various unorganised sectors being left out of the government Covid-19 welfare schemes during the lockdown**
  - ✓ The new portal will be available at <http://labour.tn.gov.in>
  - ✓ Through the new portal, the labourers can register their names online to seek benefits under the social security scheme
  - ✓ The state government has distributed financial assistance of ₹1,000 per person during the lockdown
  - ✓ It has also announced the grant of dry ration twice during the lockdown period to the registered members of various welfare boards.

- ✓ Around 27.4 lakh labourers have registered with 17 welfare boards under labour department.
- **On July 21, Tamil Nadu - reported 4,965 fresh Covid-19 cases and 75 deaths.**
- ✓ With this, the state's total caseload stands at 1,80,643 with a death toll of 2,626
- ✓ A total of 4,894 people were discharged on the day, taking the state's recovery rate to 70%
- ✓ With this, a total of 1,26,670 people have recovered from the viral infection in the state.
- ✓ The state has 51,344 active cases under treatment, as on date.
- ✓ The state has also approved Government Hospital, Tindivanam, for Covid testing, taking the total number of testing facilities to 113.

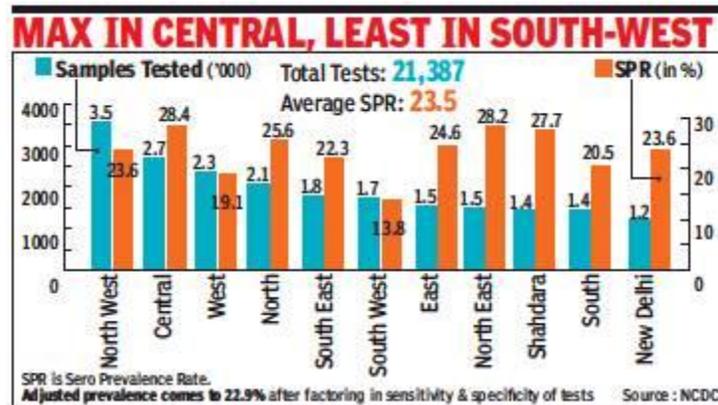


- ✓ Chennai continues as a hotspot after reporting 1,130 cases, but the rest of the state accounts for 77% of the cases.
- ✓ Chennai's three neighbours recorded 884 cases -- Tiruvallur 366, Kancheepuram 262 and Chengalpet 256.
- ✓ Other districts that showed significant spike includes Virudhunagar (360), Tuticorin (269), Coimbatore (176), Ranipet (173), Tiruvannamalai (163), Vellore (160), Madurai (158) and Trichy (127)
- ✓ A total of 51,066 samples were tested on the day, taking the total number of samples tested close to 20 lakh.

## STATES

- **On July 21, the findings of the serological survey conducted in Delhi between June 27 and July 10 - were released by the government.**
- ✓ The sero-survey was conducted by the National Centre for Disease Control (NCDC) along with the Delhi government
- ✓ The survey covered over 20,000 people across the Capital's 11 districts

- ✓ As per the findings, around 23% of Delhi's population could have been infected with coronavirus till the first week of July, while also pointing to a large number of infected people being asymptomatic.



- ✓ The sera of selected individual were tested for IgG antibodies using 'COVID KAVACH ELISA' test
  - ✓ After nearly six months into the epidemic, only 22.86 % of the people are affected showing the "adjusted prevalence" of Immunoglobulin G (IgG) antibodies
  - ✓ Immunoglobulin G is a common antibody in blood and other fluids which protects against bacteria and virus infections.
  - ✓ It means, 77% population still remained vulnerable and susceptible to the viral disease.
  - ✓ An earlier sero survey conducted by the Indian Council of Medical Research (ICMR) in containment zones showed prevalence of 34% in Ahmedabad and 9-11% in Delhi
  - ✓ A sero-survey is done to determine the exposure of the novel coronavirus among the population.
  - ✓ This is one of the largest sero-prevalence studies conducted in the country using the ELISA testing.
  - ✓ As part of the survey, 21,387 samples were collected and tested.
  - ✓ These tests are not diagnostic tests but provides information about whether a person has been exposed earlier to SARS-CoV-2
- **On July 21, Delhi Chief Minister Arvind Kejriwal - announced that his government has approved 'Mukhya Mantri Ghar Ghar Ration Yojana'.**



- ✓ The scheme aims to provide the doorstep delivery of ration to the beneficiaries
- ✓ The Delhi Government is planning to start 'One Nation One Ration Card' scheme and 'Mukhya Mantri Ghar Ghar Yojana' on the same day.
- ✓ Under the scheme, the Delhi government will deliver wheat, rice, flour and sugar in hygienically packed bags directly to the homes.
- ✓ People will be provided with both the option of going to a shop and buying ration or delivery of ration at their doorstep
- ✓ Home delivery of ration is expected to start in the next six to seven months.

## NATIONAL

- **The annual pilgrimage of Amarnath yatra – will not be conducted this year following the Covid-19 crisis in Jammu & Kashmir.**



- ✓ This was decided by the Shri Amarnath Shrine Board (SASB) headed by Lt Governor GC Murmu on July 21.
- ✓ However, the board decided to provide 'live' and 'virtual' darshan of the morning and evening aartis of the deity.
- ✓ The yatra was supposed to have begun on July 21 and ended on August 3.
- ✓ The sudden surge in the pandemic in the Union Territory forced the authorities to re-impose the lockdown in several districts including Srinagar.
- ✓ Further, all religious places in J&K are closed for public till July 31.
- ✓ In these circumstances, the board was of the view that the diversion of resources to the yatra will cause a serious strain on the health system
- ✓ This would also unnecessarily put the 'yatis' at risk of catching the Covid-19
- ✓ The Supreme Court on July 13, 2020 has dismissed the petition seeking the cancellation of Yatra.
- ✓ The top court had stated that the issue as to whether yatra must be held should be decided by the local administration after assessment of the ground realities prevailing in J&K.
- ✓ Amarnath Yatra is an annual pilgrimage to Amarnath Cave, which is a Hindu shrine located in Jammu & Kashmir.

- ✓ The cave is completely surrounded by the Snow Mountains and covered in snow for most of the year, except in summer for a short period of time when it is open for the pilgrims.
  - ✓ It is one of the 51 Shakti Peethas.
  - ✓ As many 239 people have died due to the virus so far in the Kashmir Valley, while 20 people have died in the UT of Jammu.
  - ✓ The J&K has reported a total caseload of 14,000 as on date.
- **A total of 16 private players, including Bombardier, GMR, Bharat Forge, BHEL, IRCTC, Medha, CAF and Gateway Rail - participated in the first pre-bid meeting on private train operations held on July 21**
- ✓ However, heavyweights such as Tata and Adani Groups didn't take part in the meeting
  - ✓ But, non-participation in the pre-bid meeting doesn't prevent any entity from participating in the bidding process.
  - ✓ Pre-bid meetings in infrastructure projects are basically conducted to discuss issues and address concerns of potential bidders.
  - ✓ The second pre-bid meeting will be held on August 8.
  - ✓ As part of a comprehensive plan allowing the private train operators, the Railways is planning to upgrade 11,295km comprising seven high density corridors to allow passenger trains to run at 160kmph by March 2025.
  - ✓ These stretches are Delhi-Howrah, Howrah-Mumbai, Mumbai-Delhi, Delhi-Guwahati, Delhi-Chennai, Chennai-Howrah and Chennai-Mumbai.
  - ✓ The Indian Railways plans to roll out these trains in phases on 109 routes starting April 2023.
  - ✓ Moreover, there is a plan to overhaul the timings which will specify the dedicated hours for running only express trains and separate hours would be kept for freight, slow moving trains on each corridor.
- **On July 21, the Human Resource Development (HRD) Ministry - rolled out a mental health initiative named 'Manodarpan' in New Delhi.**



- ✓ The initiative has been conceived keeping in mind the stress faced by students and their families especially during the Covid-19 pandemic
  - ✓ It aims to provide psycho-social support to students, parents and families for their mental health and emotional well-being in times of pandemic.
  - ✓ The platform will be manned by a pool of experienced counsellors, psychologists and mental health professionals
  - ✓ It includes a national toll free helpline '8448440632' for students of schools, universities and colleges for help during the Covid crisis and beyond.
  - ✓ The MANODARPAN initiative also has a dedicated website which will host an interactive online chat platform, advisories and tips on mental and emotional health, a national database of counsellors, links to webinars and other resources.
  - ✓ The MANODARPAN initiative was a part of the Atmanirbhar Bharat Abhiyan, which was unveiled by Prime Minister Narendra Modi in May 2020
  - ✓ The programme, with an allocation of Rs. 20 lakh crores, aims to make India self-reliant in various sectors including Agriculture, MSME, fisheries, animal husbandry, dairy industry, etc.
- **On July 20, the road transport ministry - notified the new standards of compliance for the Tyre Pressure Monitoring System (TPMS) installed in vehicles**
- ✓ The new standards will come into effect from October 1



- ✓ As per the new norms, Cars and SUVs with tubeless tyres will now be allowed to run without a spare wheel, if these have a standard puncture repair kit and tyre pressure monitoring system (TPMS).
- ✓ Currently, only a few high-end SUVs available in India have the TPMS
- ✓ The TPMS monitors the tyre inflation pressure during the movement of the vehicle
- ✓ It also simultaneously transmits information to drivers to alert them in case there is a sudden reduction in pressure.
- ✓ As of now installing the TPMS is voluntary as an added feature.
- ✓ As per specifications, the TPMS shall operate from a speed of 40 kmph or below up to the vehicle's maximum design speed.
- ✓ Similarly, the tyre puncture repair kit, which is also known as an inflator kit, can be used to pour sealant along with the air seals to fix any puncture in minimum time without replacing it with the spare wheel.

- **On July 21, 2020, the Central Board of Direct Taxes (CBDT) and Central Board of Indirect Taxes and Customs (CBIC) - signed Memorandum of Understanding to facilitate data exchange with each other.**



- ✓ The MoU was signed by Chairman of CBDT, Pramod Chandra Mody, and the Chairman of CBIC, M Ajit Kumar.
  - ✓ Accordingly, both the boards will undertake exchange of information on regular basis.
  - ✓ The agreement signed replaces the former agreement signed between Central Board of Excise and Customs (CBEC) and CBDT in 2015
  - ✓ Along with the signing, a 'Data Exchange Steering group' has also been constituted.
  - ✓ The group will meet periodically to take the necessary steps to review the status of data exchange and improve the effectiveness of the data-sharing mechanism.
  - ✓ The CBIC was established after GST (Goods and Services Tax) was introduced.
  - ✓ Under Section 138 Income Tax act, CBDT will share data regarding sales of plant and machinery
  - ✓ The CBDT is also planning to start data-sharing regarding sales, depreciation, gross turnover of MSMEs with the Ministry of MSMEs soon.
- **India - has recorded more Covid-19 cases in July so far than in all previous months put together.**
  - ✓ July's count crossed six lakh on July 21, going past the cumulative caseload of 5.9 lakh recorded in the country till June 30.
  - ✓ The death toll this month also topped 11,000, accounting for nearly 40% of all fatalities since the pandemic's outbreak in India.
  - ✓ There were 670 deaths reported on the day, taking the total toll to 28,723.
  - ✓ India now has the seventh highest Covid-19 toll in the world, having gone past Spain's count of 28,422 fatalities

- ✓ The country reported 38,444 new cases, the second highest single-day tally so far after the 40,000-plus count on July 19, as per data collated from state governments
  - ✓ With this, India's Covid-19 caseload rose to over 11.9 lakh, with 7.5 lakh patients discharged so far and 4.1 lakh remaining in hospitals as active cases.
  - ✓ On the day, three states reported their highest ever jump of infections – Gujarat (1000), Rajasthan (983) and Tripura (202)
  - ✓ Many states registered their second-highest rise in the case count.
  - ✓ These included TamilNadu (4,965 new cases), Andhra Pradesh (4,944), Uttar Pradesh (2,151), Madhya Pradesh (785) and Punjab (381).
  - ✓ For the sixth day in a row, Maharashtra reported over 8,000 new Covid-19 cases
  - ✓ On the day, the state added 8,369 cases, taking the total tally to 3,27,031.
  - ✓ Meanwhile, Andhra Pradesh moved to fifth spot in the country with 58,668 cases, behind Maharashtra, Tamil Nadu, Delhi and Karnataka
  - ✓ On July 21, the health ministry reiterated that there are “clusters of cases and pockets of localised transmission” of Covid-19, without indicating the start of community transmission
  - ✓ Community transmission is usually defined as a stage when it is impossible to trace the chain of transmission
- **Tamil Nadu, Uttar Pradesh, Maharashtra, Andhra Pradesh, Rajasthan, Karnataka and Delhi, in that order - are ranked as the top seven states that conducted the highest tests in the last two weeks**
- ✓ With a low positivity rate of 4% and total confirmed cases of 47,000 so far, Uttar Pradesh has conducted 400,000 tests in the last two weeks (July 2-15), behind Tamil Nadu's 5 lakh tests.
  - ✓ Tamil Nadu, which has been conducting the highest number of tests by any state, is at second spot in terms of the total Covid-19 cases (1.66 lakh), after Maharashtra's 3 lakh.
  - ✓ Delhi with 1.22 lakh cases, Karnataka (59,000) and Gujarat (47,476) are other states with more cases than UP.
  - ✓ However, in terms of total tests per million population, Delhi is ranked at the top with an average of 41,000 tests, followed by Andhra Pradesh and Tamil Nadu with around 25,000 tests each

## **INTERNATIONAL**

- **On July 21, the 27-nation European Union bloc leaders - agreed on a massive aid package to rescue their economies from the pandemic-induced challenges**



- ✓ The 750 billion euro (\$857 billion) stimulus agreement, supported by Chancellor Angela Merkel of Germany and President Emmanuel Macron of France, was agreed by the other EU nations.
- ✓ The EU's executive commission predicts the bloc's economy will shrink by 8.7% this year and rebound by 6.1% next year.
- ✓ The deal was notable for its firsts - Countries will raise large sums by selling bonds collectively, rather than individually; and much of that money will be handed out to member nations hit hardest by the pandemic as grants, not loans
- ✓ Merkel, who holds the EU's rotating presidency, supported move help for hard-hit southern countries against the northern members that have been less affected.
- ✓ The package will send more funds to countries hit hardest by the virus, most notably heavily indebted Spain and Italy who had requested for a major gesture from their EU partners.
- ✓ Britain, who left the EU in January and will not benefit from the aid plan, revealed that state borrowing had rocketed to a record £127.9 billion (\$162.5 billion) in the three months to June.
- ✓ Economists predict a recession in Europe far worse than anything since World War II.
- ✓ France, Italy and Spain are expected to suffer the most, accounting for a GDP slump of around 10% this year.
- ✓ Greece and other smaller economies will also be badly affected by the downturn.
- ✓ The package now goes to the European Parliament for ratification
- ✓ The virus has infected more than 14.7 million people and killed over 6,10,000 of them since emerging in China late last year

## **CONFERENCES & SUMMITS**

- **On July 22, 2020, the India Business Council – will be hosting the 'India Ideas Summit 2020'**
- ✓ Prime Minister Narendra Modi will be delivering the keynote address at the summit.

- ✓ Besides the PM, other key speakers at the event include US Secretary of State Mike Pompeo, Union External Affairs Minister Dr. S Jaishankar, former US Ambassador to the UN Nikki Haley.
  - ✓ This year's summit marks the 45th anniversary of the founding of the council.
  - ✓ The Summit will bring together government leaders and business men for discussion about US-India partnership and trends in shaping trade and investment, globalization and future works
  - ✓ Theme 2020 - Building a Better Future
  - ✓ The India Business council was formed in 1975.
  - ✓ It encourages private sectors of both the countries to enhance their investment flows
  - ✓ It serves as direct link between government leaders and business leaders.
  - ✓ There are 12 executive committees operating under the council.
  - ✓ They cover the major business sectors such as aerospace, digital economy, food and agriculture, financial services, real estate, tax, retail trade, life sciences, infrastructure, energy, environment and enterprise, real estate, media and entertainment.
  - ✓ There is similar business council that operates between UK and India.
  - ✓ It is UK-India Business Council.
  - ✓ The functions of UKIBC is similar to that of USIBC
- **On July 22, 2020, the Union Minister of Information Technology Shri Ravi Shankar Prasad - is scheduled to attend G20 Digital Ministers' Meet**
- ✓ The Digital Economy Ministers Meet is hosted by Saudi Arabia this year.
  - ✓ Theme 2020 - Realizing Opportunities of the 21st century for all
  - ✓ During the meeting, the G20 member countries will discuss the following aspects -
    - ✓ Empowering people by creating conditions where all people especially the youth and women can live, work and thrive
    - ✓ Safeguard the planet by fostering collective efforts to protect our global commons
    - ✓ To shape new frontiers by adopting long term strategies and share innovation and technological advancements

## **PERSONALITIES**

- **UK-based NRI Deepak Paliwal – has been named as the only Indian-origin person to sign up as a volunteer for the Covid-19 vaccine trial at Oxford University**
- ✓ The 42-year old pharma consultant in the UK was selected for the trial on April 16
  - ✓ He joined a team of 1,000-odd people to become part of the phase-2 clinical trials of ChAdOx1nCoV-19 vaccine.
  - ✓ On July 20, it was announced that the vaccine produced robust immune response in volunteers



- ✓ Paliwal, who hails from Jaipur, moved to the UK in 2010.
- ✓ He received the vaccine on May 11 and left home after three hours

## **SCIENCE, TECHNOLOGY & ENVIRONMENT**

- **IIT-Madras and University of Nairobi researchers - have used 'metamaterials' to improve detection of defects in large structures by guided wave ultrasound**
- ✓ In general, engineering structures including buildings, pipelines and rails require 'periodic testing' to prevent major failures that can occur due to corrosion, impact and strain.
- ✓ High-frequency sound waves that travel in the bulk (bulk ultrasound) are widely used for non-invasive and non-destructive testing of structural materials.
- ✓ However, conventional bulk ultrasonic inspection is tedious and time-consuming, as it involves point-by-point assessment of structures and this is especially challenging in large-scale assets.
- ✓ Although ultrasound guided by features such as plates, bars, wires, pipes is an attractive alternative, such 'guided ultrasound' is limited by 'resolution' due to the relatively lower frequencies used

## **DEFENCE**

- **The Indian Navy – has started to use its MiG-29K supersonic fighters and Poseidon-8I long-range patrol aircraft over land amidst the ongoing military confrontation with China in eastern Ladakh.**



- ✓ The US-origin P-8I aircrafts are being regularly deployed to keep track of movements and buildups of the People’s Liberation Army along the line of actual control (LAC)
- ✓ These aircrafts are packed with radars and electro-optic sensors to hunt enemy warships and submarines
- ✓ The MiG-29Ks, in turn, have replaced IAF fighters at an airbase in north-western India. IAF has deployed a lot of its fighters like Sukhoi-30MKIs, Mirage-2000s and MiG-29s as well as Apache attack and Chinook heavy-lift helicopters along the LAC, especially in eastern Ladakh.
- ✓ IAF has also stationed around 10 Jaguar maritime strike fighters, armed with anti-ship Harpoon missiles, at the Andaman and Nicobar islands
- ✓ Earlier, India had deployed the P-8I aircraft to check Chinese troops during the 73-day troop face-off at Doklam near the Sikkim-Bhutan-Tibet tri-junction in 2017.
- ✓ The Navy currently has eight P-8Is which were acquired under a \$2.1 billion deal of January 2009
- ✓ Another four P-8Is are slated for delivery next year under another \$1.1 billion contract inked in July 2016.
- ✓ It had procured 45 MiG-29Ks from Russia for \$2 billion to operate from the 44,570-tonne aircraft carrier INS Vikramaditya, which usually carries 18-20 of the fighter aircrafts and some helicopters at a time.
- ✓ The Navy has also deployed several warships and submarines on the eastern seaboard to maintain high operational readiness.
- ✓ On July 20, in a strong strategic signal to China, four frontline Indian warships had conducted a “cooperative exercise” with the US carrier strike group led by aircraft carrier USS Nimitz in the southern Bay of Bengal

## ECONOMY

- **The government - is revising its strategy on entering into free trade agreements (FTA) with other countries to ensure that the treaties provide economic and strategic benefits.**
- ✓ Separately, it is also focusing on alliances with “peaceful” countries, especially those with which India does not have a significant trade deficit.

<b>TRADE TIES</b>		
Existing Agreements	In the Pipeline	
<ul style="list-style-type: none"> <li>■ Singapore</li> <li>■ Thailand</li> <li>■ Malaysia</li> <li>■ Asean</li> <li>■ Chile</li> </ul>	<ul style="list-style-type: none"> <li>■ Japan</li> <li>■ Afghanistan</li> <li>■ South Korea</li> <li>■ MERCOSUR</li> <li>■ Sri Lanka</li> </ul>	<ul style="list-style-type: none"> <li>■ Australia</li> <li>■ EU</li> <li>■ New Zealand</li> <li>■ UK</li> <li>■ US</li> <li>■ Mauritius</li> </ul>



- ✓ In this regard, high-level discussions on revamped strategy have begun with finance minister Nirmala Sitharaman, commerce and industry minister Piyush

Goyal and chairman of the Economic Advisory Council to Prime Minister (EAC-PM) Bibey Debroy

- ✓ On July 20, the team of three held a meeting, which coincided with external affairs minister S Jaishankar's statement that FTAs haven't helped India build capacity
  - ✓ The FTAs with Australia and the European Union are under consideration, with the UK and the US among countries with which India will engage more aggressively
  - ✓ Further, the agreements with Asean and Japan are set to be reworked, as imports are increased more than exports due to a sharp reduction in tariffs.
  - ✓ At the same time, India was expected to benefit more on the services front, with software professionals and nurses getting easy access to markets such as Japan, Singapore, South Korea and Malaysia.
  - ✓ Off late, Singapore has cut down issuing fresh visas, citing domestic issues, while Japan has denied access to Indian nurses, pointing to lack of language skills
  - ✓ Further, the presence of Chinese companies in Asean countries divert the inferior quality goods to India to get the benefit of lower tariffs
  - ✓ The finance ministry also has concerns over loss of revenue due to the trade agreements.
- **On July 21, Tata Communications (formerly VSNL) - said that it has secured a telecom licence in Saudi Arabia to provide internet and related services to the companies based in the kingdom.**



- ✓ This will enable the company to “make the shift from offering services as a foreign carrier in the Middle East to a local licensed service provider”.
- ✓ Tata Communications carries around 30% of the world's internet routes on its network.
- ✓ The company, in which the government of India holds over 26%, reported a loss of ₹85 crore in fiscal 2020
- ✓ In the fiscal 2020, it sold its entire stake (26%) in STT Tai Seng, which operates three data centres in Singapore, to majority partner ST Telemedia Global Data Centres (STT GDC) for ₹72 crore, resulting in a loss of ₹7 crore.
- ✓ As on date, the company continues to hold 26% in the India data centres, while the remaining 74% is held by STT GDC

# OXFORD VACCINE – A REPORT

## THIS IS HOW THE OXFORD VACCINE WORKS

A coronavirus vaccine being developed by Oxford University and UK-based pharma major AstraZeneca has shown promising results in preliminary trials that involved roughly 1,000 people. It's a vaccine that will be a pathbreaker in more than one sense if it proves equally effective in larger trials

### A Novel Vaccine For Novel Coronavirus

While several vaccine types are being tried out, the Oxford University vaccine, also referred to as AZD1222, is the same kind as another frontrunner that is being made by the China-based CanSino Biologics. These vaccines – US-based Johnson & Johnson also has one in the works – count on genetically engineered viruses, termed adenoviral vectors, to introduce a weakened Sars-CoV-2 gene into the human body with the objective that it will spur the immune system to produce antibodies that will attack the virus if it thereafter tries to infect us. But no adenoviral vector vaccines have been approved for use in humans although it has seen use in experimental vaccines



### The Vaccine Hitches A Ride On Chimps

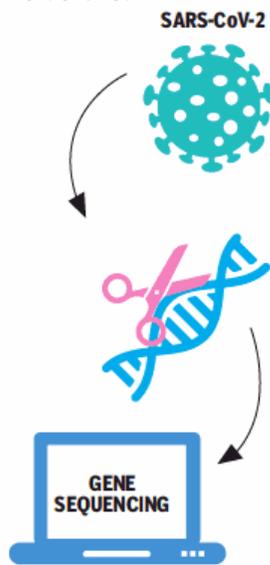
The Oxford University vaccine is based on a weakened version of a common cold virus, or adenovirus, that causes infections in chimpanzees. The vector (the carrier) is derived from adenovirus (ChAdOx1) taken from chimpanzees. It is genetically engineered so that it does not replicate in humans. When the genetically engineered ChAdOx1 with the spike protein from coronavirus is given to a person, it causes a build-up of spike proteins. The body's immune system recognises this and begins to create the antibodies to defeat the foreign object



Preliminary results from Phase I/II trials said a single dose of the Oxford vaccine "resulted in a four-fold increase in antibodies to the SARS-CoV-2 virus spike protein in 95% of participants one month after injection". It added that a T-cell response – these are a type of white blood cell that "remembers" and attacks the coronavirus – was induced that continued two months after injection of the vaccine

#### STEP 1

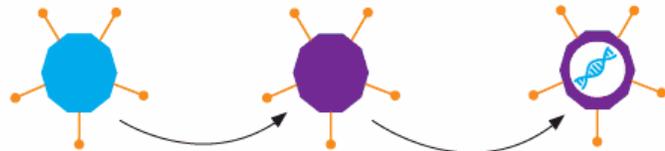
Genetic code of the coronavirus spike protein is identified



#### STEP 2

The vaccine contains the chimpanzee adenovirus in a weakened and genetically modified form so it doesn't infect humans and produces spike proteins

Chimpanzee adenovirus      ChAdOx1 viral vector      ChAdOx1 nCov-19 vaccine



#### STEP 3

The vaccine helps produce spike proteins in the body, which causes the immune system to generate antibodies against them. Once the immune system recognises the spike protein, it can respond to it in the event of a coronavirus infection



### When Are We Likely To Get This Vaccine?

Advanced Phase II and III trials that are needed before the vaccine comes up for regulatory and licensing assessments are already underway among 10,000 people in the UK. Large trials are also being done in Brazil and South Africa while a 30,000-person study is reportedly set to kick off in the US. Experts have guessed that if it meets all desired goals, the vaccine may be available for use by the end of this year.

In terms of access to those who need it most in case the vaccine is cleared for use, AstraZeneca said it has committed to supplying more than 2 billion doses to governments and agencies. The Pune-based Serum Institute of India has entered into a licence agreement to supply 1 billion doses of the vaccine to middle- and low-income countries, including India

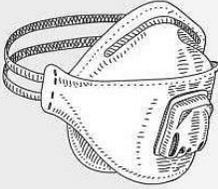
Source: [research.ox.ac.uk](http://research.ox.ac.uk), [astrazeneca.com](http://astrazeneca.com), [cen.acs.org](http://cen.acs.org)

# N-95 VALVE MASK NOT TO BE USED FOR COVID-19? – A REPORT

- On July 21, the Union Health Ministry - cautioned against the use of N-95 valved respirator/masks, stating that it does not offer the desired protection against the spread of Covid-19.

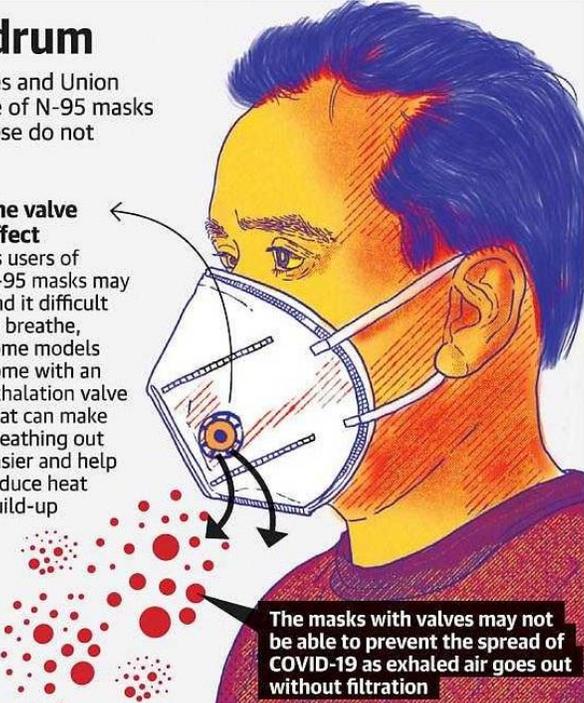
## The **mask** conundrum

The Centre has written to all States and Union Territories warning against the use of N-95 masks with valved respirators, saying these do not prevent the virus from spreading



### The valve effect

As users of N-95 masks may find it difficult to breathe, some models come with an exhalation valve that can make breathing out easier and help reduce heat build-up



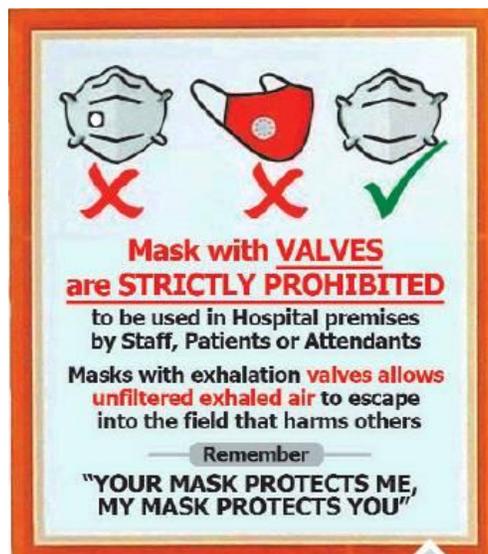
### What is an N-95 respirator?

It is a respiratory protective device designed to achieve a very close facial fit and a very efficient filtration of airborne particles

**N** - stands for 'Non-Oil', meaning it can be used if oil-based particulates are not present

**95** - means it has a 95% efficiency to filter airborne particles

- ✓ The Director General of health services has written to states that the use of “valved respirator N-95 mask” does not check the spread of coronavirus, as it is not preventing the virus from escaping out of the mask.



**Mask with VALVES are STRICTLY PROHIBITED**  
to be used in Hospital premises  
by Staff, Patients or Attendants

Masks with exhalation valves allows  
**unfiltered exhaled air** to escape  
into the field that harms others

Remember  
**"YOUR MASK PROTECTS ME,  
MY MASK PROTECTS YOU"**

- ✓ As per the advisory, if an asymptomatic person is wearing a valved N-95 mask, then the chances of that person infecting others exists
- ✓ As per the advisory of the Union health ministry, the use of home-made protective cover for face and mouth is recommended.

### Working of a Valve mask

- ✓ A mask fitted with valves filter only the inhaled air, without filtering the exhaled air.
- ✓ Inhaled air is filtered through the fabric, while hot, humid exhaled air goes out through the valve
- ✓ The valve expels exhaled air in a strong, steady stream, which moves with high velocity, which could create a plume of infection
- ✓ Thus, the valve masks facilitates easy breathing, but is harmful during a pandemic like Covid-19
- ✓ In these masks, Valves are fitted as a raised plastic disk, about the size of a coin, in the centre or side of the mask



- ✓ So, if a person is carrying the Covid-19 virus, the chances of him infecting others is higher if the mask has a valve.

### Three important features in a mask

1. Certified viral filtration efficiency (VFE) — should be 95%,
  2. Breathability of the material used — this is important for comfort, and
  3. The mask's fit — if it doesn't seal your face, it's useless.
- ✓ All these features are irreplaceable for effecting screening of the face.
  - ✓ Of late, the masks using nanotechnology have been found to be more effective against Covid-19
  - ✓ These types of masks elevate filtration capacity and lowers breathing resistance.”

- ✓ The Centers for Disease Control (CDC) recommends cloth masks, as layers of cotton can prevent the potentially infectious respiratory droplets from entering or escaping

### Where to use Valve masks?



- ✓ The valve masks are basically intended for usage in pollution
- ✓ In pollution, it becomes important to clean 100% of the air breathed by a person and the air breathed out by him can be allowed to go out back into the environment without resistance so that one's own air is not rebreathed.
- ✓ But for Covid-19, 100% filtration during exhalation is needed along with effective filtration during inhalation.
- ✓ With a valve mask, everything that a person breathes through the mask is filtered, but during the breathing out, the valve opens and allows unfiltered air to come out.
- ✓ So, if a person is infected with Covid-19 and is wearing a valve mask, they are infecting others.
- ✓ In general, valve masks are designed for people working in industrial settings where protection is needed against dust or asbestos, not viruses

