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INTERNATIONAL

AUSTRALIA SHRUGS OFF CHINA ANGER ON NUCLEAR SUBS

Australia on Friday shrugged off Chinese anger over its decision to acquire U.S. nuclear-powered submarines, while vowing to defend the rule of law in airspace and waters where Beijing has staked hotly contested claims. U.S. President Joe Biden announced the new Australia-U.S.-Britain defence alliance on Wednesday, extending U.S. nuclear submarine technology to Australia as well as cyber defence, applied artificial intelligence and undersea capabilities. *Beijing described the new alliance as an “extremely irresponsible” threat to regional stability, questioning Australia’s commitment to nuclear non-proliferation and warning the Western allies that they risked “shooting themselves in the foot”.* China has its own “very substantive programme of nuclear submarine building”, Australian Prime Minister Scott Morrison argued on Friday in an interview with radio station 2GB. “They have every right to take decisions in their national interests for their defence arrangements and of course so does Australia and all other countries,” he said. In a series of media interviews, the Australian leader said his government was reacting to changing dynamics in the Asia-Pacific region where territory is increasingly contested and competition is rising. Australia is “very aware” of China’s nuclear submarine capabilities and growing military investment, he told Channel Seven television. “We are interested in ensuring that international waters are always international waters and international skies are international skies, and that the rule of law applies equally in all of these places,” he said. Australia wanted to ensure that there were no “no-go zones” in areas governed by international law, the Prime Minister said. “That’s very important whether it is for trade, whether it is for things like undersea cables, for planes and where they can fly. I mean that is the order that we need to preserve. That is what peace and stability provides for and that is what we are seeking to achieve.”

AUKUS

Australia, the U.K. and the U.S. (AUKUS) have announced they're forming a new security alliance that will help equip Australia with nuclear-powered submarines. The alliance will see a reshaping of relations in the Indo-Pacific region and beyond. Here's what it might mean for various players:

United States

Ten years ago under President Barack Obama, the U.S. began discussing the need to focus more attention on the Indo-Pacific region while pivoting away from conflicts in West Asia. Under President Joe Biden, the U.S. has now withdrawn its troops from Afghanistan while finding that tensions with China have only grown. In the Pacific, the U.S. and others have been concerned about China’s actions in the South China Sea and its antipathy toward Japan, Taiwan and Australia.

Britain

In announcing the deal, none of the three leaders mentioned China. The U.S. had previously only shared the nuclear propulsion technology with Britain. Mr. Biden said it was about ensuring peace and stability in the Indo-Pacific over the long term. Leaving the EU under Brexit has left Britain seeking to reassert its global position. Part of that has been an increased focus — or tilt — towards



the Indo-Pacific. British Prime Minister Boris Johnson said the new alliance would allow the three nations to sharpen their focus on an increasingly complicated part of the world.

Australia

Under the arrangement, Australia will build at least eight nuclear-powered submarines using U.S. expertise, while dumping a contract with France for diesel-electric submarines. Experts say the nuclear submarines will allow Australia to conduct longer patrols and give the alliance a stronger military presence in the region. Australian Prime Minister Scott Morrison said he had called the leaders of Japan and India to explain the new alliance. Japan, India, Australia and the U.S. already have a strategic dialogue known as 'the Quad'. Mr. Biden is set to host fellow Quad leaders at the White House next week.

France

Australia told France it would end its contract with state majority-owned DCNS to build 12 of the world's largest conventional submarines. The contract was worth tens of billions of dollars. France is furious, demanding explanations from all sides. "It was really a stab in the back. We built a relationship of trust with Australia, and this trust was betrayed," said French Foreign Minister Jean-Yves Le Drian on France-Info radio.

New Zealand

Left out of the new alliance is Australia's neighbour New Zealand. It has a long-standing nuclear-free policy that includes a ban on nuclear-powered ships entering its ports. That stance has sometimes been a sticking point in otherwise close relations with the U.S. *Prime Minister Jacinda Ardern said New Zealand wasn't asked to be part of the alliance and wouldn't have expected an invitation. Still, it leaves New Zealand out of a deal to share a range of information, including artificial intelligence, cyber and underwater defence capabilities.*

The Indo-Pacific would be better served by broader strategic cooperation initiatives

Two dimensions are significant: first, that it complements several pre-existing similar arrangements for the region, including the Five Eyes intelligence cooperation initiative, ASEAN and the Quad, the last including India; and second, that it proposes to transfer technology to build a fleet of nuclear-powered submarines for Australia within 18 months. Australia has ratified the nuclear NPT and has vowed to abide by its tenets, notwithstanding the highly sensitive technology transfer implied in the latest proposal. Mr. Biden went to lengths to assure the world that AUKUS was "not talking about nuclear-armed submarines. These are conventionally armed submarines that are powered by nuclear reactors. This technology is proven." Australia will become only the second nation, after the U.K., that the U.S. has ever shared its nuclear submarine technology with. The announcement of the partnership led to a minor kerfuffle with New Zealand, whose Prime Minister Jacinda Ardern said that under her country's 1984 nuclear-free zone policy, Australia's nuclear-powered submarines would not be allowed into the former's territorial waters. It also appeared to upset the political leadership in France, with whom Australia had struck a deal — now cancelled — for \$90 billion worth of conventional submarines. The broader strategic question that the creation of AUKUS begs relates to the unstated challenge that the group poses to the regional hegemonic ambitions of China, particularly regarding how far the U.S., the U.K. and



Australia, along with other regional powers, will go, to preserve a free and open Indo-Pacific, including the South China Sea. Will the operationalisation of this security partnership lead to closer coordination among the nations concerned in terms of joint military presence, war games and more in the region, signalling a new, “latticed” posture to Beijing? After all, undersea capabilities including the ability to patrol may be vital to deterring Chinese military coercion in the region. Although no explicit mention was made of China in any of the AUKUS announcements, it is clear, as one official later said to media, that the transfer of nuclear propulsion technology to an ally in this context was intended to “send a message of reassurance to countries in Asia”. Whether or not the purpose of AUKUS is to contain China’s aggressive territorial ambitions, the imperatives of the Indo-Pacific would be better served by broadening strategic cooperation initiatives of this sort to include other powers that are deeply invested in the region, including India, Japan, and South Korea.

18-month plan

A central feature of the partnership would involve a trilateral 18-month effort to help Australia acquire nuclear-powered submarines which are quieter, more capable (than their conventional counterparts) and can be deployed for longer periods, needing to surface less frequently. The partnership would also involve a new architecture of meetings and engagements between the three countries and also cooperation across emerging technologies (applied AI, quantum technologies and undersea capabilities). Australia has felt increasing pressure from an assertive China, like other countries in the region, and has sought to strengthen its partnerships with India, the U.S. and the U.K., including through ‘plurilateral’ forums. However, as in the case of the Quad, the U.S. officials denied the partnership was a response to China. “I do want to just underscore very clearly this partnership is not aimed [at] or about any one country. It’s about advancing our strategic interests, upholding the international rules-based order, and promoting peace and stability in the Indo- Pacific,” an official said. Officials suggested that Australia wanted to step up its game with regard to maritime security in the Indo-Pacific region, and the partnership was a “down-payment” the U.K. was making on its decision to engage more deeply with the Indo-Pacific.

Peace and stability

Calling the announcement “historic”, one of the administration officials on the call said it “reflects the Biden administration’s determination to build stronger partnerships to sustain peace and stability across the entire Indo-Pacific region”. The official also said there are “no better allies than the United Kingdom and Australia” and that the partnership was a “fundamental decision...that binds, decisively, Australia to the United States and Great Britain for generations”. “We undertake this effort as part of a larger constellation of steps, including stronger bilateral partnerships with our traditional security partners in Asia: Japan, South Korea, Thailand, the Philippines, and also stronger engagements with new partners like India, Vietnam, and new formations like the Quad,” one of the officials said. *Asked about extensions of this trilateral framework in future, an administration official said AUKUS was “very rare” and a “one-off” and that the U.S. sharing this kind of technology on nuclear submarines had been done only once before — with the U.K. and almost 70 years ago. “I do not anticipate that this will be undertaken in other circumstances going forward,” the official said.*



A few days ago, India's Defence Minister and External Affairs Minister held the inaugural '2+2' talks with their Australian counterparts. Both countries are taking several steps to implement their vision of a peaceful and prosperous Indo-Pacific region.

Positive trajectory of relations

India and Australia have completed one year of their Comprehensive Strategic Partnership and their bond is deepening. Prime Minister Narendra Modi and Australian Prime Minister Scott Morrison elevated their bilateral strategic partnership to a Comprehensive Strategic Partnership in June 2020. Their personal connection is providing the political framework and impetus to this partnership. There is a growing convergence of views on geo-strategic and geo-economic issues backed by a robust people-to-people connection. Both countries have stepped up collaborations through institutions and organisations on many issues in bilateral, trilateral, plurilateral and multilateral formats. *Further, elevation of their '2+2' Foreign and Defence Secretaries' Dialogue to the ministerial level emphasises the positive trajectory of their transforming relations. Both countries have an enduring interest in a free, open, inclusive and rule-based Indo-Pacific region.* It includes stability and freedom of navigation for all nations in the region. Given their common security challenges and in order to enhance regional security architecture, both countries have intensified bilateral security cooperation. They have also stepped up security dialogue with key partner-countries to deepen coordination in areas where security interests are mutual. The Malabar naval exercise by the Quad (Australia, India, Japan, the U.S.) is a step in this direction. While this signals deeper engagement and cooperation between the Quad countries at the strategic level, at the tactical level, it also allows the navies to develop and enhance advanced warfare tactics. *In the Malabar naval exercise of 2021, India was represented by the Indian navy stealth frigate INS Shivalik and anti-submarine warfare corvette INS Kadmat, while Australia was represented by its Anzac-class frigate HMAS Warramunga. Trading between India and Australia has seen remarkable growth in recent years. Two-way trade between them was valued at \$24.4 billion in 2020. The Indian economy is not only one of the largest economies in the world, but it is also going through a tectonic economic transformation.* In this endeavour, Australia is a valued partner as both draw their congruence from a rule-based international order, believe in inclusive economic integration in the Indo-Pacific region, and face challenges from a belligerent China. Trade is rapidly growing and encompasses agribusiness, infrastructure, healthcare, energy and mining, education, artificial intelligence, big data and fintech. Both countries are working to build a long-term sustainable economic relation. In a joint communique last month, India's Commerce and Industry Minister and the Australian Trade Minister announced that an early harvest agreement by December will pave the way for an early conclusion of a bilateral Comprehensive Economic Cooperation Agreement between both countries. But despite the growth in trade, India and Australia need to resolve old issues that pose a barrier to deeper economic integration. India has a high tariff for agriculture and dairy products which makes it difficult for Australian exporters to export these items to India. At the same time, India faces non-tariff barriers and its skilled professionals in the Australian labour market face discrimination.

Forging a deep partnership

India-Australia relations have deepened in the last few decades owing to the alignment of strategic interests driven by a common value system. Both are vibrant democracies which have respect for international laws and a belief in the equality of all nations irrespective of their size and strength.



It is expected that the '2+2' dialogue will provide substance to this partnership. Expected meetings between the two Prime Ministers will further deepen political understanding and open more avenues for collaborations. *Beyond bilateralism, both countries are also entering into partnerships with like-minded countries, including Indonesia, Japan and France, in a trilateral framework. The Quad has gained momentum in recent months. The time is ripe for these countries to deliberate on a 'Quad+' framework.* The geo-political and geo-economic churning in international affairs makes it imperative for India and Australia to forge a partnership guided by principles with a humane approach.

TWO DEMOCRACIES AND THEIR VIGILANTE PROBLEM

In the world's largest democracy, the word 'vigilante' evokes unsavoury images of goons stopping cattle trucks and lynching drivers, or video filming themselves assaulting men accused of love jihad, or beating up couples celebrating Valentine's Day. A vigilante in India is both bad news and a bad word. Vigilantes are anti-democratic. They lack the values of a constitutional democracy. A consensus has emerged in India to demand that the law-and-order machinery comes down heavily on such vigilante behaviour.

A respectable garb in the U.S.

So, imagine my shock when I discovered that in the world's oldest democracy, the word 'vigilante' receives only half the opprobrium that we heap on it in India. The other half is suppressed by a law that makes vigilantism respectable. One form of the vigilante, in the United States, is the 'citizen arrester' who enjoys legal status and whose actions are protected by a law that permits him or her to pursue and arrest a person accused of breaking the law. Drawing on a legal convention that comes from the Common Law tradition in England, dating from the 12th Century, a citizen arrester can physically arrest a person, on behalf of the Monarch (now State) who is regarded by them as breaking or evading the law. There are procedures to be followed, and risks involved for wrongful arrest, but assuming that these are adhered to the citizen arrester is regarded as aiding the consolidation of a political system based on the rule of law. Because of its potential for abuse, in legal circles in the U.S., there is a debate on the need to circumscribe the scope, and eligibility, of who can be a citizen arrester.

The 'Heartbeat Bill'

But rather than diminish the place of the citizen arrester, the recent decisions of the Texas legislature are in fact encouraging the practice. Two cases are particularly noteworthy. The first is the latest innovation introduced in Senate Bill 8 (SB8) in Texas, known as the 'Heartbeat Bill', signed into law by the Texas Governor Greg Abbott in May 2021, that seeks to ban abortions after six weeks when the foetus registers a heartbeat. The passage of this law has produced an active debate in the U.S., between pro-abortion and pro-life groups, drawing on medical science, law, bioethics, and women's rights, to refine the different elements of the Roe vs Wade judgment of 1973. *There are five aspects worthy of attention. The first is it deprives women of the right over their own bodies by making abortion illegal after six weeks when many women do not even know that they are pregnant. This in effect means that abortions, when needed, are unavailable. The second is to include, in the applicability of the law, even women who are victims of rape and incest. Victims are thereby subjected to a second victimisation since now they will be compelled to carry the pregnancy*



to full term or seek termination in the dark alleys beyond the law. The third is to make culpable anyone associated with an abortion after six weeks and this could include the Uber driver who takes the pregnant woman to the clinic, the receptionist, the nurse and the doctor. The fourth is the declining, by the Supreme Court of the USA, in a five versus four vote, to hear the injunction challenging the Texas Anti-Abortion Law. In her dissenting note, Justice Sonia Sotomayor wrote: 'Presented with an application to enjoin a flagrantly unconstitutional law engineered to prohibit women exercising their constitutional rights and evade judicial scrutiny, a majority of justices have opted to bury their heads in the sand... The Court should not be so content to ignore its constitutional obligations to protect not only the rights of women, but also the sanctity of its precedents and of the rule of law.' This sandy terrain to which the court retired is, unfortunately, very familiar to us in India. And the fifth, on which I wish to comment here, is the legal device that blocks State officials from enforcing the law but outsources the enforcement to private citizens who can sue abortion providers from performing abortions and are entitled to collect \$10,000 as a civil payout in addition to their legal fees. Such a person can even be someone from outside the state who can show any connection to the abortion. Enter the 'bounty hunter' or 'citizen arrester'. While each of the five aspects raises important ethical and legal issues I wish to highlight only the fifth since Republicans in Texas have used the legal device — call it a cunning innovation — of empowering and encouraging citizen arresters to perform the job of state officials who are thereby protected from being sued. The effect of this innovation is to deny women the rights given by Roe vs Wade. The case shows the length to which partisan groups in a democracy, even in one as mature as the U.S., will go to overturn settled law and redesign both the public discourse and the institutional order to make it consistent with their religious ideology. Linda Greenhouse commenting on the legislation in her article in The New York Times (September 9, 2021) asked in exasperation: 'Who let God into the legislative chamber?' This is the same question we often ask in India.

Voting 'reforms'

The second case in Texas concerns the Reforms to the Voting Law in Texas which seek to reverse the gains of earlier years. SB1, the Bill recently signed by the governor, bans drive through voting, 24 hour voting, and distribution of mail-in applications. It requires new ID requirements for voting by mail, creates new rules for voter assistance, establishes monthly checks, etc. To block the passage of the Bill, the minority Democrats who felt the changes amounted to voter suppression and would disadvantage minority voters, flew out of the State to Washington DC so that the house could not convene for want of a quorum. The Republicans responded by relying on the law to compel voting and thus Speaker Dade Phelan signed warrants authorising the Sergeant-at-Arms to arrest and produce the missing representatives. The length to which the Speaker went is shocking to our democratic sensibilities. Some representatives stated that they were less worried of being arrested by officials and more by citizen arresters. In an overview article titled 'Vilifying the Vigilante: A Narrowed Scope of Citizen's Arrest', Professor Ira P. Robbins discusses its historical origins, pitfalls, good application and reform. He argues for the scope of citizen arresters to be restricted to only a small category of people, such as shopkeepers, out-of-jurisdiction police, and private police forces, and being abolished in all other cases. The trend, unfortunately, as shown by Texan laws, SB1 and SB8, is moving in the other way. Because of the opprobrium we have heaped on vigilantes in India, I hesitated to equate them with the citizen arrester till I read the phrase in a letter on SB8, by the Chairman of the U.S. House Judiciary Committee, Jerrold Nadler, to the Attorney General, Merrick B. Garland, to prosecute 'would be vigilantes attempting



to use the private right of action established by that blatantly unconstitutional law'. The oldest and the largest democracies, it seems, both have a vigilante problem today.

A RELATIONSHIP TIED TO SHARIA LAW

The Taliban is an ideological movement. Like all such movements, it is making strategic compromises by manoeuvring through rhetoric. *At the heart of this crisis lies the issue of the relationship between women and religion. Genuine emancipation of women, some argue, lies outside religion because all religions are inherently patriarchal.* Others recognise the prevalence of enough moral resources in various religions, including Islam, that could be marshalled for gender rights. Scholars sympathetic to Islam often attribute its anti-women tendencies to flawed interpretations of the women's role in Islamic texts. Feminist movements in various parts of the world, including Egypt, Iran and even in India, often cite various Islamic sources, at times even practices from Prophet Mohammed's life, to make a case for encouraging prospects for gender rights in Muslim societies. Some describe this as Islamic feminism because white feminism that originated in the West has its own share of problems. *Moroccan feminist Fatima Mernissi's book, Women and Islam: An Historical and Theological Inquiry, articulates fascinating perspectives on the relationship between women and Islam. She makes a persuasive case on why the West has been unfair in singling out Islam as "anti-women".* By engaging with various classical sources, she blames the misinterpretation of Islamic texts and its intellectual history as the reason behind such biases against Islam. She talks about Aisha, the Prophet's wife, her role in the power struggle, and how she led armed opposition against the Caliph who ruled at the time. This narrative contradicts the Taliban's argument, which denies Muslim women any public role in governance or its politics. The Taliban's resurgence has the potential to sway the global opinion about Muslim societies as being intrinsically "anti-women". However, Muslim-majority societies further present encouraging evidence about the women's pre-eminent roles in various fields, including governance. For instance, *Benazir Bhutto in Pakistan or Sheikh Hasina in Bangladesh* have played seminal roles. Some would attribute class as a factor in their rise, but a majority of clergy and Muslims in general embrace their roles as normal and not a violation of Islamic tradition. *One major failure of the U.S.-led intervention in Afghanistan for 20-odd years has been the failure of liberal Islam to gain adequate roots in Afghanistan to counter the Taliban's extreme patriarchal narrative of Islam. Unfortunately, liberal Muslims as champions of liberal Islam often do not find solidarity with liberals from non-Muslim communities for their cause due to the misconception that conservatives and clergies call the shots in Muslim communities.* Hence, dominant stakeholders consider it politically incorrect to back liberal Muslims. *Such a perception motivated the passage of the Shah Bano Bill in India during the 1980s, and liberal Muslims were abandoned by a dominant fraction of the power-hungry liberals of the majority community and by the Indian state.* The women groups that are active in present Afghanistan need proactive support from the international community. Without such support, they will not be able to smash their new prison.

TALIBAN: WOMEN CAN STUDY IN GENDER-SEGREGATED VARSITIES

Afghan women will be allowed to attend university as long as they study separately from men, the Taliban's new Higher Education Minister said on Sunday. Women's rights in Afghanistan were sharply curtailed under the Taliban's 1996-2001 rule, though since returning to power last month the hardline Islamists have claimed they will implement a less extreme rule. But speaking to

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reporters about the new regime's plans for the country's Education, Minister Abdul Baqi Haqqani was unapologetic about *bringing an end to mixed sex classes*. "We have no problems in ending the mixed-education system," he said. "The people are Muslims and they will accept it." *The Taliban announced earlier this month that women could still study at university if they wore an abaya robe and niqab covering most of the face, with classes segregated by sex — or at least divided by a curtain*. Haqqani said that the education system had changed greatly since the Taliban's last time in power, when women were barred from schools and universities. "Compared to the past the number of educational institutions have increased dramatically," he said. "This gives us hope for a future, prosperous and self-sufficient Afghanistan... we will continue from where they were left." *Some fear the new rules will exclude women because the universities do not have the resources to provide separate classes*. But Haqqani insisted there were enough women teachers and, where they were not available, alternatives could be found without breaching rules. "It all depends on the university's capacity," he said. *We can also use male teachers to teach from behind a curtain, or use technology.*" The Taliban say they want to distance themselves from the harsher policies of old, when half the population was excluded from work and education.

FBI RELEASES DECLASSIFIED DOCUMENT ON SEPTEMBER 11 ATTACK

The Federal Bureau of Investigation has released a newly declassified document pertaining to logistical help provided to two of the Saudi hijackers before the September 11, 2001 attacks. The 16-page document was released late Saturday, on the 20th anniversary of the attacks. *The report, which is partially redacted, chronicles contacts the hijackers had with Saudi associates in the US, but gives no evidence of the government in Riyadh being complicit in the plot*. The document is the first investigative record to be disclosed following an executive order by President Joe Biden for a declassification review of materials that have remained out of the public view in the last two decades. The pages, which are heavily redacted, outline a 2015 interview with a person who was applying for US citizenship and years before had repeated contact with Saudi nationals who investigators said provided "significant logistical support" to several of the hijackers. Families of the 9/11 victims had called on Biden to miss Saturday's 20th anniversary events if he did not declassify documents that they have asserted will show Saudi Arabian authorities supported the terror plot which killed nearly 3,000 people. The pages were released hours after Biden attended memorial events in New York, Pennsylvania and northern Virginia. *Families of the victims, businesses and several insurers, have sued Saudi Arabia seeking billions of dollars*. The Saudi government has continued to deny any involvement. On Wednesday, the Saudi consulate in Washington had said that it supported the full declassification of all records to "end the baseless allegations against the Kingdom once and for all." The embassy maintained that any allegation that Saudi Arabia was complicit was "categorically false." On Saturday, a statement released on behalf of the organization 9/11 Families United said that the 16 pages released by the FBI put any doubts about Saudi complicity to rest. "Now the Saudis' secrets are exposed and it is well past time for the Kingdom to own up to its officials' roles in murdering thousands on American soil," the statement read.

US GRAPPLES WITH LEGACY OF BRUTAL INTERROGATIONS

Mohamedou Ould Slahi is almost clinical as he recalls details of the torture he endured in the summer of 2003 at *Guantánamo Bay*. There were the guards who menaced him with attack dogs

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



and beat him so badly that they broke his ribs. The troops who shackled him, blasted him with heavy metal music and strobe lights, or drenched him in ice water to deny him sleep for months on end. The mind-numbing isolation in a darkened cell without his Quran. The female guards who exposed themselves and touched him sexually in an effort to undermine his adherence to Islam. But what left Slahi in utter despair, he said, was the interrogator who tried to threaten him into acknowledging that he was complicit in plotting a terrorist attack. "If you don't admit to it, we are going to kidnap your mother, rape her," the interrogator said, by Slahi's account. In the end, he was released in 2016 without ever being charged, the confessions he made under duress recanted, a proposed case against him deemed by the prosecutor to be worthless in court because of the brutality of the interrogation.

For the United States, as for Slahi, *the legacy of the torture remains complex and multifaceted two decades after 9/11 led the George W. Bush administration to set aside legal and moral constraints in the name of national security.* The United States has long since stopped employing the so-called enhanced interrogation techniques used in what studies have concluded was a fruitless or counterproductive effort to extract lifesaving information from detainees in secret CIA prisons and at Guantánamo Bay. But the choice to turn to government-sanctioned torture remains a stain on the country's reputation, undercutting its authority to confront repression elsewhere. Even today, some former Bush administration officials risk questioning when traveling to Europe by investigators invoking the United Nations Convention Against Torture.

US PULLS MISSILE DEFENSES IN SAUDI ARABIA AMID YEMEN ATTACKS

The U.S. has removed its most advanced missile defence system and Patriot batteries from Saudi Arabia in recent weeks, even as the kingdom faced continued air attacks from Yemen's Houthi rebels, satellite photos analyzed by The Associated Press show. The redeployment of the defences from Prince Sultan Air Base outside of Riyadh came as America's Gulf Arab allies nervously watched the chaotic withdrawal of U.S. troops from Afghanistan, including their last-minute evacuations from Kabul's besieged international airport. While tens of thousands of American forces remain across the Arabian Peninsula as a counterweight to Iran, Gulf Arab nations worry about the U.S.'s future plans as its military perceives a growing threat in Asia that requires those missile defences. *Tensions remain high as negotiations appear stalled in Vienna over Iran's collapsed nuclear deal with world powers, raising the danger of future confrontations in the region. "Perceptions matter whether or not they're rooted in a cold, cold reality.* And the perception is very clear that the U.S. is not as committed to the Gulf as it used to be in the views of many people in decision-making authority in the region," said Kristian Ulrichsen, a research fellow at the James A. Baker III Institute for Public Policy at Rice University.

CHINA QUESTIONS INDIA'S MISSILE PROJECT

China on Thursday cited a United Nations Security Council (UNSC) resolution issued after the 1998 nuclear tests to question India's missile programme amid reports of an upcoming test for the Agni-V intercontinental ballistic missile. *"As for whether India can develop ballistic missiles capable of delivering nuclear weapons, the UNSCR 1172 already has clear stipulations," Foreign Ministry spokesperson Zhao Lijian said on Thursday in response to questions over reports on the upcoming test, which has received wide attention in the Chinese press with focus on the detail that*



the 5,000-km-range nuclear-capable missile would bring many cities in China within range. "Maintaining peace, security and stability in South Asia meets the common interests of all, where China hopes that all parties would make constructive efforts," Mr. Zhao said. The Foreign Ministry spokesperson was referring to the UNSC resolution 1172, adopted in June 1998. The resolution, in the aftermath of the 1998 nuclear tests, "calls upon India and Pakistan immediately to stop their nuclear weapon development programmes, to refrain from weaponisation or from the deployment of nuclear weapons, to cease development of ballistic missiles capable of delivering nuclear weapons and any further production of fissile material for nuclear weapons, to confirm their policies not to export equipment, materials or technology that could contribute to weapons of mass destruction or missiles capable of delivering them and to undertake appropriate commitments in that regard". While citing the resolution regarding India's missile programme, China has, in contrast, been aiding the development of Pakistan's nuclear and missile programmes for decades, from providing enriched uranium and even technology for nuclear-capable missiles. That cooperation has continued unabated and was officially acknowledged three years ago. In 2018, the state-backed Chinese Academy of Sciences announced it had sold Pakistan a tracking system to speed up development of multi-warhead missiles, a detail that the government chose to declassify. Zheng Mengwei, a researcher with the CAS Institute of Optics and Electronics, told the Hong Kong-based South China Morning Post that Pakistan had purchased a "highly sophisticated, large-scale optical tracking and measurement system". "We simply gave them a pair of eyes. They can use them to look at whatever they want to see, even the Moon," he said, noting that China was the first country to export such sensitive equipment to Pakistan, which had been deployed by the Pakistani military "at a firing range" for testing new missiles. *The South China Morning Post report at the time linked the sale to India's development of Agni-V. It noted that it "has been a long-held notion that Beijing is supporting Islamabad's missile development programme but solid evidence can seldom be found in the public domain, making the CAS statement a rarity".* The CAS team "enjoyed VIP treatment during the nearly three months it spent in Pakistan assembling and calibrating the tracking system and training technical staff on how to use it," the CAS statement on the sale said. The Post report noted that "an optical system is a critical component in missile testing" and also helps record "high-resolution images of a missile's departure from its launcher, stage separation, tail flame and, after the missile re-enters atmosphere, the trajectory of the warheads it releases".

HARDLY THE INDIA-CHINA CENTURY DENG ENVISIONED

Fifteen months after the clashes between Chinese and Indian soldiers in the Galwan Valley, India-China relations are at their lowest ebb in living memory. To be sure, there have always been political tensions even before, both over each country's territorial claims over land controlled by the other, and over such long-term problems as China's "all-weather" alliance with our hostile separated sibling, Pakistan, and our hospitality to the Dalai Lama, who was granted refuge when he fled Tibet in 1959. But neither country had allowed these tensions to overwhelm them: China had declared that the border dispute could be left to "future generations" to resolve, and India had endorsed the "One China" policy, refusing to support Tibetan secessionism while limiting official reverence for the Dalai Lama to his status as a spiritual leader.



The line is no provocation

India has usually shown no desire to rock the boat. Its actions and statements have usually been designed not to provoke our northern neighbour, but to relegate the border problem to the back burner while enabling trade relations with China (now worth close to \$100 billion) to flourish. India made it clear that it was unwilling to join in any United States-led “containment” of China; its traditional obsession with preserving its “strategic autonomy” after two centuries of colonial rule made it wary of the blandishments of the West. *Ironically, before Galwan, 2020 was supposed to be a landmark year for the two countries’ bilateral relations. In October 2019 in Mahabalipuram, at their 18th meeting in nine years, Chinese President Xi Jinping and Indian Prime Minister Narendra Modi had grandly pledged to take relations between their two countries to “greater heights”. To mark the 70th anniversary of formal diplomatic relations between the two countries, they announced they would conduct 70 joint activities, including further improving their burgeoning trade, supporting scholarly research into their ancient civilizational links, and even exchanging military delegations, in a grand show of Sino-Indian cooperation.*

There is much connect

This wasn’t just fluff. The two countries had indeed developed multiple avenues of engagement. From negligible levels till 1991, trade with China had grown to become one of India’s largest trading relationships. Prime Minister Modi, an early enthusiast, had lifted residual restrictions on bilateral Chinese investment in strategic sectors of the Indian economy (notably ports, airports, power generation and telecoms technology), so that by 2020, Chinese investment (current and planned) stood at about \$26 billion with infrastructure projects accounting for about half the total. India engages with China diplomatically in the BRICS (an association of Brazil, Russia, India, China, and South Africa), as well as conducting annual summits of RIC (Russia-India-China). India is an enthusiastic partner in the Chinese-led Asian Infrastructure Investment Bank and the New Development Bank (NDB), formerly referred to as the BRICS Development Bank. But it has become increasingly apparent that the policy of side-stepping contentious issues and encouraging bilateral economic relations has played into Chinese hands. The People’s Liberation Army has used the seemingly benign situation to repeatedly undertake “minor” military incursions, inflict small-scale military setbacks on India, take a few square kilometres of territory along the Line of Actual Control (LAC) for local tactical purposes, and then declare peace. Mutual disengagements are duly announced, both sides claim the crisis is over, but China establishes and fortifies its new deployment. These mini-crises always end with the Chinese in a better position on the ground than before. Each incident establishes a new “normal” on the LAC.

The Chinese strategy

In the Galwan clash, the Chinese troops seem to have been engaged in a tactical move to advance their positions along areas of the LAC that it covets, in order to threaten Indian positions and interdict patrols. After the recent incursions, the Chinese now reportedly control over 900 square kilometres of area in Ladakh along the LAC. They are threatening India’s construction of roads, bridges and similar infrastructure on undisputed Indian territory, a belated effort to mirror similar Chinese efforts near the LAC in Tibet. Rather than merely patrolling, they have established a fixed presence in these areas well beyond China’s own ‘Claim Line’, occupied the “Finger Heights” near Pangong Tso Lake, pitched hundreds of tents, constructed concrete structures and



built additional kilometres of road along the LAC. The objective seems to be to extend Chinese troop presence to the intersection of the Galwan river and the Shyok river, which would make the Galwan Valley off bounds to India. The Chinese have constructed permanent structures in the area of their intrusion and issued statements claiming that sovereignty over the Galwan valley has “always belonged” to China. China’s strategy seems to be to consolidate the LAC where it wants it, so that an eventual border settlement — that takes these new realities into account — will be in its favour. That is the longer-term plan: Beijing keeps saying the border should be left to future generations to settle, knowing full well that each passing year increases China’s relative economic, military and geopolitical strength vis-à-vis India, while shifting the LAC in its favour. In the meantime, border incidents keep the Indians off balance and demonstrate to the world that India is not capable of challenging China, let alone offering security to other nations. Whereas Deng Xiaoping had told then-Indian Prime Minister Rajiv Gandhi in 1988 (picture) that the 21st century would be “India and China’s century”, the current Chinese leadership has no patience for such pablum. They believe — indeed believe they know — that it is destined to be China’s century alone, and are all too happy to show India its subsidiary place in the pecking order.

India’s options

India’s tactical options are unenviable: it has reinforced its military assets on the LAC to prevent deeper incursions for now, and hopes to press the Chinese to restore the status quo ante through either diplomatic or military means. Chinese and Indian officials are currently engaged in diplomatic and military-to-military dialogue to ease tensions, but de-escalation has been stalled for months, with China behaving as if their disengagement is already complete. India has responded with largely symbolic acts of economic retaliation, banning Chinese apps in India on grounds of data security. It is likely that Chinese companies will be barred from various lucrative opportunities in the vast Indian market, as two of them, Huawei and ZTE, have been from the ongoing trials to be picked to build India’s 5G telecoms infrastructure. India has also reimposed tighter limits on Chinese investment in projects such as railways, motorways, public-sector construction projects, and telecoms, a reversal of the openness to China that the Modi administration had initially shown.

The economic angle

Yet, India is far too dependent on China for other vital imports — such as pharmaceuticals, and even the active ingredients to make them, automotive parts and microchips, all needed by Indian manufacturers — that many in New Delhi fear it would be shooting itself in the foot if it acted too strongly against China. Today, India’s dependence on China for its non-consumption economy remains high; what is more, imports from China have become indispensable for India’s exports to the rest of the world. Various manufacturing inputs, industrial equipment and components, and even some technological know-how come from China; eliminating them could have a seriously negative effect on India’s economic growth at a time when, thanks mainly to the COVID-19 crisis, our GDP is estimated to have shrunk dramatically. And there are limits to the effectiveness of any Indian retaliation: trade with China may seem substantial from an Indian perspective, but it only represents 3% of China’s exports (<https://bit.ly/2VHsmWD>). Drastically reducing it would not be enough to deter Beijing or cause it to change its behaviour. This range of considerations seems to leave only two strategic options for New Delhi: reconciling itself to playing second fiddle to an assertive China in the region, or seeking strength and leverage by aligning itself with a broader



international coalition against Chinese ambitions. Since the first is indigestible for any democracy, is China de facto pushing India into doing something it has always resisted — allying with the West?

CRACKING THE WHIP

President Joe Biden's sweeping vaccine mandates, aimed at improving the U.S.'s odds of beating the rampaging Delta variant, represent a bold move in the face of the ongoing "pandemic of the unvaccinated". On the one hand, his plan is based on leveraging the power of the federal government to impose vaccine mandates wherever its fiscal heft allows, including for workers at health-care organisations receiving public funds, and for federal government employees and contractors. On the other, the White House's requirement that all companies employing 100 or more people must vaccinate their workforce or obtain COVID-19 negative tests from unvaccinated employees each week represents the willingness to bring the pandemic battle to the doorstep of America Inc. *Even as the U.S. has succeeded in vaccinating around 175 million individuals, nearly 75% of those eligible, it still leaves nearly 80 million from that group unprotected.* It is primarily patients from this latter group who are causing hospital ICUs in several States to be overrun. Nevertheless, Mr. Biden's mandates will impact around 100 million people, nearly two-thirds of the American workforce. While some, especially in conservative circles, *have decried the vaccine mandates as violative of liberties, there are likely few alternative options for the U.S. at this point. Why then is Mr. Biden's approval rating for his handling of the pandemic crisis slipping? To an extent it might be explained by the fact that Americans are deeply suspicious of federal government policies of an expansive nature, even in the present context.* Relatedly, there is perhaps deepening concern regarding the impact that the vaccine mandates might have on business, large and small. For example, the new "emergency temporary standard" of the U.S. Department of Labor requires large employers to give workers paid leave to get vaccinated; failure to do so may result in "enforcement actions", potentially including fines up to \$14,000 per violation. Similarly, federal government employees are now given 75 days to get vaccinated or risk getting fired. There are discussions in policy circles on invoking the Defense Production Act, a wartime measure, to compel companies to manufacture and accelerate the production of rapid COVID-19 tests. Larger entertainment venues must now ask for proof of vaccination or negative tests of patrons; and fines for passengers violating mask rules on aircraft will now be doubled. These are all measures that will impact, even distort, market behaviour, and potentially hit the bottom lines of corporations, but may be a necessary price to pay to bring the catastrophic march of the Delta variant under some control. Mr. Biden will have to grit his teeth and see the mandates through, not buckle to pressure from irate anti-vaccine campaigners and a fuming Wall Street.

POSITIVE CLIMATE

India's front-line position as third highest emitter of greenhouse gases has sharpened focus on its future policy course to mitigate carbon emissions under the Paris Agreement. It has an irrefutable claim to a big part of the remaining global carbon budget, along with other smaller nations with low historical emissions, but room for manoeuvring has shrunk in a world facing record temperatures and calamitous weather events. *There is escalating pressure for India to commit itself to a date when it can achieve net zero — removing as much GHGs as it emits — on the lines of the goal set by the U.S. and the European Union for mid-century, and 2060 by China. Declaring a net zero*

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



plan under the Paris pact is a disquieting prospect since it would impose expensive choices, particularly in energy production. That conundrum has been addressed, at least partially, by visiting U.S. Special Presidential Envoy for Climate John Kerry, with the promise of financing and technology to make renewable energy the core of future development. Specific areas of cooperation to bring down emissions — *in the expansion of transport, buildings and industry — and facilitating funding for 450 GW of renewable energy by 2030 can advance the India-U.S. Climate and Clean Energy Agenda 2030 Partnership. More clarity on the bilateral road map towards emissions reduction may come at the COP26 conference in November. India, meanwhile, needs to get all States to mitigate emissions and help them adapt to climate-linked extreme weather and atmospheric pollution caused by fossil fuels. At the end of 2020, a year marked by COVID-19 and many destructive storms, the Union Environment Ministry declared that the country had achieved 21% of its 33%-35% target to cut emissions intensity of GDP by 2030, and, similarly, was generating 37.9% of the 40% of power from renewables. Though encouraging, the immediate challenge lies in coming up with an adaptation framework to help those at highest risk — the millions living in the path of annual cyclones, including residents of populous coastal cities. Raising the ability of city administrations to handle tens of millions of litres of water regularly dumped in just a few days requires planning, funding and political commitment. Making low-cost insurance available for houses against climate-related losses will raise resilience, and lead to audits, encouraging governments to reduce risks. The Paris Agreement can easily fund much-needed urban retrofitting and boost employment. There is also a health imperative. Heat stress has a severe impact, causing higher mortality among the vulnerable elderly. These are growing problems, but they also represent an opportunity to steer post-COVID-19 policies towards benign, green development. For a low-emissions future, policies must put nature at the centre.*

U.S. climate envoy in Delhi, will help with funds & tech

The United States is to collaborate with India to work towards installing 450 GW of renewable energy by 2030. “We look forward to partnering with India in bringing finance, technology and other elements needed to achieve it,” said John Kerry, U.S. *Special Presidential Envoy for Climate, on Monday. Currently, India’s installed power capacity is projected to be 476 GW by 2021-22, and is expected to rise to at least 817 GW by 2030. Mr. Kerry is on an official visit to India from September 12-14, and is meeting Ministers and industrialists to “raise global climate ambition and speed India’s clean energy transition,” according to a communique from the U.S. State Department. Mr. Kerry was speaking at a public function following a meeting with Union Environment Minister Bhupender Yadav at the launch of the Climate Action and Finance Mobilization Dialogue (CAFMD).* This was one of the main tracks of the U.S.-India Agenda 2030 Partnership that President Joe Biden and Prime Minister Narendra Modi announced at the Leaders Summit on Climate in April 2021. Mr. Kerry said Monday’s dialogue would serve as a *“powerful avenue” for U.S.-India collaboration, and would be based on three pillars. One would be a “climate action pillar” which would have joint proposals looking at ways in emissions could be reduced in the next decade. The second pillar would be setting out a roadmap to achieving the 450GW in transportation, buildings and industry. The final pillar, or the “Finance Pillar” would involve collaborating on attracting finance to deploy 450 GW of renewable energy and demonstrate at scale clean energy technologies.* Six banks in the U.S., Mr. Kerry said, have already committed to “investing” \$4.5 trillion in the next decade towards clean energy. Following his meeting, Mr. Yadav tweeted: “CAFMD will provide both countries an opportunity to renew collaborations on climate change while addressing financing aspects and



deliver climate finances primarily as grants and concessional finance as envisaged under the Paris Agreement.” A key mission of Mr. Kerry is to build global support for ‘Net Zero’, or carbon neutrality, which is when more carbon is sucked out from the atmosphere or prevented from being emitted than what a country emits and is critical to ensuring that the planet doesn’t heat up an additional half a degree by 2100. *“We have to reach a net zero global standard by 2050. This is not a matter of politics or ideology but one of arithmetic and physics,”* said Mr. Kerry.

US TREASURY TAKES UP CRYPTO ‘STABLE COINS’

The US Treasury Department met with a number of industry participants this week to quiz them about the risks and benefits posed by stablecoins -- a rapidly growing type of cryptocurrencies, the value of which is pegged to traditional currencies, according to three people with direct knowledge of the meetings. Washington policymakers are alarmed at the rapidly expanding cryptocurrency market which exceeded a record \$2 trillion in April. As of Friday, the market cap of stablecoins stood at roughly \$125 billion, according to industry data site CoinMarketCap. It is unclear which financial regulations apply to these relatively new products. U.S. financial regulators are working to understand the risks and opportunities posed by cryptocurrencies to the traditional US financial system and plan to issue a number of reports on the subject in coming months, they have said. In July, Treasury Secretary Janet Yellen said the government must move quickly to establish a regulatory framework for stablecoins. In a sign those efforts are gathering pace, Treasury officials this week met with financial industry executives to discuss potential stablecoin regulation, the three sources said. Two of the people said that in meetings this week, one of which took place on Friday, officials asked whether stablecoins would require direct oversight if they become extremely popular. They also discussed how regulators should try to mitigate the risks of too many people trying to cash in their stablecoins at the same time, and whether major stablecoins should be backed by traditional assets. Officials also asked about how stablecoins should be structured, how they could be used, whether the current regulatory framework is sufficient, and other safety and soundness issues, one of the people said.

GOOGLE AND APPLE, UNDER PRESSURE FROM RUSSIA, REMOVE VOTING APP

Opposition activists in Russia accused Alphabet's Google and Apple of caving in to Kremlin pressure on Friday after they removed an anti-government tactical voting app from their stores on the first day of a parliamentary election. The app, devised by allies of jailed Kremlin critic Alexei Navalny, gives people detailed recommendations on who to vote for in an effort to thwart the electoral chances of the ruling United Russia party which supports President Vladimir Putin. Members of the upper house of parliament met Google and Apple representatives in the run-up to the election to tell them to remove the app or face serious consequences including fines and criminal prosecution. John Sullivan, the U.S. ambassador to Russia, was also called into the foreign ministry before the vote to hear complaints that the companies' behaviour amounted to U.S. meddling in Russia's internal affairs. A court outlawed Navalny's political movement as extremist in June, backing complaints from Moscow's prosecutor that its activists were trying to destabilise Russia, a ruling condemned by the West at the time as a blow against freedom. Leonid Volkov, an ally of Navalny, accused Google and Apple of buckling under what he described as a Kremlin campaign of blackmail. "This shameful day will live long in the memory," Volkov said on the



Telegram messaging service. Apple and Google did not immediately respond to requests for comment.



DreamIAS



NATION

INDIA, CHINA AVOIDED OPEN CLASH OVER ORIGINS OF COVID

India and China avoided an open clash at the BRICS summit last week over views on the origins of the COVID-19 virus, as Prime Minister Narendra Modi made a strong intervention in favour of a “transparent investigation” into the origins of the pandemic, a subject China has been sensitive about. Mr. Modi and Chinese President Xi Jinping will meet virtually again this week, as part of the *Shanghai Cooperation Organisation (SCO) summit hosted by Tajikistan*, and Mr. Jaishankar and his Chinese counterpart, Wang Yi, will travel to Dushanbe on Thursday to attend the conference, with the tensions over the virus debate only adding to the 17-month India-China impasse at the Line of Actual Control. “Today, global governance needs credibility. There must be a transparent investigation into the origins of the virus under the World Health Organization’s framework, and this must receive full cooperation from all countries,” Prime Minister Narendra Modi said in his main speech at the *Brazil-Russia-India-China-South Africa summit hosted by India and held virtually on September 9*.

‘Credibility of WHO’

“If this is done, it will reduce the questions over WHO’s credibility, and we would be able to prepare better for future pandemics as well,” Mr. Modi said, in the presence of Mr. Xi, in comments not released publicly but The Hindu accessed a copy of. According to officials and diplomats present at the BRICS meeting, Mr. Modi spoke ‘emphatically’ and ‘forcefully’ on the subject, reiterating India’s previous statements calling for China to cooperate with the WHO team which visited the Wuhan Institute of Virology twice, but had complained formally about the lack of free access to facilities and data, leading to an inconclusive report with “four pathways” to the origin of the virus that has left nearly 4.7 million people dead worldwide. Mr. Xi, who spoke directly after Mr. Modi, called on the BRICS countries to “oppose politicisation” in origin tracing. “We need to promote global solidarity against COVID-19, join forces to tackle the pandemic, uphold a science-based approach to tracing its origins, and oppose politicisation and stigmatisation,” he said. “We need to enhance coordination in COVID prevention and control, and boost the research, production and equitable distribution of vaccines as a global public good.” Pushing back against criticism from the U.S. and its allies of China’s failure to prevent the spread of the virus, Beijing has accused the U.S. of “politicising” the WHO inquiry and for pushing the “lab leak” theory. In addition, China has accused the U.S. government of attempting to divert attention from research on viruses in America. *In a letter to WHO chief Tedros Ghebreyesus in August, China’s Permanent Representative to the U.N. office in Geneva called for a transparent investigation “with full access” to the laboratories of the U.S. military at Fort Detrick and the University of North Carolina (UNC).*

Balanced statement

With U.S.-China tensions over the issue threatening to spill over into the BRICS sphere, diplomats reportedly worked to frame the joint statement issued after the summit, taking the comments by both leaders into account. According to the statement, all BRICS countries noted “that the cooperation on study of origins of the SARS-CoV-2 is an important aspect of the fight against the COVID-19 pandemic”. “We support science-based, inclusive of broad expertise, transparent, and



timely processes, free from politicisation or interference, to strengthen international capabilities to better understand the emergence of novel pathogens and to help prevent future pandemics.” External Affairs Ministry officials say as per protocol, only the opening statements of the leaders are released publicly, while the remarks on the origin of the virus, which were part of the “closed door” session, were not, and expressed “surprise” at the decision by some members such as China and Brazil to publicise their speeches. The Chinese Embassy in New Delhi did not respond to a question on Mr. Modi’s intervention and China’s response, and the Brazilian embassy also declined to comment.

HIGHER JUDICIARY SET FOR BIGGEST RESHUFFLE IN RECENT TIMES

Initiating probably one of the largest shuffles in the higher judiciary in recent times, the Supreme Court Collegium, headed by Chief Justice of India N.V. Ramana, is learnt to have recommended the transfer of judges across 14 of a total 25 High Courts in the country. The Collegium recommendations would cover the transfers of judges from the High Courts of Allahabad, Bombay, Calcutta, Chhattisgarh, Gujarat, Himachal Pradesh, Kerala, Karnataka, Madras, Orissa, Patna, Punjab and Haryana, Rajasthan and Telangana. There are also multiple transfer recommendations from the same High Court. The recommendations have been made to transfer judges to different High Courts, including Himachal Pradesh, Patna, Madhya Pradesh, Calcutta, Andhra Pradesh, Delhi, Punjab and Haryana, Rajasthan, Orissa, Telangana, Allahabad, Jharkhand, Madras, Uttarakhand and Tripura. As noticed, most of the transfers are to-and-from the same High Courts. The largest number of transfers are from the Allahabad High Court. They are Justices Vivek Agarwal to Madhya Pradesh High Court, Ravi Nath Tilhari to Andhra Pradesh, Chandra Dhari Singh and Yashwant Varma to Delhi High Court, Subhash Chand (Additional Judge) to Jharkhand High Court and M.N. Bhandari to Madras High Court. The Collegium has recommended the transfer of three judges from the Punjab and Haryana High Court. They are Justices Sudip Ahluwalia to Calcutta, Jaswant Singh to Orissa and Rajan Gupta to Patna. Two judges have been recommended for transfer from the Calcutta High Court. They are Justices Arindam Sinha and Soumen Sen, both to the Orissa High Court. Similarly, the Collegium has recommended the transfer of Himachal Pradesh High Court judges, Justices Anoop Chitkara and Sureshwar Thakur, to Punjab and Haryana and Allahabad High Courts, respectively. Again, Rajasthan High Court judges, Justices Sabina and Sanjeev Prakash Sharma, have been recommended to be transferred to Himachal Pradesh and Patna High Courts, respectively. Telangana High Court judges, Justices M.S.S. Ramachandra Rao and Amarnath Goud, have been recommended for Punjab and Haryana and Tripura High Courts, respectively. Bombay High Court judge, Justice Ujjal Bhuyan, has been recommended for Telangana. Justice Manindra Mohan Shrivastava has been recommended for transfer from Chhattisgarh to Rajasthan. Gujarat High Court judge, Justice Paresh R. Upadhyay, has been recommended for Madras High Court. Justices A.M. Badar of Kerala High Court and P.B. Bajanthri of Karnataka have both been recommended for Patna. Justice T.S. Sivagnanam from Madras High Court has been suggested for transfer to Calcutta High Court. While Orissa High Court judge, Justice Sanjaya Kumar Mishra, has been recommended for Uttarakhand, Justice Ahsanuddin Amanullah of Patna High Court has been suggested for transfer to Andhra Pradesh High Court.



SC COLLEGIUM ON MISSION MODE TO FILL VACANCIES

The Supreme Court Collegium, led by Chief Justice of India N.V. Ramana, is proceeding with staggering speed to fill vacancies and strengthen the judiciary as seen in the latest slew of recommendations, which include eight new Chief Justices for the High Courts, the transfer of five High Court Chief Justices and the shuffling of 28 High Court judges across the country. It has been reliably learnt that the eight High Court judges recommended for elevation as Chief Justices of High Courts include acting Chief Justice of the Calcutta High Court Justice Rajesh Bindal as Chief Justice of the Allahabad High Court. Among the five Chief Justices learnt to have been recommended for transfer is Justice A.A. Kureshi of the Tripura High Court. He has been recommended for transfer to the Rajasthan High Court as its Chief Justice. He was in the middle of a prolonged stalemate between the Collegium and the government over his initial appointment as the Madhya Pradesh High Court Chief Justice about two years ago. The past month has seen the Collegium recommend over 100 judicial appointments, several transfers and elevations of judges, advocates and Chief Justices. The Collegium began its work on a historic note with the successful recommendation of nine new judges to the Supreme Court that were quickly approved by the government. Besides Justice Bindal, the other judges recommended for elevation as Chief Justices of High Courts are Justice Prakash Srivastava for Calcutta, Justice Prashant Kumar Mishra for the Andhra Pradesh High Court, Justice Ritu Raj Awasthi for Karnataka, Justice Satish Chandra Sharma for Telangana, Justice Ranjit V. More for Meghalaya, Justice Aravind Kumar for Gujarat and Justice R.V. Malimath for Madhya Pradesh. Other than Justice Kureshi, the other Chief Justices of High Courts recommended for transfer include Andhra Pradesh Chief Justice Arup Kumar Goswami to Chhattisgarh, Madhya Pradesh Chief Justice Mohd. Rafiq to Himachal Pradesh, Chief Justice Indirajit Mohanty of the Rajasthan High Court to Tripura and Meghalaya Chief Justice Biswanath Somadder to Sikkim.

SC TO PASS INTERIM ORDERS IN PEGASUS CASE

The Supreme Court on Monday decided to pass interim orders after the government refused to respond, through a “detailed” affidavit, to allegations that it used Israeli-based Pegasus software to spy on citizens. The government said such an affidavit in the top court would be too public and compromise national security. The petitioners demanded that either the Cabinet Secretary file an affidavit or the court itself form a committee, led by a sitting judge, to probe the snooping controversy. A Bench of Chief Justice of India (CJI) N.V. Ramana and Justices Surya Kant and Hima Kohli said there cannot be any “beating around the bush” on the issue. The CJI said the court had given the government a fair opportunity to file a detailed affidavit in order to get a clear idea of its stand in the Pegasus case. “We thought the government would file a counter-affidavit... Now we will pass our interim orders,” he remarked. However, after reserving orders, the court told Solicitor General Tushar Mehta, for the government, that he could mention the case if there were any second thoughts in the next few days before the pronouncement of the order.

Unbelievable, says Sibal

Senior advocate Kapil Sibal, appearing for senior journalists N. Ram and Sashi Kumar, said the government’s refusal to file a detailed affidavit was “unbelievable”. Mr. Mehta reasoned that a public discourse on whether a particular software was used or not would alert terrorists. He urged



the court to allow the government to form a committee of “domain experts” who would look into the allegations of snooping orchestrated against citizens, including journalists, activists, Ministers, and parliamentarians, among others. He assured the court that the committee members would have “no relationship” with the government, and would place their report before the Supreme Court. “The committee report will have to withstand the Supreme Court’s judicial scrutiny... I am not averse to an enquiry. The government takes individuals’ plea of violation of their privacy seriously,” Mr. Mehta said. “It has to be gone into, it must be gone into... It is the feeling of the government that such an issue cannot be placed on affidavit. It has to be gone through by a committee. It concerns national security,” Mr. Mehta said. The government could not afford to “sensationalise” such an “important” issue, he stated. He objected to assertions by petitioners that the “government is denying protection to its own citizens” or is “assaulting democracy”.

Concern about privacy

Justice Kant said the court was equally concerned about national security, but it cannot turn a deaf ear to concerns about privacy raised by citizens. “We just wanted you to clarify whether their privacy was violated or not. Whether surveillance, if done at all, was after lawful permission. Was the interception done by any agency unlawfully? Should the government not be concerned if any “outside agency” had violated our citizens’ privacy?” Justice Kant asked the law officer. “We are not interested in matters concerning national security. Our only concern, in the face of allegations made by petitioners about use of some software against citizens, is knowing whether any government agency has used any method of interception other than in accordance with law,” Chief Justice Ramana told Mr. Mehta. At one point, the CJI questioned the practicality behind the government’s insistence on refusing to discuss the Pegasus allegations in open court, saying that even if an expert committee was formed, its work and the report would eventually become public. Mr. Sibal referred to a 2019 parliamentary response of the government taking note of the use of Pegasus. “Why did they not take action against the use of Pegasus... because they were using it. The government is committed to protecting the rights of citizens, including their privacy,” he submitted. He urged the court to have the allegations investigated by a sitting judge. Senior advocate Shyam Divan, for a petitioner, said the Cabinet Secretary should have filed a detailed affidavit.

28% JUMP IN FILING OF CASES IN 2020: NCRB

There was a 28% increase in the registration of cases in 2020 in the country compared to 2019, primarily owing to the violation of COVID-19 norms. An almost 21-fold jump was recorded in cases of disobedience to the order duly promulgated by public servant, and over four times in cases involving violations of other State local laws, according to a National Crime Records Bureau (NCRB) report. Crimes against Scheduled Castes, with a total of 50,291 cases, showed an increase of 9.4%. Simple hurt with 32.9% (16,543) formed the largest chunk, followed by cases under the SC/ST (Prevention of Atrocities) Act with 8.5% (4,273) and cases under criminal intimidation with 7.5% (3,788), the report said. In all, 8,272 cases were instituted for offences against the Scheduled Tribe communities: an increase of 9.3% over 2019. Simple hurt (2,247) accounted for 27.2%, followed by rape with 13.7% (1,137) and assault on women with intent to outrage their modesty with 10.7% (885).



Dip in sedition cases

The cases of sedition declined from 93 in 2019 to 73 last year, with Manipur reporting 15, Assam 12, Karnataka eight, Uttar Pradesh seven, Haryana six, Delhi five and Kashmir two. A total of 66,01,285 cognisable crimes, comprising more than 42.54 lakh Indian Penal Code (IPC) offences and over 23.46 lakh Special & Local Laws (SLL) crimes, were registered in 2020, the report noted. Effectively, there was a decrease in registration of traditional crime by about two lakh cases. "It shows an increase of 14,45,127 (28.0%) in registration of cases over 2019 (51,56,158 cases). Crime rate registered per lakh population has increased from 385.5 in 2019 to 487.8 in 2020," the report disclosed. "During 2020, registration of cases under the IPC has increased by 31.9% whereas SLL crimes have increased by 21.6% over 2019," the report said. A major increase was seen in the cases registered under disobedience to the order duly promulgated by public servant, under Section 188 of the IPC, from 29,469 in 2019 to 6,12,179 cases last year; and under 'other IPC crimes' from 2,52,268 to 10,62,399 cases. Under the SLL category, more cases were filed under "Other State Local Acts", leading to a steep rise from 89,553 to 4,14,589 cases. In 2020, more than 55.84 lakh cases were under investigation and over 34.47 lakh of them were disposed of.. In nearly 26.12 lakh cases, charge sheets were filed, resulting in a charge-sheeting rate of 75.8%, an increase by 12.50% compared to 2019. As the country remained under complete lockdown from March 25 to May 31 last year during the first wave of COVID-19, cases of crime against women, children and senior citizens, theft, burglary, robbery and dacoity declined. A total of 10,47,216 cases of offences affecting the human body were registered, which accounted for 24.6% of the total IPC crimes last year. "Hurt" as an offence accounted for maximum cases (55.3%), followed by causing death by negligence (12.1%) and assault on women with intent to outrage their modesty (8.2%). Cases of murder showed a marginal increase of 1% to 29,193. "Kidnapping and abduction" cases declined by 19.3%. While 14,869 were male, 73,721 were female victims. As per the data, 56,591 were minor and 31,999 adults. A total of 91,458 kidnapped or abducted persons (22,872 male and 68,667 female) were found alive and recovered, while 281 persons were found dead.

SC GIVES CENTRE TWO WEEKS TO FILL ALL TRIBUNAL VACANCIES

The Supreme Court on Wednesday accused the Central government of "cherry-picking" names for appointments to tribunals groaning under backlogs and left almost defunct by long-pending vacancies. A Special Bench of Chief Justice of India N.V. Ramana and Justices D.Y. Chandrachud and L. Nageswara Rao "held its hand" on initiating contempt proceedings against the government, and allowed the latter two weeks to make appointments to "all the tribunals". The CJJ said, "If the government does not act, we will pass orders."

Pitiable, says CJJ

The CJJ termed the state of tribunals and the thousands of litigants waiting for justice "pitiable". Cases were adjourned for months. There was no manpower to form Benches. Litigants were made to travel to faraway States where there were at least some tribunal members available to hear cases. *The Bench addressed Attorney General K.K. Venugopal about how the government pulled the rug from underneath the hard work of the search-cum-selection committees, headed by sitting Supreme Court judges, tasked with interviewing and shortlisting suitable candidates for tribunals.* The government picked a few names from the final 'select' list prepared by the committee and then moved on to appoint a few others from the 'wait' list, the CJJ said. "I have seen the selection

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list of National Company Law Tribunal. The selection committee recommended nine judicial members and 10 technical members. *The appointment letters indicate cherry-picking of three names from the select list and others from the wait list, ignoring others in the select list. In service law, you cannot go to wait list ignoring the select list. What kind of appointment is this?* Chief Justice Ramana asked the Attorney General. Mr. Venugopal replied, *“But doesn’t the government have the power to choose someone?”* The CJI retorted, *“We are a democratic country working under a rule of law... What is the sanctity of these committees if they cannot guarantee appointments?”* Justice Rao joined in saying, *“What is the sanctity of the search and selection process if the government has the last word? Selection committees undertake elaborate process to shortlist the names.”* Justice Chandrachud highlighted the case of Debt Recovery Tribunals that had become almost non-functional under the weight of their vacancies. *“When a bank decides to recover debt on a house or a factory, the debtor has no remedy. The High Court refuses to hear his case... There is no recourse to justice,”* he observed. In one of the tribunals, the selection committee interviewed 534 candidates for judicial members and another 400 for technical members. A list was given. But the government picked a few from the select list and some others from the wait list. Chief Justice Ramana referred to how a Supreme Court judge, who headed a selection committee for a tribunal, travelled across the country to conduct interviews for appointments during the COVID-19 pandemic. However, no appointments were made by the government. *“We wasted so much time,”* he noted.

MADRAS HC STAYS KEY CLAUSE: ‘MAY ROB MEDIA OF ITS INDEPENDENCE’

Underlining the right to freedom of speech and expression as critical in a democracy, the Madras High Court on Thursday stayed the operation of a key provision of the Information Technology Rules, 2021, enacted in May, that set up an oversight mechanism by the Central government to regulate social media and digital media platforms. *“Prima facie, there is substance to the petitioner’s grievance that the oversight mechanism to control the media by the Government may rob the media of its independence and the fourth pillar of democracy may not at all be there,”* a bench of Chief Justice Sanjib Banerjee and Justice P D Audikesavulu observed while staying the operation of Rule 9(1) and 9(3) of the Information Technology (Guidelines for Intermediaries and Digital Media Ethics Code) Rules, 2021. Rule 9 of the IT Rules prescribe a grievance redressal mechanism and sub-Section 1 establishes a portal to be set up by the Ministry of Information and Technology for receiving complaints against media platforms while under sub-Section 3, an acknowledgment of every complaint is generated within 24 hours of receiving the complaint, which is then referred to the media platform concerned and the IT ministry for record. This is the second instance of a High Court citing the right to freedom of speech while staying the same provision in the IT Rules. On August 14, the Bombay High Court had stayed Rule 9(1) and 9(3), saying they are “manifestly unreasonable and go beyond the IT Act, its aims and provisions.” “The indeterminate and wide terms of the Rules bring about a chilling effect qua (regarding) the right of freedom of speech and expression of writers/editors/publishers as they can be hauled up for anything if the authorities so wish,” the Bombay HC had then said. The provision was challenged in the Madras High Court by the Digital News Publishers Association, a grouping of 13 leading media companies in the country — ABP Network Private Limited, Amar Ujala Limited, DB Corp Limited, Express Network Pvt Ltd, HT Digital Streams Ltd, IE Online Media Services Pvt Ltd, Jagran Prakashan Limited, Lokmat Media Private Limited, NDTV Convergence Limited, TV Today Network Limited, The Malayala Manorama Co (P) Ltd, Times Internet Limited and the Ushodaya Enterprises Private

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Limited. "For understandable reasons, the petitioners are wary of the oversight mechanism of the Central Government as indicated in the final tier of the process of regulation," the Madras High Court observed on Thursday. The High Court also examined Rule 3(1)(c), which terminates the access or usage rights of users for non-compliance by media platforms with the provisions of grievance redressal. "Though the petitions have been brought by hosts of website platforms, social media platforms on the website are used by one and sundry and there is a genuine apprehension, as the petitioners' suggest, that a wink or a nod from appropriate quarters may result in the platform being inaccessible to a citizen," the order stated. The Rules enacted under Section 69 of the IT Act requires all social media platforms to set up grievance redress and compliance mechanisms, which include appointing a resident grievance officer, chief compliance officer and nodal contact person. The Central government has defended the Rules in court, arguing that it merely extends the norms applicable for traditional media to digital media platforms without extending the entire Press Council Act and the Cable Television Networks (Regulation) Act to publishers of news and current affairs content on digital media. Though it agreed that the Bombay HC stay order would apply across the country, it has also filed a petition before the Supreme Court seeking a transfer of all cases from various High Courts, including the Delhi High Court to the Supreme Court. The plea is likely to be heard in October.

LIFE IMPRISONMENT SENTENCE MEANS RIGOROUS IMPRISONMENT: SC

A sentence of life imprisonment would mean rigorous imprisonment and not simple imprisonment, the Supreme Court reiterated Tuesday. The court ruling came on appeals against two judgments of the Gauhati and Himachal Pradesh high courts which upheld the conviction of accused on the charge of murder and sentenced them to rigorous imprisonment for life. "In view of the authoritative pronouncements of this court on the issues that arise for consideration in these SLPs, there is no need to re-examine the limited point for which notice was issued," a bench of Justices L Nageswara Rao and B R Gavai ruled, reaffirming its 1983 judgment in the case Naib Singh vs State of Punjab and Others. The bench pointed out that in the Naib Singh case, "the petitioner was originally sentenced to death for committing an offence of murder... Later, the death sentence was commuted to imprisonment for life by the Government of Punjab. After having undergone sentence of 22 years, Naib Singh filed a Writ Petition under Article 32 of the Constitution of India challenging his continued detention. One of the points argued by the petitioner relates to sentence of imprisonment for life not to be equated to rigorous imprisonment for life. By taking into account the earlier judgments of this court...this Court in Naib Singh's case held that the sentence of imprisonment for life has to be equated to rigorous imprisonment for life". The court had in the Naib Singh case held that "there is no dearth of judicial precedents where, in the matter of nature of punishment, imprisonment for life has been regarded as equivalent to rigorous imprisonment for life". "The position in law as regards the nature of punishment...is well settled and the sentence of imprisonment for life has to be equated to rigorous imprisonment for life."

CHEEMA TO HEAD NCLAT TILL SEPT. 20

After a brief impasse with the Supreme Court on Thursday, the Central government agreed, as a one-off measure, to reinstate Justice A.I.S Cheema as Acting Chairperson of the National Company Law Appellate Tribunal (NCLAT) till his retirement on September 20 so that he can pronounce the

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judgments pending with him. The government blinked after a to and fro between a Bench, led by Chief Justice of India N.V. Ramana, and the government, represented by Attorney-General K.K. Venugopal, reached such a pass that the court threatened to suo motu stay the Tribunal Reforms Act of 2021. The government made it clear that Justice Cheema's reinstatement was after considering the "peculiar circumstances" of his case, and should not be treated as a precedent. The reinstatement spells relief for Justice Cheema, who had challenged his "premature" removal from the post on September 10. Senior advocate Arvind Datar, for Justice Cheema, had raised the point that this was no way to treat a former Bombay High Court judge who had been part of the legal profession for 40 years. The Attorney General informed the court that Justice M. Venugopal, a former Madras High Court judge who was appointed the new NCLAT Acting Chairperson on September 11, would go on leave for the next few days till Justice Cheema completed his tenure on September 20. Chief Justice Ramana appreciated the Attorney General's efforts to resolve the brief stalemate between the court and the government on the issue. Mr. Datar also thanked Mr. K.K. Venugopal. However, the first half of the hearing witnessed a tense exchange between the Bench and Mr. Venugopal. It began with Mr. K.K. Venugopal placing on the table the offer that Justice Cheema would be "treated" as Acting Chairperson till September 20 and be paid his service benefits. He said it would be "very awkward" for the government to remove Justice Venugopal now. But the Bench said Justice Cheema still had to pronounce five judgments. It was the government which had "created the awkward situation". If there was admittedly no doubt whatsoever about Justice Cheema's integrity, why had the government stopped him from completing his term on September 20, it stated. Initially, the Attorney General said the government would then argue the case on merits. However, Chief Justice Ramana decided to hear the case again after some time, giving Mr. K.K. Venugopal an opportunity to consult the government. Half an hour later, Mr. K.K. Venugopal conveyed to the court the government's decision to reinstate Justice Cheema. "That is good... The Attorney General has solved the problem," Chief Justice told Mr. K.K. Venugopal. Justice Venugopal happens to be the third Acting Chairperson in a row for the NCLAT since the retirement of regular NCLAT Chairperson Justice S.J. Mukhopadhaya in March last year.

ACT AND FRICTION

Recent developments have demonstrated the Union government's implacable determination to undermine the autonomy of the various tribunals in the country. It recently got Parliament to enact the Tribunals Reforms Act, which contained provisions that had been struck down by the Supreme Court in an ordinance issued earlier. After being sharply questioned by the Supreme Court on the unusual delay in filling up vacancies among judicial and administrative members, it released a set of appointments this week. The Court found that there was cherry-picking among the names chosen by the various Selection Committees. Instead of exhausting the selection list put together by panels of judges and officials, the Government had waded into the waiting list to exercise its choice. In another development, the Government cut short the tenure of the Acting Chairperson of the National Company Law Appellate Tribunal (NCLAT), Justice A.I.S. Cheema, by 10 days. Mr. Cheema was set to deliver in some matters on which the NCLAT had reserved judgment before retiring on September 20. The Government's justification was that it was going by its latest law, under which the Acting Chairperson's four-year tenure would end on September 10 and that Justice M. Venugopal had already been appointed in his place. However, a Bench headed by the Chief Justice of India, N.V. Ramana, was of the strong opinion that he should be

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allowed to complete his tenure, and even remarked that the Court would not hesitate to stay the operation of the Act on its own motion. Fortunately, the matter was resolved quickly, with the Government backing down and agreeing that Justice Venugopal would go on leave until Justice Cheema finished his stint on September 20. The issue of tribunals has been a source of considerable friction between the Government and the Court. They have often disagreed on the eligibility criteria and conditions of service and a series of judgments have gone against the Government. Clauses introducing changes to the conditions of service of members of the various Tribunals have often been subjected to judicial view. Courts want to ensure that a reasonable tenure was available to the appointees, and do not allow criteria related to age and experience to be used to undermine their independence. Tribunals have always been seen as institutions that were a rung lower in independence as regular courts, even though there is wide agreement that administrative tribunals are required for quicker and more focused adjudication of cases that required specialisation and domain expertise. As several laws now provide for such adjudicative bodies, the executive does have an interest in retaining some leverage over their members. The Supreme Court has repeatedly called for the establishment of a national tribunals commission to make suitable appointments and evaluate the functioning of tribunals. If the Government has been dragging its feet on this, it is only because there is a method to its mulishness.

QUARREL IS NOT ABETTING SUICIDE, SAYS SC

The Supreme Court has held that a person cannot be held guilty of abetting suicide merely because he or she quarrelled with the victim that day. Having a fight which led to suicide does not necessarily translate into instigating suicide, a Bench of Justices M.R. Shah and Aniruddha Bose said in a judgment. Active instigation is an essential ingredient under Section 306 (abetment of suicide) under the Indian Penal Code.

‘Active instigation’

“Abetment by a person is when a person instigates another to do something. Instigation can be inferred where the accused had, by his acts or omission, created such circumstances that the deceased was left with no other option except to commit suicide,” Justice Shah wrote. The case concerns a woman who quarrelled with her husband and committed suicide hours later. The man too tried to poison himself after the fight, but survived. “The allegation against the appellant [husband] is that there was a quarrel on the day of occurrence. There is no other material on record which indicates abetment. There is no material on record that the appellant-accused played an active role by an act of instigating the deceased to facilitate the commission of suicide. On the contrary, in the present case, the appellant-accused also tried to commit suicide and consumed pesticide,” the court reasoned. The lower courts had erred in finding the husband guilty of abetment, the top court noted, as it quashed the charges against the man under Section 306 of the Indian Penal Code and the Tamil Nadu Prohibition of Harassment of Women Act.

SC CALLS FOR REFORMS IN GROUNDS FOR DIVORCE

The Supreme Court on Monday said the legislature has so far been reluctant to introduce *“irretrievable breakdown of marriage” as a ground for divorce because marriage is considered “sacramental” and is supposed to be an “eternal union of two people” under the Hindu law.* “Society



at large does not accept divorce, given the heightened importance of marriage as a social institution in India. Or at least, it is far more difficult for women to retain social acceptance after divorce. This coupled with law's failure to guarantee financial security to women in the event of a breakdown of marriage is stated to be the reason for the legislature's reluctance to introduce irretrievable breakdown as a ground for divorce," a Bench of Justices S.K. Kaul and Hrishikesh Roy observed in a judgment. The court also noted that repeated allegations and litigation against a spouse amount to cruelty which is a ground for divorce. The judgment came in a case in which the wife left on the wedding day itself. The court said that she had gone on to initiate complaints and allegations against her estranged spouse. "This conduct shows disintegration of marital unity and thus disintegration of the marriage. In fact, there was no initial integration itself which would allow disintegration afterwards," the court said. The court dissolved the marriage on both the *grounds of irretrievable breakdown of marriage and cruelty.*

SANSAD TV GETS IN OPP'S THAROOR, CHATURVEDI, TO TALK ALL BUT POLITICS

WHAT DO politicians talk about when they get together? Not necessarily politics, it seems. The Congress's Shashi Tharoor and Shiv Sena's Priyanka Chaturvedi will put that to test as hosts of chat shows on the newly launched Sansad TV. *While Tharoor has been asked to host To The Point, a series of interviews with eminent personalities, Chaturvedi will interview women parliamentarians in her show Meri Kahaani.* However, both shows will steer clear of politics. At least for now. The channel, set up by merging Lok Sabha TV and Rajya Sabha TV, was launched by Prime Minister Narendra Modi, Vice President M Venkaiah Naidu and Lok Sabha Speaker Om Birla on Wednesday. The channel is set to feature a series of shows hosted by sitting and *former MPs, beginning with Tharoor and Chaturvedi, both Opposition members, one from Lok Sabha and the other from Rajya Sabha. Former MP and veteran Congress leader Karan Singh will lead a series on religion called Ekam Sat (Truth is One).* The starting line-up also features at least two senior government officials. *While Amitabh Kant, CEO of the government's public policy think-tank NITI Aayog will talk about "India's growth story" on the show 'Transforming India', Sanjeev Sanyal, the government's Principal Economic Advisor, will host 'Economic Sutra', which will "explain government policies and economic strategies, their underlying philosophy, and projects undertaken over the last few years", according to tweets by Sansad TV's official handle.* Officials said that *when the House is in session, there will be two platforms of Sansad TV, one to broadcast live proceedings from Lok Sabha and the other from Rajya Sabha. However, when Parliament is not in session, one of the platforms will be kept dormant while the other will feature news, panel discussions and other shows.* A senior official from one of the secretariats said Sansad TV has been created as a bilingual channel with programming in Hindi and English. Senior officials aware of the programming plans of the new channel said more sitting MPs will be called to do shows. "There are a couple of shows which have been designed specifically with members of Parliament as hosts. So there could be something where one MP does a few episodes, then another MP does a few, and so on. We will involve as many as possible," a senior official said. Saying more shows will be added down the line, the official said the MPs will be chosen from both sides of the aisle. "We are not looking at it treasury bench MPs versus Opposition. We will be neutral as far as their political (affiliations) are concerned. We only consider how well an MP can deliver on the show," the official said, adding that in case of weekly shows, if the host MP is unavailable, another MP may be called in as replacement. Around 60 new programmes are being planned for the channel, which will focus largely on Parliament and its functioning, besides the role of state legislative bodies and democratic systems in other countries.

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There will also be shows on education, science, culture, religion and economy, among others. Speaking at the launch ceremony, Prime Minister Modi expressed the hope that Sansad TV would help MPs conduct themselves better inside the House. He said Sansad TV will ensure that the discourse in Parliament is in touch with the lives of people.

ED SEARCHES PREMISES LINKED TO MANDER

The Enforcement Directorate (ED) on Thursday searched premises linked to social activist Harsh Mander in connection with a money laundering probe. The searches were carried out at Adchini, Mehrauli and Vasant Kunj in south Delhi, hours after Mr. Mander left for Germany along with his wife for a six-month fellowship programme at the Robert Bosch Academy. "The ED investigation is related to a first information report [FIR] registered by the Delhi police's Economic Offences Wing in February," a senior agency official said. The police instituted the case against two children's homes and their parent body, the Centre for Equity Studies (CES), of which Mr. Mander is a director. It was based on a report submitted by the National Commission for Protection of Child Rights (NCPCR) last year, highlighting alleged financial irregularities. Mr. Mander's name is not included in the FIR. In February, the Mehrauli police registered an FIR under various provisions of the Juvenile Justice Act and the Indian Penal Code (IPC) on a complaint from the NCPCR Registrar alleging violations. NCPCR teams, in October 2020, conducted an inspection of the children's homes — Umeed Aman Ghar and Khushi Rainbow Home in south Delhi. In a statement, the CES confirmed the ED searches in its office, Umeed Ghar and Mr. Mander's residence. "This is a continuation of harassment and coercion of CES and Harsh Mander for being an outspoken and passionate defender of human rights," it alleged. Meanwhile, over 600 academics, advocates, activists, civil servants, writers, film-makers, journalists, musicians, artists and others condemned the searches. In a statement, they said the agency's move was to harass and intimidate a leading activist who consistently upheld the highest moral standards of honesty and probity.

NAMED IN FIR OVER DONATIONS, AYYUB CALLS IT MALICIOUS, BULLYING

Journalist Rana Ayyub Saturday said the FIR lodged against her for alleged misutilisation of funds collected as donation for relief work was "malicious and baseless", and that she would not bow down to "bullying tactics". The Ghaziabad Police has registered an FIR against Ayyub after online crowdfunding platform Ketto sent an email to those who donated money to campaigns started by her, saying they had been informed by the "Indian law enforcement agencies" that the funds were "not utilised for the purpose for which they were raised". The FIR was based on a complaint by a Hindu IT Cell co-founder, who accused her of illegally acquiring public money in the name of Ketto. "The Hindu IT Cell has lodged a malicious and baseless FIR against me in Uttar Pradesh, alleging that I have fraudulently taken donations on Ketto for Covid relief work. I have been defamed, trolled and abused online on the basis of this allegation. For the record, I wish to inform everyone that the entire donation received through Ketto is accounted for, and not a single paisa has been misused. The receipt of donations did not violate any law," Ayyub said in a statement uploaded on Twitter. "Further, I have paid a heavy amount of tax on the donations, as directed by the CBDT, although I believe the donations ought not to have been taxed so that more money could be used for relief work. Such donations are exempt from taxes as per the policy and law of the land, and I am taking necessary steps in that regard with the CBDT. My accounts and the donations have both

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been scrutinised by the IT Department, and a fair investigation will bring out the truth for all,” she said. She said “any amount of hate and propaganda” will not stop her from pursuing her profession honestly, nor will she allow “bullying tactics” to prevent her from doing relief work “when it is most needed”.

IT ‘SURVEYS’: PHONES, DATA SEIZED, SAY NEWSCLICK, NEWSLAUNDRY; EDITORS GUILD CALLS IT ‘DANGEROUS TREND’

News portals NewsLaundry and NewsClick Saturday released statements on the nearly 12-hour-long Income Tax Department “surveys” on their premises on Friday, detailing accounts of phones being seized and data and documents being downloaded or taken. The statement issued by Abhinandan Sekhri, co-founder of NewsLaundry, said, “A team from the Income Tax department came to the registered office of NewsLaundry at approximately 12.15 in the afternoon and conducted a “survey” under Section 133A as per the document shown to me.” They left the premises at around 12.40 am on Saturday. “I was told I cannot speak to my lawyer and had to hand over my phone,” the statement said. “I was told the law requires me to comply without seeking legal advice. They searched and looked through all computer devices at the premises. My personal mobile phone, laptop, and a couple office machines were taken control of and all the data on them downloaded by the IT team,” Sekhri said, and added, “No signed hash value of the data copied was provided to me.” The NewsClick statement, issued by editor-in-chief Prabir Purkayastha, similarly said that a “survey” at the NewsClick office was conducted by the officers of the IT Department from 12 noon till midnight, under Section 133A of the Income Tax Act. “The IT team recorded the statement of NewsClick’s Editor-in-Chief Prabir Purkayastha; impounded his phone; and took away documents – what they called ‘loose papers’ from the premises. They also took email dumps of Prabir, editor Pranjal, and various administrative and financial accounts related to NewsClick. Around 30 employees and support staff of NewsClick were in the office throughout the ‘survey’. Their phones were temporarily seized, and they were not allowed to use their computers and work,” the statement said. Income Tax department officials had said on Friday that the surveys were carried out on charges of tax evasion. Meanwhile, the Editors Guild of India has also issued a statement saying that it is “deeply disturbed about the Income Tax surveys,” and that such indiscriminate seizure of journalists’ data is in violation of free speech and freedom of press. In its statement, the Editors Guild said, “The dangerous trend of government agencies harassing and intimidating independent media must stop as it undermines our constitutional democracy.” The statement points out that the Income Tax raids were conducted at the offices of Dainik Bhaskar and Bharat Samachar in July this year, against the background of very critical coverage of both news organisations on the government’s handling of the pandemic.

GOVT. CURBS FUNDING FOR 10 CLIMATE CHANGE, CHILD LABOUR NGOS

Five years after it cancelled the registration of international non-governmental organisation (NGO) Greenpeace to receive foreign funds, the government has moved to restrict the funding for a group of 10 American, Australian and European NGOs dealing with environmental, climate change and child labour issues. An internal Reserve Bank of India note, dated July 1, 2021, which was sent to all banks, said the government had specified a number of foreign entities to be placed on the “Prior Reference Category” (PRC list) using the stringent Foreign Contribution Regulation Act 2010, which was tightened in September 2020, making both banks and chartered accountants

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accountable for any unauthorised funds that come through. The NGOs are the European Climate Foundation; the U.S.-based Omidyar Network International, Humanity United and Stardust Foundation; the Australia-based Walk Free Foundation and Minderoo Foundation; the U.K.-based Children's Investment Fund Foundation, Freedom Fund and Laudes Foundation, and the U.K./UAE-based Legatum Fund. They add to the more than 80 international voluntary agencies now on the PRC list of the government. "The RBI has instructed that any fund flow from the (specified) donor agencies to any NGO/Voluntary organisation/ persons in India should be brought to the Ministry of Home Affairs so that the funds are allowed to be credited to the recipients only after clearance/ prior permission from the MHA's Foreigners Division of the FCRA wing," the notice sent out recently by a private bank to its branches, which The Hindu obtained a copy of, said. The RBI did not respond to a request for a comment, but officials confirmed informally that the note had been sent out, in line with previous such circulars sent to banks warning them of NGOs banned or suspended from acquiring or disbursing foreign funds. Significantly all the NGOs on the latest list work on climate change and environmental projects and/or child rights and slavery projects, subjects where the government has been sensitive to international criticism.

Focus on coal

When asked why so many environmental NGOs are on the list, given the government's stated international commitments on fighting climate change, an official said that despite India's record in complying with the Paris agreement, "global pressures are intensifying on India to raise the Nationally Determined Contributions". *"In order to create noise in the media, several pro-climate NGOs are focusing on advocacy against coal, which is considered a violation of FCRA provisions,"* the official added. In 2017, *the Ministry of Home Affairs (MHA) had also objected strongly to the International Labour Organisation's Global Slavery Index, "questioning the credibility of data" which had ranked India 53rd of 167 countries where "modern slavery" was prevalent, and as the country with highest number of people in forced labour, according to a reply in Parliament.* The index is part of the Australian Walk Free Foundation's annual survey that is used by other NGOs working in the field. Both the Walk Free Foundation, and its founding agency Minderoo Foundation did not respond to emails from The Hindu requesting a response. The MHA too declined to comment on the PCR listing, which is not made public, although the government has released numbers of NGOs under the scanner of security agencies. According to the MHA responses in Parliament, between 2016 and 2020, the government cancelled the FCRA licences of more than 6,600 NGOs and suspended those of about 264. *A U.K.-based NGO Commonwealth Human Rights Initiative (CHRI) has now taken the government to court for suspending its FCRA licence, and won temporary relief in the Delhi High Court in allowing it to access 25% of its funds. A final order is expected in October.*

JAM&ABBA JAAN

Speaking at Kushinagar Sunday, Uttar Pradesh Chief Minister Yogi Adityanath reiterated a prominent BJP theme — that while earlier ruling dispensations limited themselves to the politics of caste, faith, region and language, in the Modi government, the poor, women and youth are beneficiaries of schemes, "bina bhed bhaav (without discrimination)". Now "vikas" or development, he said, is "har tabke ke liye (for every section)". He chanted the familiar slogan: "Sabka saath, sabka vikas, sabka vishwas". And then, switching to his own government's record in UP since 2017, the CM said: "Ration sabko mil raha hai? ... tab toh abbajaan kehne wale rashan



hazam kar jaate the (is everybody getting their share of food rations? ... Before 2017, those who called their father abba jaan would monopolise it". *That latter comment was crude Muslim-baiting that ill behoves a chief minister.* It seemed to fit in easily with the tone and tenor of some of the CM's other remarks in Kushinagar, where he spoke of "tushtikaran" or the politics of appeasement in loose terms, sweeping into its fold a wide array of separate and specific ills — "dange... bhrashtachaar... atyachaar... aatankvaad... arajakta... anyay (riots, corruption, oppression, terrorism, anarchy, injustice)". And yet, the "abbajaan" slur, as much as it seems part of the BJP and Yogi's dog-whistle politics, runs counter to the other BJP message that Yogi underlined — the Modi government's "labharthi (beneficiary)" politics. The fundamental promise of the government's labharthi politics is this: That development includes and encompasses all, regardless of their caste or religion. And that it singles out for special treatment only the poor. The JAM trinity (Jan Dhan, Aadhaar, Mobile) is about a number — not a first or last name. So whenever the BJP is accused of majoritarianism, its best defence has been that the development schemes that its governments promote and implement, at the Centre and in the states, from Ujjwala to PM Kisan, from scholarships for the poor to free or subsidised housing for the needy, are non-discriminatory and blind to religious differences, that they count in all communities as beneficiaries. And yet the CM, six months before elections, paints a brutish zero-sum game, in which "they" take away benefits meant for "us." *Of course, the "abbajaan" slur also makes a claim visibly belied on the ground. In this country, the Muslim minority continues to lag behind the rest of the population on most development indices.* The "politics of appeasement" that the BJP lavishly accuses its political opponents of practising while in power *has been mostly effete and gestural, largely by-passing and leaving unchanged their economic concerns and quotidian well-being.* Moreover, the UP CM's rhetoric was not just playing on stereotypes, it was also reductionist: It seems not to acknowledge that the "citizen" is more than the "beneficiary" of government patronage. Both the BJP and its chief minister need to recognise that the real challenge for a ruling party and government is to accord all individuals the freedom, equality and the enabling environment that helps them exercise to the fullest their rights of citizenship.

LEAGUE OF MEN

The Indian Union Muslim League (IUML) sees itself as the voice of Muslims and has been successful in converting the community's backing into electoral gains, though mostly in Kerala. Post Partition, the party made itself relevant by transforming itself into a communitarian outfit that skilfully negotiated with the political mainstream to ensure that Muslims were adequately represented in government and their concerns addressed in public policies. However, its approach to gender issues has hardly been inclusive and begs the question if the party can claim to represent the women in the community. The IUML leadership's recent response to a harassment complaint made by leaders of Haritha, the women's wing of its student outfit, Muslim Students Federation (MSF), against the state president and two others of the parent body, is revealing for the patriarchal outlook that pervades its understanding of social relations, law, and politics. Last week, the IUML leadership disbanded the Haritha state committee after its leaders complained to the Kerala Women's Commission against MSF leaders. The IUML accused the Haritha leaders of "grave indiscipline" conveniently ignoring the fact that the women moved the statutory body because the party was seen to be backing the accused men. The IUML's shocking move to discipline Haritha comes at a time when the #MeToo movement has forced institutions, including political parties, across the world to lift the veil on male privilege and censure predatory

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behaviour — high-profile minister and journalist M J Akbar resigned after former colleagues accused him of sexual harassment. A gender bias has always prevailed in the IUML, which may have resonated with its large conservative vote base and influenced its choices. For instance, the party's reluctance to let women contest assembly and general elections: Just one of its 27 candidates in the recent assembly election was a woman — the first in 25 years — and the party has never fielded a woman candidate in the general election or to the Rajya Sabha. This is despite the reasonably large presence of women leaders in IUML, having been forced to field women in local bodies elections on account of 50 per cent reservation. In fact, the party appears blind to the radical changes within the Muslim society in Kerala, especially among women who have made remarkable gains in education and are now a visible presence in the state's workforce. The IUML's conservatism also looks out of place when Muslim women are at the forefront of public protests to protect constitutional values and civil rights. The IUML's regressive outlook should not be seen in isolation: it reflects a dominant tendency in Indian politics, which refuses agency to women in spite of having witnessed leaders such as Indira Gandhi, J Jayalithaa, Mayawati, Mamata Banerjee and Sushma Swaraj. The resistance to removing the gender glass ceiling is perhaps best illustrated by the fate of the Women's Reservation Bill, which was first introduced in Parliament two decades ago, and put in cold storage thereafter, in the face of abrasive behaviour by male MPs.

STEP BACK, PLEASE

An influential Catholic bishop in Kerala has triggered a controversy by alleging that a "narcotics jihad" is being waged by Islamist groups to endanger youth belonging to other religions in the state. Christian girls were falling prey to "love jihad", he also said, an allegation the church first made some years ago, which has then been weaponised by the Sangh Parivar. Christian and Muslim groups have been organising marches in support of, and against, the bishop's remarks while the BJP has asked for a central law to deal with "love and narcotics jihad". The Catholic Church and the Kerala Congress (M), part of the Left government in the state, as well as the Nair Service Society, an influential community outfit, have backed the bishop whereas Chief Minister Pinarayi Vijayan and the Leader of Opposition in the Assembly and Congress MLA, V D Satheesan, and a host of civil society actors, including from the Catholic community, have criticised the Church. *This face-off has the potential to unsettle communal peace in Kerala, which has an enviable history of three major religions coexisting with minimum conflict or confrontation for decades. Government must crack down on the production and supply of narcotics. But to paint the business colours, to make it a communal dog whistle, is an act of irresponsibility that must be guarded against.* In the name of speaking up for the laity, the Kerala bishop and his supporters may be contributing to the promotion of Islamophobia. This has the potential to build a discourse that scapegoats the Muslim community for the gathering social and economic worries, which of course have no communal basis, confronting people across denominational divides in the state. The crisis in agriculture, and the general economic slowdown, especially after Covid, have pushed the middle and lower middle classes into a precarious situation. *Public policies, such as greater weightage given to Muslims in scholarships — an outcome of the Sachar Committee recommendations — have been projected as evidence of appeasement and as a sign of the disproportionate influence of Muslims in politics.* International political developments — *from the attacks on Christians in Africa to Sri Lanka, to the presence of Christian converts among recruits to ISIS, and the conversion of Hagia Sophia in Turkey to a mosque — too seem to have contributed to the Catholic Church's sense of insecurity and anxiety.* That the non-Catholic churches have so far refused to back the Catholic clergy's allegations is also



revealing. In the larger interest of Kerala, the Catholic Church needs to halt this campaign that can stoke the fault-lines between communities. *Economic worries and political concerns must not become grist for the politics of religious polarisation.* The Catholic Church has an illustrious history of public service and contribution to the making of a secular Kerala. Hopefully, the current “jihad” campaign is a temporary aberration, which the clergy will step back from immediately.

BEHIND THE GREAT INDIAN INTERNET SHUTDOWN

On January 10, 2020, the Supreme Court of India held that access to information via the Internet is a fundamental right under the Indian Constitution. This was in the case of Anuradha Bhasin vs Union of India, where the top court also ruled that any restriction on Internet access by the Government must be temporary, limited in scope, lawful, necessary and proportionate. The Court reiterated that the Government’s orders restricting Internet access are subject to review by Courts. The expectation was that this decision would limit the instances of Internet suspension to only those exceptional situations where there is a public emergency or a threat to public safety — the legislatively mandated prerequisites for restricting Internet access. Unfortunately, these promises have remained unfulfilled. The year following the decision, India saw more instances of Internet shutdown than the year preceding it. *India’s Internet restrictions also accounted for more than 70% of the total loss to the global economy in 2020, and India remains infamous as the Internet shutdown capital of the world.*

Recent restrictions

As we write this, the Government of the Union Territory of Jammu and Kashmir (J&K) has restricted access to mobile data in the Valley of Kashmir. A few days ago, all Internet services had been shut down. These restrictions have been issued in the wake of the death of hardline separatist leader *Syed Ali Shah Geelani*. Similar restrictions have been ordered by the government of *Haryana* in five different districts following farmers’ protests that were organised there. *While in these instances, the governments have published the orders restricting access, such publication remains an exception and not the rule despite the decision in Anuradha Bhasin (the Haryana orders are on social media but have not been uploaded on government websites).* According to an *Internet shutdown tracker maintained by the Software Freedom Law Centre, in July and August, the government of J&K suspended Internet services on five separate occasions — in the districts of Baramulla, Pulwama and Shopian.* The suspension orders for these instances have still not been uploaded on the government’s websites. Even in May 2021, the government of J&K suspended Internet services on three occasions in these districts. In these instances, the orders were only published sometime in June 2021 after a significant delay. Although the J&K government is the most irreverent about Internet restriction, they are not the only culprits. Compliance with Anuradha Bhasin remains low in other parts of India as well.

Erodes trust

The importance of the publication of Internet suspension orders cannot be understated. Those aggrieved with the restriction cannot approach a court of law to question an order’s legality in the absence of the order. At best, if they do, the court may direct the Government to produce the order, but this will allow the Government to delay production of the order until after the restriction has subsided. This enables the Government to get away with illegal restrictions. This non-publication



of orders also undermines public confidence in the Government. The Internet is a necessity in this day and age, and restrictions without publicly disclosed reasons create a trust deficit. There is also a deficit because the Union Government has also not done enough to give statutory recognition to the directions in Anuradha Bhasin. In 2020, it amended the Telecom Suspension Rules, 2017 to limit Internet suspension orders to a maximum of 15 days. However, the amendment did not include an obligation on the Government to publish orders nor did it include the Supreme Court's direction to undertake periodic review of these orders.

Lack of awareness

As a result, the governmental non-compliance with the law is difficult to comprehend. One has to study the decision of the Supreme Court as opposed to simply looking at the rules to understand the obligations on the Government. *The experience with Section 66A of the Information Technology Act has shown that if Supreme Court decisions are not statutorily recognised, the officials enforce the law incorrectly simply because of a lack of awareness.* As an example, the State of Meghalaya in reply to *an RTI application stated that it was not even aware of the judgment in Anuradha Bhasin even though eight months had passed since the Supreme Court's pronouncement.*

Wide-ranging impact

However, Internet suspension also remains a problem independent of non-compliance with the directions of the Supreme Court. In 2020, the Indian economy suffered losses to the tune of \$2.8 billion due to 129 separate instances of Internet suspension, which affected 10.3 million individuals. The Internet is a source of information, entertainment, health care, education, livelihood and a platform for the members of Indian society to interact with each other and the world at large. The harm — economic, psychological, social, and journalistic — caused by such suspensions outweighs any speculative benefits. Internet suspensions ought to be imposed in times of emergency and not to stifle the democratic exercise of the right to protest. In those times, the Internet is a necessity to seek help. Moreover, it is also a tool to verify rumours, and enables individuals and the Government to disseminate the truth. On September 2, the government of J&K restricted access to any form of communication on the ground that the 'provocative material on social media' could misguide the general public and result in a law and order situation. A similar reason was stated to justify the Internet suspension in Karnal, Haryana. However, *the Government will do well to recognise that offline rumours can also 'misguide the public', but the individuals will not have access to the Internet to determine the veracity of those rumours independently.* Internet restrictions are often justified on the ground that they are limited to mobile data services. These contentions also miss the point. *According to a 2019 Telecom Regulatory Authority of India (TRAI) report on Indian Telecom Services Performance Indicators, mobile device users (dongle and phone) constituted 97.02% of total Internet users. Only 3% of users have access to broadband Internet.* These numbers are not likely to have changed significantly since then, since broadband Internet continues to be expensive. *It follows from this that Internet restrictions also tend to adversely affect those from lower socio-economic backgrounds more.* Considering these issues, it is not surprising that the Supreme Court, in Anuradha Bhasin, permitted the Government to restrict Internet access only in limited circumstances. Parliament has also allowed these restrictions only in a public emergency or when there is a threat to public safety. Yet, to much dismay, Internet restrictions are much more common than desirable and cannot be challenged because of a lack of transparency. More faithful compliance with the Supreme Court guidelines on the part of the



executive government is needed to rid ourselves of the tag of the “internet shutdown capital” of the world and fulfil Digital India’s potential.

ARCHAKAS OF ALL HUES

On August 14, 2021, the Tamil Nadu government appointed 24 trained archakas (priests) in temples across the State which come under the control of the Department of Hindu Religious and Charitable Endowments (HR&CE). On the same day, posts for odhuvar, poosari, mahout, garland stringers and an umbrella carrier were also filled. In the weeks since, a series of writ petitions have been filed before the Madras High Court assailing these appointments.

State and temple

The Tamil Nadu HR&CE Act, 1959, is the governing law on the administration of Hindu temples and religious institutions. *In 1971, Section 55 of the HR&CE Act was amended to abolish hereditary priesthood. In 2006, the amendment provided for appointment of sufficiently trained Hindus irrespective of their caste as archakas to Hindu temples by the government.* Challenges to both amendments were taken to the Supreme Court, which upheld the law, as amended. Nevertheless, calls to whittle down the scope and authority of the HR&CE Act have not diminished. In recent years, there has been a campaign seeking to “liberate temples” from the “clutches of government”. Building on this, the BJP’s manifesto for the Tamil Nadu Assembly elections in 2021 even included a proposal to hand over administration of Hindu temples to a “separate board consisting of Hindu scholars and saints”. The constitutional courts have had plenty of opportunities to consider the various challenges made to the HR&CE Act. *In Seshammal v. Union (1972), the Supreme Court observed that the amendment to the HR&CE Act abolishing hereditary priesthood did not mean that the government intended to bring about any “change in the rituals and ceremonies”.* Similarly, *in Adi Saiva Sivachariyargal v. Govt. of Tamil Nadu (2015), it observed that “the constitutional legitimacy, naturally, must supersede all religious beliefs or practices”.* The Court further went on to state that appointments should be tested on a case-by-case basis and any appointment that is not in line with the Agamas will be against the constitutional freedoms enshrined under Articles 25 and 26 of the Constitution. The Supreme Court has recognised that the arguments using Agamas have been commonly used in petitions filed against any perceived government interference in the matters of temple administration. It has consistently held that any contention of violation of Agamas must be tested on a case-by-case basis. This is to say that no relief can be granted based on a bald averment that an executive decision or order has infringed Agamas or essential religious practices.

Evolving jurisprudence

Nevertheless, the evolution of rights-based jurisprudence over the last three years is of relevance. *In Indian Young Lawyers’ Association v. State of Kerala (the Sabarimala case) and Joseph Shine v. Union of India (2018), the Supreme Court reiterated the need to eliminate “historical discrimination which has pervaded certain identities”, “systemic discrimination against disadvantaged groups”, and rejected stereotypical notions used to justify such discrimination.* In all these cases, the Court prioritised judicial balancing of various constitutional rights. *In the Sabarimala case, it held that “in the constitutional order of priorities, the individual right to the freedom of religion was not intended to prevail over but was subject to the overriding constitutional postulates of equality,*



liberty and personal freedoms recognised in the other provisions of Part III". It went on to further clarify that "though our Constitution protects religious freedom and consequent rights and practices essential to religion, this Court will be guided by the pursuit to uphold the values of the Constitution, based in dignity, liberty and equality." The constitutional courts will now be called upon to build on the gains of the Sabarimala case when it comes to administration of temples, insofar as it concerns matters that are not essentially religious. While doing so, they would be guided by principles of constitutional morality and substantive equality. The Supreme Court, in *Navtej Singh Johar v. Union of India (2018)*, interpreted Article 15 as being wide, progressive and intersectional. The Court explained the intersectional nature of sex discrimination. *Today, while most of the debate is around whether men from all caste groups can become archakas, we have failed to recognise the gender bias inherent in these discussions.* Therefore, *the present cases before the Madras High Court provide us with the opportunity to ask why women and trans persons should not be appointed as archakas.* At once, caste orthodoxy and patriarchy entrenched within the realm of the HR&CE Act can be eliminated and supplanted with a vision of a just, equal and dignified society.

FEW TAKERS FOR J&K DOMICILE OFFER, GOVT EXTENDS DEADLINE, SENDS TEAMS TO CAMPS TO REGISTER

There seem to be few takers for the Jammu and Kashmir administration's offer of domicile certificates to former residents who, or their ancestors, moved out of the erstwhile state years ago, provided they register with the Relief and Rehabilitation Commissioner (Migrants) at Jammu. The administration has now extended the scheme, announced on May 16, 2020, with a deadline to apply within one year, to May 15, 2022. The office of the Relief and Rehabilitation Commissioner has also decided to hold special camps to accept applications at places where a minimum of 50 such families are residing. One such camp was held in Delhi around a fortnight ago. Announcing the extension, an order by the J&K Government's Department of Disaster Management, Relief, Rehabilitation and Reconstruction, said, "No further extension will be granted" thereafter. *J&K saw large-scale exodus of the migrant Pandit community, apart from Sikhs, around the time militancy began in the late 1980s. The administration hoped they would avail the offer, which would make it easier for them to own land, as well as get jobs and educational opportunities in the Union territory.* However, even at the Delhi camp, the response was lukewarm. Of the nearly 25,000 unregistered Kashmiri Pandit families estimated to have settled in Delhi prior to 1989, only 3,000 turned up to take application forms, 806 of whom were registered and issued domicile certificates on the spot, officials said. Relief Commissioner (Migrants) Ashok Pandita said the applications of the remaining 2,200 families along with supporting documents, such as proof of their residence in the UT, were being brought to Jammu for further action. Among the families who settled elsewhere in India after migrating from areas of J&K occupied by Pakistan in 1947, nearly 3,300 had approached the Relief and Rehabilitation Commissioner for application forms to register as migrants. However, only 100 ended up applying. As per official estimates, while nearly 45,000 Kashmiri Pandit families are registered with the Relief and Rehabilitation Commissioner (Migrants), having left the Valley after the onset of militancy (and hence already figure as permanent residents of the UT), an equal number who migrated much earlier are missing from the records. Similarly, 41,119 Hindu and Sikh families are believed to have migrated from the J&K areas occupied by Pakistan in 1947. Of them, 31,619, including 5,300 settled elsewhere in the country, are registered with the Provincial Rehabilitation Officer, who doubles as Custodian

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Evacuee Department. Of them, 26,319 families are already counted as permanent J&K residents. Officials said that around 9,500 families had been denied registration by the then government in the late 1950s on the grounds that they either did not stay at camps set up by it, or did not come to the Indian side between 1947-54, or came to the Indian side unaccompanied by the head of the family, or the annual income of the head of the displaced family at the time of migration was more than Rs 300. Officials estimate that the number of such migrants and displaced people might now be together more than 50,000 families. The administration understands that permanently settled elsewhere, these families might not want to return, and hence wants them to get registered for the purposes of "domicile only". The problem is more complex when it comes to those who have migrated from areas now in Pakistan Occupied Jammu and Kashmir (PoJK). The online option seeks their original place of residence and for most of them, these are districts such as Mirpur, Muzaffarabad, Bhimber, Kotli, Rawalakot etc. "When we try to register them online, our computers do not accept the names of their native places," Relief Commissioner Pandita said, adding that it wasn't just a software issue that they could correct from their end. "We have taken up the matter with the Home Department." Now, members of a 'PoJK Visthapit Seva Samiti', including BJP leaders, have got into the picture, and are sending delegations under the banner to states and UTs where families formerly from PoK are settled, to persuade them to apply for domicile. Ashok Khajuria, Convenor of the J&K BJP's Refugee Cell and a member of the RSS, who led a delegation to Rajasthan, said the Samiti has members from different organisations working for the cause of the displaced. He said the Samiti's members were also headed to Uttarakhand, Haryana, Punjab, Himachal Pradesh and Delhi. According to Khajuria, at the Delhi camp, many of the families were issued domicile certificates on the spot off line. However, their numbers were very less, he admitted. The issue might have political ramifications as entry of these numbers into domicile and hence, possibly, voter records comes at a time when a delimitation process is on in the UT, with parties in Kashmir expressing the apprehension that it is meant to boost the seats in Hindu-dominated Jammu. Khajuria said, "We have 24 seats reserved for PoJK areas in the J&K's Legislative Assembly and we can request the government to defreeze one-third of them as one-third of their population is residing here."

WHY WHATSAPP IS ENCRYPTING BACKUPS AND HOW THIS WILL IMPACT USERS

Facebook-owned messaging platform WhatsApp has introduced end-to-end encryption for backups of chats that its users take on cloud services such as Google Drive or Apple's iCloud. The move is being looked at as a step towards closing a loophole that allowed user chats to be outside the purview of encryption and could therefore be accessed by a third-party, affecting the user's privacy. WhatsApp said it has been working on bringing this feature out for years and it will be rolled out by the end of this year.

While WhatsApp's chat service is end-to-end encrypted, it depended on cloud partners like Google Drive or iCloud to store backups of WhatsApp data. The company had said earlier that once the chats were uploaded to Google Drive or iCloud, they were out of the encryption channel and weren't private anymore. *In several cases, armed with a warrant, law enforcement agencies across the world have been able to gain access to WhatsApp chats through backups stored on these cloud services.*

What does a user need to do to encrypt the backups of their WhatsApp chats?

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Telegram: http://t.me/DreamIAS_Jamshedpur



Once the service is rolled out later this year, users will get an option to turn on encryption for their backups. There will always be an option to not backup the chats to ensure that the chats never go out of WhatsApp's infrastructure. *Once a user decides to encrypt the backup, a 64-digit key will be generated — this key will be necessary for the backup to be restored at a later point in time. Here, the user will have two options — either they can store the 64-digit key themselves for safe keeping or use WhatsApp's new Hardware Security Module-based Backup Key Vault to store their key with a password they can create. It is essential to note that in case the password, the 64-digit key or the device through which the key was generated is lost before the encrypted chat backup is decrypted, the user will lose access to the backup.* The encryption of the backup will happen before it is uploaded to one of the two cloud services and will stay there as an encrypted file that will be accessible only with the use of the 64-digit key. When someone wants to retrieve their backups, they enter their password, which is encrypted and then verified by the Backup Key Vault. Once the password is verified, the *Backup Key Vault* will send the encryption key back to the WhatsApp client. With the key in hand, the WhatsApp client can then decrypt the backups. Alternatively, *if a user has chosen to use the 64-digit key alone, they will have to manually enter the key themselves to decrypt and access their backups.*

The HSM-based vault is a digital equivalent of a physical vault, sitting in one of WhatsApp's servers, containing the key to the encrypted backup. To ensure resilience, WhatsApp said it will deploy this vault in five data centre sites. A pertinent point to note is that the encryption for backups is being provided only for online cloud services. "Currently, end-to-end encrypted backups are only supported on a user's primary device. In addition, we recommend that users who opt in to end-to-end encrypted backups also deselect WhatsApp from the apps that are included in their device-level backups. We will inform users of the need to do this when they set up their end-to-end encrypted backup in WhatsApp," the company noted.

Governments across the globe, including in India, have been seeking a backdoor into encrypted messaging services such as WhatsApp. *In the Information Technology Rules announced earlier this year, the Indian government mandated significant social media intermediaries (those with more than 50 lakh users) to trace the originator of a message that is deemed unlawful. The ability to encrypt the backups could elicit a pushback from governments.*

IIT-PLUS

Six IITs are now among the top 20 management institutions in the country, some even outpacing reputed business schools such as IIM-Indore and IIM-Lucknow — proof that India's premier engineering schools are not content to remain just that. The signs of a more expansive vision of education, that looks beyond tech to embrace the world of humanities and law, arts and architecture, have been evident at the IITs for a while now. IIT-Kharagpur, for example, opened a medical college in 2018; over a decade earlier, it had set up a school of law focussed on intellectual property. The highest ranked IIT on the National Institute Ranking Framework in the management category, IIT Delhi, started offering MBA programmes in the late 1990s. Over the years, several IITs have gone on to offer courses in humanities, social science and literature as well, arguably in response to a growing realisation that an exclusively technical education can become a stunted one. The transformation has been slow and steady, at a pace decided by the IITs and on their own terms. But it signals an important, welcome change — it is increasingly hard to conceive of



education, even professional education, in silos. Indeed, the IITs have been chipping away at a working model of interdisciplinary education, much in the mould of what the National Education Policy envisages a future university ought to be. This success offers a lesson: Given adequate financial resources and the autonomy to decide their own trajectory, higher education institutions can build on their unique strengths to live up to the ambitious blueprints of policymakers. For example, what is giving the IITs momentum in challenging the best business schools is a focus on research. Where the IITs falter is an old, deep-rooted deficiency — gender diversity. Despite the introduction of supernumerary quotas to increase the intake of women, the IITs remain a largely male preserve — here, they are losing out to the IIMs, which do much better on the count of inclusivity. For decades now, the IITs have defined success for lakhs of students barely out of school, ready to hurl themselves into rigorous hyper-competitive training to procure a seat at the elite institutions. Some of the features of this regime have been called into question, from the social bias that makes an IIT classroom predominantly male and upper-caste to the rigid walls between science and arts education. Not all of those questions, especially on gender and caste inclusion, have found satisfactory answers. But a widening of the IIT canvas bodes well — for the larger education ecosystem.

(M)NEP SCHOOLS: THE FUTURE (ANITA KARWAL - SECRETARY AND RAJNISH KUMAR-DIRECTOR IN THE DEPARTMENT OF SCHOOL EDUCATION, GOVERNMENT OF INDIA)

COVID-19 brought the online model sooner than we imagined

The COVID-19 pandemic has been the greatest disruptor in the education sector. It has brought the future to us sooner than we ever imagined. Had there been no pandemic, the use of digital technologies in education would not have been so rampant. Learners would not have been exposed to a huge variety of innovative content or digital formats of education in their own languages. The engagement of parents and communities in their child's education would have been a distant dream. *The essential role of schools and teachers in caretaking and the mental/physical/cognitive development of a child would not have been so permanently established. The need for foundational literacy and preventing dropouts would not have been so intensely realised. And the need to overcome the digital divide would not have been felt so acutely. The schools of the future and the future of schooling are now both subject to intense debate, especially with the coming in of the National Education Policy 2020.* But certain broad understandings have emerged that most agree upon. Firstly, *there is already a discernible shift in the focus from physical infrastructure towards digital and virtual requirements. Secondly, it is not edtech as much as it is the traditional face-to-face modes of learning in schools that will continue to be the greatest equaliser in education. Thirdly, skill-building for the requirements of the 21st century has assumed great significance. Fourth, accelerated and even differentiated instructional interventions will be required to overcome and reverse the impact of the pandemic. Lastly, it is likely that there will be more pressure on the government schooling system to expand its intake.*

Four qualities

In this scenario, for schools to emerge as strong, inclusive and professional educational systems, it is essential to imagine what the schools of the future will be like. We believe that the following four qualities will define the schools of the future, both public and private. Firstly, *schools will*



encourage extended networks rather than remain as closed classroom communities. Over the last couple of centuries, our education systems have shifted towards methods that may help individuals acquire knowledge, but may not equip them with life skills. As a result, we hardly have job creators passing out of the school precincts. We have many day-to-day problems, but very few problem-solvers. Future schools will go beyond the school walls. They will take teaching-learning to informal settings such as topic circles and eco clubs, visits to the neighbourhood, to museums or scientific laboratories, etc. Learners will be green in their approach, tech-savvy, connected to their roots and to the world, and will be able to effectively link their curriculum to their lives. Secondly, schools will be pro-active innovators. They will adopt innovative pedagogies and differentiated instructions as per the needs of the learners to enable them to become knowledge creators and, eventually, job creators. They will utilise innovative methods of assessment to bring out the unique potential of every child, harness innovative technologies for teaching, learning and administration, and usher in a culture of innovation. Thirdly, the future of jobs also has a direct bearing on the schools of the future. Routine jobs will become scarce. Students of the future will have to struggle with the new set of capabilities needed, hyper-information digressing into disinformation, virtual teams not seeing each other physically, and will constantly experience a swing between super speciality and cross-disciplinary skills. Future schools will be future-oriented and connected to the job market, capable of empowering, and building the skills of learners for jobs that are yet to be created and technologies that are yet to be invented. Lastly, schools will forge stronger and more trusting engagement with families and communities. The online world of e-parents-teachers meetings (e-PTMs), e-guidance to parents, and social media-based active communication with parents during the pandemic has opened up an entire world of possibilities. Local self-governments, health workers, environmentalists, civil society organisations (CSOs) and the community at large will be actively engaged in future schools in offering services, support, infrastructure, exposure to future jobs, and learning from beyond the school boundaries. The future depends on the decisions we make in the present, and lest we forget, the future of the country is enrolled in our schools today. Future schools will build the character of the children and set them free to discover the world, shape it and contribute to make it just and equitable.

T.N.'S UNENDING DILEMMA WITH NEET (JUSTICE K. CHANDRU - A RETIRED JUDGE OF THE MADRAS HIGH COURT)

The courts will have to come up with a solution to the question of medical admissions by next year

The latest Bill passed by the Tamil Nadu Assembly exempting the State from the National Eligibility-cum-Entrance Test (NEET) for admission to undergraduate (UG) medical courses and also to prescribe its own admission method for MBBS seats is in no way different from the efforts taken by the previous government in 2017. The Bills sent by the State were returned by the President of India without getting his assent. Before passing the Bill, the Tamil Nadu government had appointed a committee of experts under Justice A.K. Rajan, a retired judge of the Madras High Court, to look into the question of the desirability of having the examination as a prerequisite for MBBS admissions. When the committee started its hearing, it was generally stated that it would advise the government to exempt itself from the requirement of the examination. However, when a public interest litigation (PIL) petition was filed in the High Court challenging the appointment of the committee on the ground that it violated the orders of the Supreme Court regarding NEET, the

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stand taken was that the committee would only look into the effects of the examination on the students in the State.

Views of all stakeholders

The committee said it had ascertained the views of all the stakeholders and that a majority were not in favour of the NEET requirement. It did not recommend any legislation. *The committee was of the opinion that the examination had not provided any special mechanism for testing the knowledge and aptitude of the students. It suggested that the higher secondary examination of the State board itself was an ample basis for the selection of students for MBBS seats. NEET only worked against underprivileged government school students, and had profited coaching centres and affluent students.* The present Bill proceeds on the assumption that medical college admissions will come under the *Concurrent List (Entry 25 of List III)* and, therefore, the State can also enact a law regarding admission and amend any Central law on admission procedures. This thinking of the State may be due to the observation made by the Supreme Court in the selection process of postgraduate (PG) courses in medicine, where the Medical Council of India (MCI) had prescribed certain regulations providing reservation for in-service candidates. The Supreme Court struck down regulation 9(c) made by the MCI on the ground of the exercise of power beyond its statute. *It must be remembered that the Supreme Court was only dealing with a regulation framed by the MCI, whereas the requirement of NEET being a basic requirement for PG and UG medical courses has now been statutorily incorporated under Section 10D of the Indian Medical Council (IMC) Act,* which states, "There shall be conducted a uniform entrance examination to all medical educational institutions at the undergraduate level and postgraduate level through such designated authority in Hindi, English and such other languages and in such manner as may be prescribed and the designated authority shall ensure the conduct of uniform entrance examination in the aforesaid manner: Provided that notwithstanding any judgment or order of any court, the provisions of this section shall not apply, in relation to the uniform entrance examination at the undergraduate level for the academic year 2016-17 conducted in accordance with any regulations made under this Act, in respect of the State government seats (whether in government medical college or in a private medical college) where such State has not opted for such examination." Though this amendment was to come into force from the academic year 2016-2017 onwards, due to opposition from many quarters, the Union government issued an Ordinance on May 24, 2016, postponing the introduction of NEET to the next academic year. *When the Tamil Nadu government issued an order in 2017 providing for the reservation of 85% of the seats for students passed out from the State board and 15% for students from other boards, it was struck down by the Madras High Court. An appeal by the State to the Division Bench was also rejected.*

Same fate

It was then the Tamil Nadu Assembly passed a Bill seeking the exemption of the State from NEET, which the President refused to give his assent to. The present move to pass a fresh Bill on the same lines is most likely to meet the same fate. It is significant that no other State in India has sought an exemption from NEET and, therefore, exempting Tamil Nadu alone may not be possible. Even among the seats allotted to the State, there is no bar for students from other States from competing or selecting colleges in Tamil Nadu. Also, if exempted, what will be the fate of the all-India quota of 15%, which will be filled up by students who write NEET, and what will happen to Tamil Nadu students who do not write the examination, thus not availing this quota? As a sop for government



school students, *the State government had brought in a law providing 7.5% reservation in medical seats, but with NEET as a criterion. The same situation continues even for the admission for this academic year. The introduction of internal reservation for government school students is under challenge before the Madras High Court.* Similarly, NEET as a requirement is also pending in the Supreme Court. Unless these two issues are decided, NEET cannot be removed by a State amendment. However, certain legal pundits had said the State could amend a Central law falling under the Concurrent List and had given examples of the amendments made to the Hindu Marriage Act, the Industrial Disputes Act, etc. The question is not whether the State government can amend a law falling under the Concurrent List. *The question is whether the State government can exempt Section 10D of the IMC Act, which is a parliamentary law that falls under the Central List (Entry 66).* Moreover, the Supreme Court has also upheld NEET as a requirement. Mere statistics highlighting that a majority of the stakeholders do not want NEET in Tamil Nadu is not an answer for exempting the examination that was introduced by a Central law. Data is necessary only when there is power to legislate on the subject concerned. *If the committee's findings that government school students are edged out from entering medical colleges due to competitive examinations are accepted, it will be difficult to explain the 7.5% reservation exclusively meant for these students.* Since the Bill, which will become an Act after the President's nod, will come into effect only from the next academic year, the battle for and against the NEET requirement will continue in courts. Hopefully, the courts will determine the legality and have a definite solution to the question of medical admissions within the next year. Till such time, students who wrote NEET will fill the seats under the State quota.

THE WRONGANSWER

Indeed, the panel has highlighted a worrying trend: The proportion of students from rural areas, economically weaker backgrounds, Tamil-medium schools, and state board schools has decreased significantly in Tamil Nadu's medical colleges since the state moved to NEET in 2017-18. Switching back to the older system, which the state claims has served its robust public health system well, will correct the skew in favour of the privileged, the government reasons. A spate of suicides by students appearing for the entrance test also makes for an emotive issue, especially in a state with an enviably high percentage of students enrolled in higher education. However, *it appears that a politics of Tamil sub-nationalism is also stopping the DMK government from acknowledging gaps in the state curriculum and forcing it into unnecessary hard positions. NEET came up as a solution to the problem of a profusion of entrance examinations to medical colleges across states, the lack of standardised assessments and allegations of corruption in admissions.* The Supreme Court has upheld its validity.

Instead of breaking away from a national test and trying to cushion its students, the Tamil Nadu government must support them in the transition to a new system. This can be done by upgrading its curriculum and training medical college aspirants in problem-solving for competitive examinations, which were not held in the state for a decade between 2006, when the state scrapped a common entrance examination to medical colleges, and 2017. For NEET, too, the findings of the TN panel must be a prod to acknowledge and spot its gaps. The exclusions of class, caste and gender privilege built into the entrance test must be found and addressed. *But one blind spot remains. The irrationally high social value placed on medical and engineering college education across India and the mismatch between available seats fuel the hyper-competitiveness around admissions, resulting*



in high-stakes elimination tests such as NEET. A conversation that looks at education outside those two options must also be broached to take the pressure off students and colleges.

BOOSTER SHOTS NOT REQUIRED NOW

An expert review published in medical journal The Lancet has recommended that booster doses for the general population are not appropriate at this stage of the COVID-19 pandemic, weighing in on the global debate that calls for caution in administering booster doses. *An international group of scientists, including those at the World Health Organisation and the U.S. Food and Drug Administration agency, concluded that even for the Delta variant, vaccine efficacy against severe COVID is so high at this stage that boosters would not be appropriate, and not required.* The review summarises the currently available evidence from studies published in peer-reviewed journals and pre-print servers. "The message that boosting might soon be needed, if not justified by robust data and analysis, could adversely affect confidence in vaccines and undermine messaging about the value of primary vaccination," the paper states. Further, it goes on to explain: *there could be risks if boosters are widely introduced too soon, or too frequently, especially with vaccines that can have immune-mediated side-effects. If unnecessary boosting causes significant adverse reactions, there could be implications for vaccine acceptance that go beyond COVID-19 vaccines.* A consistent finding from the observational studies is that *vaccines remain highly effective against severe disease, including that from all the main viral variants, a release states. Averaging the results reported from the observational studies, vaccination had 95% efficacy against severe disease both from the Delta variant and from the Alpha variant, and over 80% efficacy at protecting against any infection from these variants,* the release adds. The authors note that even if antibody levels in vaccinated individuals wane, it did not necessarily mean reduction in the efficacy of vaccines against severe disease. This could be because protection against *severe disease is mediated not only by antibody responses, but also by long-lived memory responses and cell-mediated immunity.*

COVID-19, KIDNEY INJURY AND NEED FOR A VACCINE SHOT

As of early September 2021, the COVID-19 pandemic caused by the SARS-CoV-2 virus has affected over 200 million people and led to 4.4 million deaths worldwide. In India alone, 3,30,00,000 COVID-19 cases and 4,42,000 COVID-19 related deaths have been reported to date. While most infections are mild with respiratory symptoms, a severe form of the disease is seen in older adults and people with chronic heart, kidney and lung diseases, diabetes or other conditions that render the immune system weak. COVID-19 damages many organs including the lungs, heart and kidneys.

Commonly seen complication

Kidney injury as a complication of COVID-19 is more commonly seen in hospitalised patients. While the reported prevalence of kidney injury was 7% in a study of 2,650 patients admitted to a large hospital in southern India, a recent large study in the United States reported kidney injury in as many as 46% of 3,993 hospitalised patients, of whom 19% required dialysis. Patients with COVID-19 kidney injury also have increased duration of hospitalisation, with increased health-care costs. Unfortunately, there are many more deaths in those who have acute kidney injury. Understanding the microscopic changes in kidneys after infection with the SARS-CoV-2 virus is important and has been the focus of extensive research. Researchers, especially pathologists,



across the globe have been unified in their observations of COVID-19 kidney injury — i.e., acute tubular injury (injury of the transporting channels in the kidney) is the hallmark of kidney pathology. Thrombi or blood clots, as seen in the lungs and heart, may also be seen in the kidney. Inflammation (influx of white blood cells) in the kidney has also been described by researchers. The kidney injury is more commonly seen in kidneys that already have chronic injury, such as that seen in diabetes or severe blood vessel diseases. The exact process in which the SARS-CoV-2 virus brings on the kidney injury has been studied to varying detail by different centres. The first question asked is: does the virus directly damage the kidney? Many centres across the globe have used a very special microscope called the electron microscope to look for evidence of virus in the kidney. The initial studies that emerged from China and the United States seemed to identify structures within kidney cells that looked like viral particles. *This seemed to be logical, given that the kidney has a high concentration of ACE2, which is the key protein structure on a cell that the SARS-CoV-2 virus attaches to.* This step is critical for the virus to enter the cell. However, as more research was done, it became clear that what was once thought to be viral particles in cells were, in fact, increased numbers of vesicles (structures in the cell that are used in sending important signals) and were mere viral mimics. Even specific staining techniques to detect very small amounts of viral proteins failed to show virus in the kidneys. All of this suggested that direct viral injury was not the main method of kidney injury. If not, then how was the SARS-CoV-2 virus injuring the kidney?

MONTHS AFTER HE SLAMMED SYSTEM, INDIA'S JAVELIN COACH FOR TOKYO SACKED

Uwe Hohn, the German great hired in 2017 to coach javelin star Neeraj Chopra, has been sacked by the Athletics Federation of India (AFI). Hohn, 59, the only athlete to throw over 100 metres, was Chopra's coach when he won gold medals at the Asian Games and Commonwealth Games in 2018, and remained in charge as the national javelin coach for the Tokyo Olympics. On Monday, AFI president Adille Sumariwalla said after a performance review of athletes and coaches at the two-day executive council meeting that Hohn was being “sent home”. However Klaus Bartonietz, the biomechanical expert who coached Chopra when he won the Olympic gold, is set to continue. “We are changing Uwe Hohn. His performance is not good. We will bring two (new) coaches. We are doing what we have to do. Those who think that analysis is not happening and action is not being taken... everything is being done,” Sumariwalla said. AFI planning commission chief Lalit K Bhanot added that the javelin throwers — including Tokyo Olympics gold medallist Chopra, Shivpal Singh and Annu Rani — didn't want to train with Hohn. “Dr Klaus (Bartonietz) will continue to coach as (bio-mechanical) expert. We want two more coaches for javelin. It is not easy to get good coaches. But we are trying our best to get at least one more good coach,” he said. When asked about the below-par performance of Shivpal and Annu, as also discuss thrower Seema Antil and shot putter Tajinder Singh Toor, the AFI president said: “It is very simple. Shivpal and Annu were with Uwe Hohn. Uwe Hohn is being sent home. We are also looking for a foreign coach for Toor.” *Ahead of the Tokyo Games, Chopra trained with Bartonietz, but he credited Hohn for coaching him to two major gold medals.* “The time I spent with coach Hohn, I believe, was good and I respect him. In that year (2018), I won gold at the Commonwealth Games and Asian Games. I thought that his (Hohn's) training style and technique were a bit different. Later, when I trained with Klaus, I felt his training plan suited me,” Chopra said after winning the Olympic gold. *In June, Hohn, in a broadside at the Sports Authority of India (SAI) and AFI, had said it was “difficult to work with these people” and had criticised Olympic preparations.* Speaking about his stint in India, Hohn had told

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



The Indian Express: *"When I came here, I thought I could change something but it's probably too difficult with these people at SAI or AFI. I don't know if it's lack of knowledge or ignorance. Beside camps or competitions, even when we ask via our nutritionist for supplements for our athletes, we don't get the right stuff. Not even for TOPS (Target Olympic Podium Scheme) athletes – medal contenders handpicked by the Sports Ministry. If we get something, we are very happy."* Hohn had also blamed authorities for allegedly going back on their word on his contract. "I'm not happy with the new contract I signed in the beginning of April. We (he and Bartonietz) got blackmailed into signing it, otherwise we wouldn't have got paid anymore. They said they would review our coaching in April and then increase our salaries. Like all promises before, these were only empty words," he said.

TRUE METTLE

India saw another fortnight of good tidings in sports from Tokyo. Close on the heels of the recent Olympics there, in which India claimed an overall tally of seven medals inclusive of a lone gold, the country's differently-abled athletes extended this tale of excellence into the Paralympic Games. The quadrennial event, which concluded at the Japanese capital on Sunday, witnessed an exemplary show by these athletes representing 2.2% of India's population, who are differently-abled. India finished 24th in the table with 19 medals that featured five golds, eight silvers and six bronzes. This was India's finest outing at the Paralympics and eclipsed the previous best of four medals at the Rio de Janeiro edition in 2016. In a nation where sporting culture is sacrificed at the altar of academic excellence, any news about success on the turf has to be treated as a system-altering result. The challenges for the differently-abled are tougher, considering the body's limitations that these athletes first cope with through sheer willpower, and then there is the secondary task of overcoming society's innate scepticism. A simple access-audit of India's urban buildings would reveal how even a ramp essential for the differently-abled is either missing or added as an after-thought. In 2016, an audit initiated by government agencies did not find a single building that was completely accessible to the differently-abled. Seen in that context, what India's paralympic contingent achieved is mind-boggling. This was a leap of faith mounted on endless hours at grounds and inside gymnasiums while sharpening muscle-memory. The Indian contingent reflected life's vicissitudes with athletes having personal stories steeped in tragedy: accidents, polio-afflictions or genetic issues. Yet, they strove towards excellence with an effervescent smile in place. Be it athletics, where javelin throwers are the toast of the month, or badminton or shooting, India had its moments of splendour. The five gold medallists — Sumit Antil, Pramod Bhagat, Krishna Nagar, Manish Narwal and Avani Lekhara — led from the front, and the last named 19-year-old shooter also won a bronze. India drew a blank in shooting at the preceding Olympics, but the differently-abled added five medals. The coaches, the Paralympic Committee of India and Sports Ministry played their parts while India excelled in a championship held in the shadow of a pandemic. Since its first medal at the 1972 Paralympics, India was a marginal presence until now. A reflexive-rewards exercise is on from various governments, and the corporate sector. If a percentage of those riches are allocated to improve sports infrastructure for the differently-abled, India will have more reasons for cheer in the coming years.



BRAVING ALL ODDS FOR A TREK TO SIACHEN

A team of eight persons with disabilities created a new world record for the “largest number of people with disabilities” to scale the world’s highest battlefield, Siachen Glacier, by scaling up to the Kumar Post at an altitude of 15,632 ft. The team with disabilities was trained and led by CLAW Global, a team of Special Forces veterans who had left the service due to disabilities. “The expedition team climbed a total distance of 60 km atop the spine of the Siachen Glacier over a period of five days from September 7 to finally reach Kumar Post on September 11,” said Major Arun Prakash Ambathy (retd) of CLAW Global. The expedition was actively supported throughout by the Army, he said. Stating that the team ascended 4,000 ft gradually while scaling the Glacier, Major Ambathy said the route involved crossing several deep crevasses, icy glacial water streams, hard-ice stretches and undulating rocky moraines. “This not only tested the physical endurance and mental stamina, but also the ice-craft skills of the participants, in use of ice axe, crampons, ladder crossing and rope skills,” he said. On the challenges faced by the team, Major Ambathy said the extremely rough, rocky and undulating terrain along the moraines of the glacier made the climb particularly challenging for the visually impaired and the leg amputees. “They displayed phenomenal grit despite the challenges,” he said adding that the participants with hand amputation had to constantly work on their balance, managing the rope and work on adaptations for emergency rescue procedures. This is the land world record expedition part of “Operation Blue Freedom Triple World Records” being undertaken by CLAW Global. CLAW Global was set up in January 2019 by Major Vivek Jacob (retd), a Para Special Forces officer, who had to hang up his boots following a combat skydive injury after 14 years of service in the Army, with the aim of teaching life skills to adventurers and people with disabilities.

C-295 INDUCTION CRITICAL FOR IAF

The procurement of 56 C-295MW transport aircraft from Airbus Defence and Space S.A., Spain approved by the Cabinet Committee on Security on Wednesday marks the culmination of a decade-long process by the Indian Air Force (IAF) to replace the ageing Avros, pending signing of a formal contract. This is the first project of its kind in which a military aircraft will be manufactured in India under technology transfer by a private company and is expected to cost close to \$3billion. “Sixteen aircraft will be delivered in flyaway condition from Spain within 48 months of signing of the contract and 40 will be manufactured in India by Tata Consortium within 10 years of signing of the contract,” a Defence Ministry statement said.

Scrapping of project

The deal has become even more critical for the IAF as a separate project to co-develop and produce a Medium Transport Aircraft (MTA) of 20 tonnes with Russia to replace the An-32s in service was scrapped after initial design discussions. The IAF has 56 Avros procured in the 1960s and they are in urgent need of replacement. The Request For Proposal (RFP) was issued to global firms in May 2013 and the sole bid by Airbus and Tata Group with the C-295 aircraft was approved by the Defence Acquisition Council (DAC) in May 2015. However, the final deal has been repeatedly delayed. The Avros, once inducted, could be deployed on the sea routes replacing the An-32s in those sectors. The C-295MW is a plane of 5-10 tonne capacity and has a rear ramp door for quick reaction and para dropping of troops and cargo. It is powered by Pratt & Whitney PW127 engines,



part of the PW100 family. All 56 aircraft will be installed with indigenous Electronic Warfare Suite. The project would give a boost to aerospace ecosystem in India wherein several Micro, Small and Medium Enterprises spread over the country would be involved in manufacturing of parts of the aircraft, the Ministry statement said. On the project spread, the Ministry said that a large number of detail parts, sub-assemblies and major component assemblies of aero structure were scheduled to be manufactured in India. The programme would act as a catalyst for employment generation.

200 ARMY PERSONNEL FOR ZAPAD EXERCISE

A contingent of 200 Army personnel will participate in the multinational Exercise ZAPAD 2021 being held at Nizhniy, Russia from September 3 to 16, the Army said on Wednesday. Of the 17 countries invited for the exercise, there are nine Participating countries and eight Observers including China and Pakistan, a defence source said. ZAPAD 2021 is one of the theatre level exercises of Russian armed forces and will focus primarily on operations against terrorists, the Army said. "The NAGA Battalion group participating in the exercise will feature an all arms combined task force. The exercise aims to enhance military and strategic ties amongst the participating nations while they plan and execute this exercise," it stated. In all, 17 countries have been invited by Russia for the exercise. Of these nine are Participating countries which include Mongolia, Armenia, Kazakhstan, Tajikistan, Kyrgyzstan, Serbia, Russia, India and Belarus. The other eight countries are Observers which include Pakistan, China, Vietnam, Malaysia, Bangladesh, Myanmar, Uzbekistan and Sri Lanka, the source added. The Indian Contingent has been put through a strenuous training schedule which encompasses all facets of conventional operations including mechanised, airborne and heliborne, counter terrorism, combat conditioning and firing, the Army added. This month, the Army will take part in a multinational exercise peace mission in Russia with a 200-strong battalion from Sikh Li infantry, another source said.

HIGH HONOUR FOR NAVAL AVIATION

President Ram Nath Kovind will award the President's Colour to Indian Naval Aviation at a ceremonial parade to be held at INS Hansa, Goa, on September 6. The President's Colour is the highest honour bestowed on a military unit in recognition of its exceptional service to the nation. Naval Aviation came into being with acquisition of the first Sealand aircraft on January 13, 1951 and the commissioning of INS Garuda, the first Naval Air Station, on May 11, 1953, the Navy said in a statement. "Today, Naval Aviation boasts of nine air stations and three naval air enclaves along the Indian coastline and in the Andaman and Nicobar Islands," it stated. Over the past seven decades, it had transformed into a modern, technologically advanced and highly potent force, with more than 250 aircraft comprising carrier-borne fighters, maritime reconnaissance aircraft, helicopters and remotely piloted aircraft (RPA), the Navy said. The Navy was the first among the armed forces to be awarded the President's Colour on May 27, 1951 by then President Rajendra Prasad, as per the statement. The arrival of the armed Firefly aircraft in 1958 added an offensive punch and 1959 saw the commissioning of the Indian Naval Air Squadron (INAS) 550, with 10 Sealand, 10 Firefly and three HT-2 aircraft. Over the years, a variety of rotary wing platforms have been added as well. Maritime reconnaissance also grew steadily, beginning with the induction of the Super-Constellation from the Indian Air Force in 1976 to the state-of-the-art Boeing P 8I aircraft in 2013.



Carrier aviation

The Navy heralded the beginning of carrier aviation with the induction of INS Vikrant in 1957 and integral Sea Hawk and Alize Squadrons subsequently. "INS Vikrant with its aircraft played a crucial role in the liberation of Goa in 1961 and again in the 1971 Indo-Pak war, where its presence on the Eastern seaboard proved decisive," the Navy said. The Navy inducted its second carrier INS Viraat along with Sea Harrier aircraft in the mid-1980s and Naval Aviation was further strengthened with the arrival of MiG 29K fighters on INS Vikramaditya in the last decade. "The Indian Navy's Carrier capability received significant fillip with sea trials of the indigenously built aircraft carrier, the new avatar of INS Vikrant, commencing this month," the statement noted. Naval Aviation has played a major role in operations such as Cactus, Jupiter, Shield, Vijay and Parakram as well as spearheaded Humanitarian And Disaster Relief (HADR) operations on numerous occasions both in India and the extended neighbourhood. Naval Aviators have been decorated with one Mahavir Chakra, six Vir Chakras, one Kirti Chakra, seven Shaurya Chakras, one Yudh Seva Medal and a large number of Nao Sena Medals (Gallantry) over the years, the Navy added.

RAJNATH COMMISSIONS ICGS VIGRAHA

The augmentation of India's security capabilities has ensured that the country has not suffered any terrorist attacks by sea route since the 2008 Mumbai terrorist attack, Defence Minister Rajnath Singh said here on Saturday. *Commissioning the seventh Offshore Patrol Vessel (OPV), ICGS Vigraha, built indigenously by Larsen & Toubro for the Coast Guard (ICG), the Minister said the Coast Guard was continuously enhancing the capacity of the nation.* Mr. Singh said in the last two years, in cooperation with the neighbouring nations, the force had recovered goods worth more than ₹10,000 crore in anti-smuggling operations. He said changes happening around the world would certainly impact the Indian Ocean region and also India, whose interests were directly linked to the Indian Ocean. "Changes happening around the world often become a matter of concern for us. We, as a nation, must keep our guard high during these times of uncertainties and upheavals around the world." The demand for military equipment was increasing continuously, with reports suggesting that by 2023, the expenditure on security around the world would reach around \$2.1 trillion, Mr. Singh said. Director-General of the ICG K. Natarajan said the force had 157 ships and 66 aircraft in its fleet. "Our endeavour is to have 200 ships and 100 aircraft by 2030," he said. He said all its ships were built in India and the Advanced Light Helicopter Mk-III, manufactured by Hindustan Aeronautics Limited, was a testimony to the fact. Chief of the Army Staff General M.M. Naravane, Tamil Nadu Minister for Industries Thangam Thennarasu, and Chief Secretary V. Irai Anbu took part in the event. ICGS Vigraha will be based out of Visakhapatnam and will operate on India's Eastern Seaboard under the operational and administrative control of the Commander, Coast Guard Region (East).

THE 1965 BATTLE OF ASAL UTTAR AND THE ROLE OF ABDUL HAMID

The Army has held a ceremony to mark the anniversary of the Battle of Asal Uttar in 1965 Indo-Pak war and honour Company Quarter Master Havildar (CQMH) Abdul Hamid, Param Vir Chakra (Posthumous) of 4 Grenadiers, at his grave and war memorial in Punjab. The Indian Express explains how the battle was fought and the role of CQMH Abdul Hamid in it.



Where is the grave of CQMH Abdul Hamid located?

The grave and a war memorial to the Battle of Asal Uttar is located at the outskirts of Chima Village on Khemkaran-Bhikkiwind road in *Tarn Taran district of Punjab*. This was the area in which the *Pakistan Army had launched an offensive with an armoured division and had over-run Indian positions to make an attempt to capture large swathes of territory. It was here that the Indian Army made a decisive stand which blunted the Pakistani attack, forcing them back and capturing large number of their Patton tanks and taking equally large number of Pakistani officers and soldiers as prisoners of war.* The grave is maintained by the 7 Infantry Division of the Army and every year a function is held to honour the war hero. This year too, a similar event was organised and the former Colonel of the Grenadiers Regiment, Lt Gen GS Sangha (retd), was present to pay homage to Abdul Hanid and all those Indian Army soldiers who laid down their lives in the Battle of Asal Uttar. Incidentally, the name of the village as pronounced in Punjabi is 'Aasal Utaad' but it has changed to Asal Uttar (meaning 'real reply' in Hindi) over the years after the riposte delivered to the enemy by the Indian Army.

What was the battle of Asal Uttar?

In the early days of the war, the Indian Army's offensive in Punjab on September 6, to offset the attack launched by Pakistan Army in Chhamb sector of Jammu and Kashmir, had caught Pakistan by surprise. However, after having been dislodged from their positions and routed by the quick Indian thrust in the Khemkaran sector, Pakistan Army launched an ambitious counter attack with its 1 Armoured Division. The aim of the attack was to capture Indian towns of Raya and Beas on the GT Road and thus cause a major chunk of Indian Punjab to be cut off from the rest of the country by securing the bridge over the River Beas. The Pakistani rapid thrust caught Indian 4 Mountain Division by surprise and the town of Khem Karan, 5 km from the border and 7 km from Asal Uttar, was captured by Pakistan Army. The then Western Army Commander, Lt Gen Harbaksh Singh, has noted in his book, War Despatches, that the 4 Mountain Division hastily occupied a defended sector at Asal Uttar on the morning of September 8. *The Battle then took place from September 8 to 10, with the result being the decimation of the Pakistani attack and total rout till Khemkaran.* However, the town itself remained under Pakistani occupation till after ceasefire and it was exchanged back for Indian-occupied areas in Pakistan. In this decision battle fought by the 2nd Armoured Brigade of the Indian Army, Pakistan Army lost 97 tanks, its showcase US-made equipment, with one entire cavalry regiment of the enemy having been captured and destroyed. After the war, the captured Patton tanks were displayed near Bhikkiwind, about 10 km from Asal Uttar, and the place briefly came to known as 'Patton Nagar'.

What was CQMH Abdul Hamid's role in the battle?

Abdul Hamid was leading a detachment of Recoilless Guns mounted on a jeep which were essentially hunting enemy tanks in the fields of the villages surrounding Asal Uttar. In the afternoon of September 10, a well-placed group of soldiers of 4 Grenadiers, now the site is part of the Abdul Hamid war memorial, opened fire on a convoy of Pakistani Commanders who were coming down the Khemkaran-Bhikkiwind road for reconnaissance. The Pakistani Artillery Commander, Brig AR Shami, was killed in this shootout and his body was buried on the battlefield by Indian troops with full military honours. *On September 9 and 10, Abdul Hamid was also hunting down Patton tanks in the same area. On September 10, he came upon four Pakistani tanks in the*



sugarcane fields and fired at them from near point-blank range, destroying four Patton tanks and disabling another. However, he also came under fire from an enemy tank and was blown to death after a direct hit on his jeep. For this supreme act of gallantry, CQMH Abdul Hamid was awarded the Param Vir Chakra, the nation's highest gallantry award. Incidentally, his grave is not more than 100 metres away from the dense grove from where he had taken aim at Pakistani tanks and shot them down before getting killed himself. A captured Pakistani Patton tank stands guard at the entrance of the memorial, with its turret down, as a tribute to the brave Indian soldiers who fought and died in the Battle of Asal Uttar.

ON DISPLAY IN DELHI, EXHIBITION OF 125 PAINTINGS OF BIRDS FROM 18TH C INDIA

In 18th Century India, while the royal courts continued to support artists, new patronage for art came from the Europeans, several of who tasked artists to paint the land and its people. Their interests were varied and included among others its birds, as is evident from an exhibition in Delhi that brings together 125 paintings of birds from the various Company-commissioned albums. Titled 'Birds of India, Company Paintings c. 1800 to 1835', the display at DAG, The Claridges Hotel, is curated from the gallery collection and comprises a variety of birds, including game birds, coastal waders, woodland, and forest birds. The exhibition is on till October 6. Says curator Dr Giles Tillotson, Senior VP Exhibitions and Publications at DAG, "The main challenge was to identify the birds as their naming is an ever-evolving science. These paintings were produced at an early stage of European understanding of Indian ornithology. A lot of these birds had traditional names and many in Urdu inscriptions. Several were still unknown to, what we would then call, western science. The person who owned the album tried to identify the birds, but a lot of them are wrong as he was probably using a reference book which in itself was full of mistakes because science progressed." Viewers at the gallery spot the still common birds — the Brown Wood Owl, Common Sandpiper, Indian Myna, House Crow, and Common Kingfisher. Ninety nine paintings in the exhibition come from the Cunninghame Graham album. While names of the artists and the original collector are not recorded, the album, says Tillotson, belonged to the Scottish family of Cunninghame: "We can reasonably deduce that the collection was assembled in Bengal — probably in Calcutta – between 1800 and 1804." Works from different albums also feature in the exhibition. An album of birds from Northeast India, for instance, belongs to c. 1810. "With vivid (in some cases slightly exaggerated) colouring and bold designs, these are among the finest works on natural history produced in India," writes Tillotson in a book based on the exhibition. Few watercolours come from the Faber album, c.1830, while four folios belong to an album of Patna paintings, dated around 1835. Commissioned by Captain Edward Inge of the 4th Light Dragoons, these identify the artist as Chuni Lal. In one of his notes, Inge describes him as "the most excellent Painter... the best artist at Patna... well worth the 12 Rupees one dozen that he charged". Comparing his work to the Graham album, Tillotson notes, "Chuni Lal's folios show how Company artists were no longer painting the natural world from life, finding it simpler to repeat the marketable formulas already established. On the other hand, this last group has the merit of including some common garden favourites that are inexplicably overlooked in the earlier sets, such as the Hoopoe." The curator notes how encouragement from European patrons also allowed artists to experiment during the period. While General Claude Martin from the East India Company, Tillotson shares, imported European paper on which local artists "prepared botanical studies and other natural history works, including depictions of birds", Dr William Roxburgh, superintendent of the Calcutta Botanic Garden from 1793, asked artists to produce botanical

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studies. In Calcutta, Lady Impey (wife of the Chief Justice of the Supreme Court in Bengal, Sir Elijah Impey), also commissioned artists to portray a variety of animals, birds and plants. “Typically, they portrayed each bird perched on a branch of a flowering shrub or fruit tree, or standing against a blank ground, by contrast with artists in Lucknow who frequently included a strip of idealised distant landscape,” writes Tillotson in the book.

ASSAM TRACK REALIGNMENT THROUGH WETLAND OPPOSED

It will spell doom for forest, say villagers

Villagers living near Deepar Beel, a Ramsar Site wetland and Important Bird Area under stress, have opposed the proposed realignment of a railway track skirting its southern edge. The project would be catastrophic for the ecology of the Rani-Garbhanga Reserve Forest, affect a prime elephant corridor and uproot the indigenous people, they say. On September 13, a memorandum containing 600 signatures of villagers around Deepar Beel was submitted to W. Longvah, Inspector-General of Forest, at the integrated regional office of the Ministry of Environment, Forest and Climate Change in Guwahati. The villagers listed the reasons for opposing the realignment of the railway track that has in three decades killed 14 elephants. Senior environment scientist Hemanta Hazarika and green activist Arghadeep Baruah, who accompanied the representatives of the villagers, said the National Green Tribunal (NGT) had proposed realigning the track to the north of the wetland through human habitations. The realignment further south to accommodate another track — both to be electrified — would be much closer to the Rani-Garbhanga Reserve Forest and uproot the indigenous people of Mikirpara Chakardeo who have been coexisting with nature for ages.

Tunnel plan

A proposed tunnel in the hilly stretch of the Rani Garbhanga Reserve Forest between two railway barriers would also spell doom for the ecology of the area “in the name of preventive measures”, the memorandum said. The track realignment will not only go against the views of the NGT but would also undermine the recommendations of the Wildlife Institute of India, the memorandum said. The issue of the garbage dumping ground on the edge of Deepar Beel was also taken up with Mr. Longvah. Seepages from the dump and sewers from Guwahati have made the Deepar Beel toxic, threatening aquatic life and waterfowls.

WHY IS NIPAH’S RETURN IN KERALA A CAUSE FOR CONCERN?

What are the symptoms and how is it diagnosed?

Fever, delirium, severe weakness, headache, respiratory distress, cough, vomiting, muscle pain, convulsion and diarrhoea are the main symptoms. Inflammation of the brain (encephalitis) or respiratory diseases are common too, hence the 40%-75% fatality rate. Because of the lethality of the virus, very few Indian laboratories like the Pune-based National Institute of Virology are equipped to isolate the virus using cell culture methods. However, the virus’s presence in blood or saliva samples can be determined — like coronavirus tests — in commercial antibody tests that detect the presence of antibodies in the serum. Tests like RT-PCR, undertaken by commercial laboratories, can also be used to detect the virus.



What is the treatment protocol?

Currently, there is no known treatment or vaccine for either people or animals. Ribavirin, an antiviral, may have a role in reducing mortality among patients with encephalitis caused by the Nipah virus disease, according to a fact-sheet by the National Centre for Disease Control. The thrust of treatment relies on managing symptoms. There are, however, immunotherapeutic treatments (monoclonal antibody therapies) that are under development and evaluation. One such monoclonal antibody, m102.4, has completed Phase 1 clinical trials, and has been used on a compassionate use basis. In addition, the antiviral treatment Remdesivir has been effective in non-human primates when given as post-exposure prophylaxis, according to the U.S. Centers for Disease Control and Prevention. There are no approved vaccines but recent studies have shown that a Covishield-like vaccine fully protected a small group of primates (Green African monkeys). Another vaccine candidate has been in preliminary human trials, with the results expected later this year.

A YEAR AFTER FIRST TRYING IT, FARMERS WARM UP TO PUSA DECOMPOSER, OFFICIALS PLAN TO RAMP UP USE

With the wheat-growing rabi season right around the corner, the Pusa bio-decomposer that made its debut in fields last year is on the minds of farmers in North Delhi. Used to decompose paddy stubble after a harvest and prevent stubble burning, the decomposer was sprayed on around 30 acres of farmer Umesh Singh's farmland in Hiranki village last year. Singh is prepared to harvest the crop by the end of the month, but awaits clarity on use of the decomposer this year and whether it will be provided again. Prakash Singh also had the decomposer sprayed on around 3 acres in Hiranki. It can take about 20 to 22 days for stubble to decompose, he said. The decomposer has also helped improve soil fertility and reduced the need for extensive ploughing to mix stubble with soil, Singh said. By the time farmworkers from Bihar arrive to sow the wheat, the land is free of stubble, he added. Pointing to a field of paddy ready to be harvested, Jasram, a farmer in nearby Palla village, said the decomposer has reduced the need for fertiliser. "Where the decomposer was sprayed, we used very little urea as fertiliser and absolutely no potash. Usually around four bags of fertiliser are necessary for an acre of land," he said. What did he do to get rid of stubble before the decomposer was introduced last year? Burning is common even in Delhi, he said. "It's easy to strike a match and get rid of stubble immediately. Most farmers want to clear the field immediately and sow vegetable crops in Palla. Some might not be willing to wait for over 20 days to allow the stubble to decompose, and that could lead to some hesitation in using it," he said. The paddy is ready for harvesting in some fields, like his own, but there has been no information from the government yet on whether or not the decomposer will be made available. But Jasram is willing to purchase the decomposer separately this year, even if the government does not provide it, since the benefits of low fertiliser use outweigh the time taken to clear the field, he said. Om Veer Chauhan in Jhangola village also had the decomposer sprayed, but remains skeptical. "It was only sprayed on some pockets of land last year. Without the decomposer, we would irrigate the fields, leave it for a while and turn the soil to get rid of the stubble. This is not very different from that process," he said. It was sprayed on around 2,000 acres of land in Delhi, of which around 458 acres was in North Delhi. The rest was in parts of Southwest and Northwest Delhi. Indramani Mishra, head of the Agricultural Engineering Department at the Indian Agricultural Research Institute where the decomposer was developed, said it is likely to be used more extensively this



year. It has been licensed to nine companies for production, he said. "Last year, we manufactured it in-house and it was sold at a cost of Rs 20 for a pouch of four capsules. One pouch is diluted to generate a solution of around 25 litres. The Delhi government has given us an intent to purchase around 3,000 pouches of capsules, and they have approached us for 1,000 more. The companies that have taken a license from us are covering areas in Punjab and Haryana. Individual farmers are also approaching licensees," he said.

WASTE-TO-ENERGY PLANT IS NOT AN ACCEPTABLE DISPOSAL METHOD

The proposal to set up a waste-to-energy plant at Bandhwari landfill off Gurugram-Faridabad road was strongly opposed by civil society groups, NGOs and individuals at a public hearing by the Haryana State Pollution Control Board a fortnight ago. N.B. Nair, Scientific Officer (Retd.), Bhabha Atomic Research Centre, Mumbai, also the member of Citizens' for Clean Air, one of the civil society groups at the forefront of the opposition to the project, speaks to The Hindu on his objections, the alternatives and measures to tackle air pollution in the NCR. Excerpts:

You have been strongly opposing the setting up of the proposed waste-to-energy plant at a landfill in Bandhwari village, as an individual and also as part of Citizens' for Clean Air group. What are your main objections to it?

The very nomenclature, waste-to-energy plant, is wrong. It implies a false notion that a WtE unit solves the bothersome waste disposal problem and at the same time produces the ever-needed energy. In reality, it involves neither an acceptable waste disposal method nor an acceptable energy production process. A WtE unit actually converts the waste into invisible particulate and gaseous pollutants in the atmosphere leading to heightened inhalation hazards. The pollutants produced from the waste on the ground can enter the body through water and food and this pollution is limited to some specific areas. However, air pollution created by WtE plant can spread across many kilometres, depending on the prevailing wind patterns. It is a fact that pollution gets diluted as it spreads away from the plant. But, even after dilution, many of these pollutants, including many carcinogens, remain potentially dangerous.

Many countries across the world have adopted the waste-to-energy plant technology. What do you have to say about it?

The WtE proponents quote rosy pictures of a few WtE plants still working in Japan, Sweden and Amsterdam, etc. A few hundred WtE units are still operating around the world due to compelling geopolitical reasons. Their performance reports for the past many years are well published. Whereas the performance records, rather, performance history of our WtE plants are simply horrible on all environmental aspects. There are many WtE plants working in India, some of them for more than a decade, but why does no one quote their performance reports? Show me a single satisfactory performance report on any of our WtE plants, even for a period of one year, by the Central Pollution Control Board, under the Ministry of Environment, Forest and Climate Change.

If not a waste-to-energy plant, what could be its substitute to handle the solid municipal waste?



In the first place, no city should throw its garbage into any adjoining village and spoil its serene environment. It is a crime to do so. Such damages cannot be compensated by any amount of money. In Gurugram, the citizens' groups have been insisting that the garbage produced in each of the municipal wards should be treated within the ward itself. This is possible by following segregation of the waste at source.

All through the year, the pollution level in the NCR remains far higher than the permissible limits with just a few good air days.

The air pollution situation in Delhi-NCR is a national shame threatening the health and well-being of the citizens, including the future generations. It should be tackled on war footing.

FLATTENING THE HILLS

A new plan to draw the boundaries of the Aravallis in Haryana could deprive a big chunk of the world's oldest fold mountain system from enjoying the protection accorded to eco-sensitive regions in the NCR. A committee constituted by the state government has asked officials to identify areas under Aravallis on the basis of a 1992 MoEF order that limits the mountain range in Haryana to the erstwhile Gurgaon district — currently Gurugram and Nuh districts. That means more than 9,000 hectares in Faridabad will not come under the National Conservation Zone (NCZ), exposing the area to real estate activities and jeopardising the mountain range's ecological functions. Extending for nearly 700 km from eastern Gujarat to south Haryana, through Rajasthan and Delhi, the Aravallis are the green lungs for large parts of the subcontinent. They moderate the velocity of hot winds that blow towards north India and resist the advance of the Thar Desert towards the Indo-Gangetic plains. Their forests are crucial to recharging groundwater. *The NCR regional plan 2021, framed in 2005, slotted the Aravalli ecosystem in the area under the NCZ, most of which is out of bounds for construction activity.* But the plan has been subject to vigorous stonewalling by successive governments in Haryana, which insisted that there was no clear definition of the Aravallis. In 2017, the state administration told the Union Ministry of Urban Development that there were no Aravallis in Haryana, except in parts of Gurugram and even there, the NCZ strictures on construction activity should not apply. Last year, *it was pulled up by the Punjab and Haryana High Court for delaying the notification of NCZ. Since 2002, a number of Supreme Court orders have placed strictures on mining in the Aravallis. However, real estate developers — as well as miners — have found ways to flatten the hills and appropriate land.* In 2018, the apex court noted that the range had lost a quarter of its hills. In recent times, the apex court has come down heavily on illegal construction in the Aravallis — at times making no distinction between farmhouses of the rich and the dwellings of the poor. It would, however, be salutary to understand that such transgressions are a result of a complex interplay of socioeconomic factors and administrative failures. In Haryana, much of the administrative failure stems from poor appreciation of the ecological services provided by the Aravallis. The state government would do well to keep in mind the increasing pollution level in Haryana's cities, most of which are also groundwater stressed. A narrow definition of the Aravallis will not be in the interests of the well-being of the state's residents.



IMPROVED WATER MANAGEMENT SYSTEM FOR TOXIC TEXTILE EFFLUENTS DEVELOPED

Indian researchers have developed an improved water management system that can completely reuse dye wastewater from textile industries, eliminating its toxicity and making it suitable for domestic and industrial usage, the Department of Science and Technology said on September 9. It can reduce water treatment costs and facilitate reuse of water in dry regions, it added. The current three-stage treatment process for wastewater consisting of primary, secondary, and tertiary treatment is unable to treat toxic industrial wastewater.

High cost

The stand-alone advanced oxidation process (AOP) treatment technique for colour and odour properties in industrial effluents (dye-based) may be insufficient to meet the set government standards and is also limited due to the high cost of AOPs involving continuous supply of chemical reagents. It cannot remove the synthetic industrial dyes and the effervescent colour and odour, which have a long-lasting carcinogenic and toxic effect on the ecological balance, especially aquatic life. In order to remove this toxicity, an upgraded solution with the AOP technology is the need of the day, it added. Working towards this, researchers from Indian Institute of Technology (IIT) Kanpur along with Malaviya National Institute of Technology, Jaipur, and MBM College, Jodhpur, have developed a modified AOP solution.

Modified process

This completely modified treatment process consisting of the primary dosing step, followed by the sand filtration step, another AOP and subsequent carbon filtration step. It eliminates the need for the conventional primary, secondary, and tertiary processes, resulting in maximum colour removal, and meets the inland water discharge standards. The DST – Water Technology Initiative (WTI), along with the Indian National Academy of Engineering (INAE) – supported the development of this technology at pilot-level in collaboration with Laxmi Textile Prints, Jaipur. The much-improved AOP technology targeting zero discharge water management system is being utilised for complete reuse of industrial dye wastewater for domestic and industrial usage at a rate of 10 kilo litres/day. The treatment of toxic and highly carcinogenic industrial dyes of textile effluents is performed using this AOP technology for degrading and mineralising recalcitrant organic matter from effluent wastewater.

Low-cost solution

It is a direct replacement of the existing treatment plant processes and consists of a low-cost solution of dye adsorption on acid-modified soil, followed by a photochemical reaction step within a photocatalytic visible light filter and a unique carbon and PAN (polyacrylonitrile) nano-mat fibre filtration process. Having been set up on a pilot basis, it remediates industrial wastewater. The technology has resulted in the recuperation of 50% of the treatment cost incurred from conventional processes for water treatment (especially due to the high cost of sludge disposability) in the water-scarce regions of Rajasthan. Further, scaling up of this plant to 100 kilolitres/day capacity to meet the current industrial requirement is underway, it added.

WHY 'BLACK TIGERS' SOUND A WARNING

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A team of scientists has resolved the genetic mystery of Simlipal's so-called black tigers. Led by Uma Ramakrishnan and her student Vinay Sagar from the National Centre for Biological Sciences (NCBS), Bangalore, the study found that a single genetic mutation in these tigers caused black stripes to broaden or spread into the tawny background. Tigers have a distinctive dark stripe pattern on a light background of white or golden. A rare pattern variant, distinguished by stripes that are broadened and fused together, is also observed in both wild and captive populations. This is known as pseudo-melanism, which is different from true melanism, a condition characterised by unusually high deposition of melanin, a dark pigment. While truly melanistic tigers are yet to be recorded, pseudo-melanistic ones have been camera-trapped repeatedly, and only, in Simlipal, a 2,750-km tiger reserve in Odisha, since 2007. Launched in 2017, the study was the first attempt to investigate the genetic basis for this unusual phenotype (appearance). Through whole-genome data and pedigree-based association analyses from zoo tigers, the study found that pseudo-melanism is linked to a single mutation in Transmembrane Aminopeptidase Q (Taqpep), a gene responsible for similar traits in other cat species.

Why black tigers are rare

Mutants are genetic variations which may occur spontaneously, but not frequently, in nature. Black tiger sightings have been claimed sporadically at least since 1773 when artist James Forbes painted a watercolour of one shot in Kerala. Similar claims were made from Myanmar (1913) and China (1950s). In 1993, a confiscated black tiger skin of unknown origin was displayed at Delhi's National Museum of Natural History. Unfortunately, individuals of unusual appearance were sought out as a novelty by trophy hunters until recently, and probably few survived long enough to establish bloodlines. Besides, pseudo-melanism is caused by a recessive (hidden) gene. A cub gets two copies of each gene from both parents, and a recessive gene can show up only in the absence of the dominant one. So, two normal-pattern tigers carrying the recessive pseudo-melanism gene will have to breed together for a one-in-four probability of giving birth to a black cub. But recessive genes are rare and it is unlikely that two unrelated tigers will carry the same one and pass it on together to a cub. In an ideal tiger world, where far-ranging individuals are never short of choices for partners, that makes succession of black tigers a rarity. Under exceptional circumstances, a black tiger may succeed as part of a very small (say, up to five individuals) founding population that is forced to inbreed in isolation for generations, offering the recessive gene frequent chances to show up. As it turned out, that is what happened at Simlipal.

The Simlipal mutants

Long before three black tigers were camera-trapped in 2007, Simlipal furnished the first confirmed record of the mutant in 1993 when a tribal youth killed a pseudo-melanistic tigress in self-defence. In 2018, three of Simlipal's eight tigers turned out black. Pseudo-melanistic tigers are also present in three zoos in India — Nandankanan (Bhubaneswar), Arignar Anna Zoological Park (Chennai) and Bhagwan Birsa Biological Park (Ranchi) — where they were born in captivity. All of them have ancestral links to one individual from Simlipal. The closest breeding tiger population to Simlipal is around 800 km away, a distance much longer than the average home range of Bengal tigers (20-110 km) and their average dispersal distance (78-124 km). Dispersals longer than 500 km have been documented, the study noted, but they are very rare. While previous studies detected three major genetic clusters within Indian tigers—Central India, South India, and Northwest India — the present one found that Simlipal tigers are genetically distinct



from other central Indian populations and disconnected at a dispersal threshold of 200 km. The conclusion: Simlipal's small and isolated tiger population led to inbreeding and the anomalous phenotype characterised by wide, merged stripes. The loss of genetic diversity is evident from the low heterozygosity — chances of inheriting different forms of a particular gene from each parent — in Simlipal (28%) compared to Central India (36%). Consequently, mean relatedness between Simlipal individuals (38%) is higher than those in Central (9%) or South India (13%).

What about natural selection

Natural selection eliminates the weakest from a gene pool, and the traits of the more successful get passed on. Niche modelling, the study said, shows higher frequency of melanistic leopards in darker tropical and subtropical forests than in drier open habitats. Likewise, darker coats may confer a selective advantage in both hunting and avoiding hunters in Simlipal's tropical moist deciduous and semi-evergreen closed-canopy forest, with a relatively darker understory. While the present study did not have enough data to test the hypothesis, it observed that the disappearance of black tigers from across India, where populations may be larger and hence selection more effective, backed the possible deleterious effects of the mutation.

The takeaway

Simlipal is not the only example of "intense founding bottlenecks" in endangered tiger populations due to human-induced habitat fragmentation. While the dangers of this isolated, depleting population manifest dramatically in phenotypic evolution, invisible time bombs may be ticking in other island reserves. "While tigers have recovered in some parts of India, several populations remain small and isolated. We predict that such populations will be subject to genetic drift (chance events), inbreeding and inbreeding depression (decreased survival). Overall, such populations have a high chance of extinction. It has been a fascinating journey to understand pseudo-melanism in Simlipal. Hopefully, such studies and the insights they provide will help safeguard the futures of endangered species," said Ramakrishnan of NCBS. Fortunately, introduction of fresh genes in an isolated pool, depending on the number of migrants, frequency of influx and population size, can reverse the damage over time. While airlifting tigers appears to be the solution of convenience these days, there is no alternative to restoring or maintaining natural connectivity between tiger forests in the long term. Meanwhile, India's northwestern tiger population shows higher mean relatedness between individuals (46%) and lower heterozygosity (22%) than even Simlipal (38% and 28%). While Ranthambhore has been a genetic island for decades, tiger siblings were handpicked from this inbred population for repopulating Sariska. That is another study in the offing.

THAMIRABARANI CIVILISATION 3,200 YEARS OLD

A carbon dating analysis of rice with soil, found in a burial urn at Sivakalai in Thoothukudi district in southern Tamil Nadu, by the Miami-based Beta Analytic Testing Laboratory, has yielded the date of 1155 BCE, thereby indicating that the Thamirabarani civilisation dates back to 3,200 years. Encouraged by this finding, Tamil Nadu Chief Minister M.K. Stalin on Thursday announced in the Assembly the establishment of Porunai Museum in Tirunelveli at a cost of ₹15 crore. "The finding has established that the Porunai river [Thamirabarani] civilisation dates back to 3,200 years. It is the government's task to scientifically prove that the history of the Indian Subcontinent should

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begin from the Tamil landscape,” he said in a suo motu statement. The Beta Analytic Testing Laboratory in Miami, U.S., released the test report on August 27. Mr. Stalin said archaeological excavations would be carried out in other States and countries in search of Tamil roots. In the first phase, studies would be undertaken at the ancient port of Musiri, now known as Pattanam, in Kerala. “The research will be done jointly with Kerala archaeologists to establish the ancientness and culture of the Chera country,” he said.

Research in Egypt

Similar studies would be conducted at Vengi in Andhra Pradesh, Thalaikadu in Karnataka and Palur in Odisha. The Chief Minister said the Tamil Nadu Archaeology Department would conduct research at Quseir al-Qadim and Pernica Anekke in Egypt, which were once part of the Roman empire, as well as in Khor Rori in Oman, to establish the Tamils’ trade relations with these countries. “Pot shreds with Tamil scripts have been found in these countries. The study will be conducted with the help of archaeologists of these countries,” he said. Mr. Stalin said studies would also be conducted in southeast Asian countries such as Indonesia, Thailand, Malaysia and Vietnam, where king Rajendra Chola had established supremacy. Recalling his visit to Keezhadi, where archaeological excavations had thrown up new findings, the Chief Minister said carbon dating of the objects unearthed there had proved that Tamil society achieved literacy even in 6th century BCE. “The world Keezhadi has united Tamils across the world,” he added. He said Calcutta University professor Susmita Basu Majumdar had come to the conclusion that the silver coin with Sun and other symbols was pre-Mauryan. Rakesh Tewari, former Director-General of the Archaeological Survey of India, had said the outcome of recent excavations in Keeladi, Kodumanal and other sites in Tamil Nadu, including NBP, black slipped ware and good number of potshreds with Brahmi inscriptions, have corroborated the view that contacts between South India and North India might be as early as 600-700 BCE or even earlier.

LIVING WITH INDUS VALLEY

It’s been more than 4,000 years since the end of the Indus Valley Civilization — time that stands still in Dholavira. The Kutch village’s association with the ruins of the Indus Valley city next door that recently got a UNESCO world heritage tag is as much about history as the water tank and tap on its museum premises, which remains its only source of clean drinking water. Through the day, Dholavira women line up to fetch water in pots. ‘Waterholes in a river with a white sand bed’ — that’s the literal meaning of the name Dholavira. However, no one in the village remembers seeing anything close to it, with the seasonal streams between which was once located the Indus Valley settlement rarely ever flowing with water. They know the settlement as ‘Kotdo Timbo (fort mound)’. The last village on the western tip of Khadir island in the Great Rann of Kutch, Dholavira has a population of around 2,500. The locals joke about the fact that Pakistan, at 40 km, is nearer than the taluka headquarters, Rapar, 150 km away. District headquarters Bhuj is even further — at more than 200 km the longest distance for a village in Gujarat. A long and lonely road, almost taken over by thickets of gando baval (a babool), leads to Dholavira. The morning after UNESCO included Dholavira as a world heritage site — the first Indus Valley settlement in India to be thus identified — around two dozen men laze around at the main square, unmindful of the odour of cow dung in the air. “There is nothing here to hurry up for... no work,” says Karman Koli, 37, a mason. “If it doesn’t rain well soon, we might be whiling away time like this for the better part of



the year.” “The nearest petrol pump is in Balasar village, 50 km away. Banks, hospitals and high schools are 100 km away, in Rapar,” says Dipak Sanjot, 32, a tourist guide. Agriculture and cattle-herding remain the main occupations, not unlike the time of Indus Valley Civilization. As groundwater is salty, much of the agriculture is rainfed. In good monsoon years, farmers grow pearl millet, guar, green gram etc. But such years are rare, and many sell gando baval as firewood for a living. Power supply also remains erratic, becoming worse in the winters. But it’s drinking water that remains Dholavira’s biggest problem, says Morardan Gadhvi, who runs a provision store. “The groundwater here has TDS (total dissolved solids) higher than 1,000, much above the safe levels. The government laid two pipelines for the Narmada water, but we never got it. Now, they are laying a third pipeline. We hope we will be lucky this time,” he says. Jilubha Sodha, husband of Dholavira sarpanch Ranuba Sodha, says their main source is a tubewell. “The elevation from Balasar to Dholavira is 100 feet and the Gujarat Water Supply and Sewerage Board is finding it challenging to pump the Narmada water to our village,” he adds. For about 30 years now, an alternative has been the motor pump installed in a well by the Archaeological Survey of India (ASI) for a museum on the Harappan city’s premises. Sodha admits that even with the limited water it has, the well, which was abandoned by the village but re-dug by the ASI as it excavated the Harappan ruins, is the only source in the area with TDS lower than 1,000. Hari Om Sharan, the superintending archaeologist of Rajkot circle, which covers Kutch, declines to comment. But sources say water was one way for the ASI to connect with present-day Dholavira. “The villagers cooperated and even put in labour for the long years of excavation. Letting them draw water is one way of repaying them,” says an official. Now, the ruins promise another lifeline — that tourists will flock following the UNESCO tag. “We are confident we won’t have to plead repeatedly for good roads, electricity and water now,” Sodha says, particularly optimistic about the under-construction Ghaduli-Santalpur highway. But, again, time has a way of crawling here. Discovered in 1968, Dholavira was excavated only between 1990 and 2005. A local resident, Shambhudan Gadhvi, and then sarpanch Velubha Sodha kept pressing, villagers say, eventually leading to the excavation that revealed ruins of a city which had a citadel, a middle town, a lower town, reservoirs for fresh water, underground sewerage lines, beadmaking workshops, copper smelters etc. Ravindra Singh Bisht, the archaeologist who oversaw the excavation, says Dholavira was likely a trade and manufacturing hub from 3000 BC to 1500 BC before climate change forced its residents to abandon it. While ASI officials refuse to share numbers, sources say Dholavira sees a maximum of 200 tourists a day, during the November-January season when Dhordo hosts the Rann Utsav. The summer months of March to June see hardly any tourists, with the numbers trickling up to 50-odd a day in monsoon. Hoping to encourage tourists, the authorities don’t charge any entry fee. In the run-up to Dholavira’s inclusion in the UNESCO world heritage list, the Centre released Rs 4 crore for water and sewage connections to the village, and paved street roads. Ashok Vanra, Superintending Engineer of Kutch zone of the water supply board, says the deadline for the new pipeline to get the Narmada water is January next year. Among those looking on silently are 12 farmers whose 72 acres were acquired by the state in early 2000 for the site’s excavation. They moved court against “insufficient” compensation of Rs 3,346 per acre, and haven’t accepted it yet despite losing. “We are proud that Dholavira is now on the world map, but pride doesn’t fill one’s stomach. Our only demand is fair compensation,” says Nagji Parmar, 29. After the family land came under the excavated site, Nagji has been making a living working as a tourist guide. Some tourists are already here trailing the UNESCO news. “After we saw photos of Dholavira on WhatsApp, my friend and I couldn’t resist the 100-km bike ride to here. It amazes me how such a big city could have gone underground,” says Sunil Makwana, 22, who has come

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from Anandpar village in Rapar taluka. A school dropout who works as a farmer, Sunil adds that he remembers reading about Dholavira in textbooks, “but I don’t remember anything now”. Gadhvi, who first thought the site had potential and runs a small homestay for tourists, says, “For decades, Kotdo silently kept doing our bidding. Here we are today, witnessing a new dawn for Dholavira.”



DreamIAS



BUSINESS & ECONOMICS

WORLD BANK TO STOP 'EASE OF DOING BUSINESS' REPORT AS PROBE FINDS 'DATA JUGGLING'

The World Bank Thursday said it would discontinue the practice of issuing Doing Business report following an investigation prompted by internal reports of "data irregularities" in its 2018 and 2020 editions (released in 2017 and 2019, respectively) and possible "ethical matters" involving bank staff. According to an investigation conducted by Washington-based law firm WilmerHale, World Bank staff members changed data on China to improve its ranking on the ease of doing business, under pressure from the office of the then-World Bank president Jim Yong Kim and the then-chief executive Kristalina Georgieva and one of her advisers. Georgieva is the current MD of the International Monetary Fund. The reports were flagged by the World Bank for certain "improper data changes" made in case of four countries — China, Azerbaijan, Saudi Arabia and the UAE — at the behest of senior executives at the bank. "After data irregularities on Doing Business 2018 and 2020 were reported internally in June 2020, World Bank management paused the next Doing Business report and initiated a series of reviews and audits of the report and its methodology. In addition, because the internal reports raised ethical matters, including the conduct of former Board officials as well as current and/or former Bank staff, management reported the allegations to the Bank's appropriate internal accountability mechanisms," the World Bank said in a statement. Notably, in three reports, released in 2017, 2018 and 2019, India ranked among the top 10 economies showing "the most notable improvement". The latest report, published in October 2019, placed India at 63rd in Doing Business, compared with 77th in 2018 and 100 in 2017. Of the 79 positions in the Bank's Doing Business rankings that India gained between 2014 and 2019, 67 rank improvements happened 2017 onwards, with the biggest 30-rank jump happening in the Doing Business 2018 report, released in October 2017. The report published in 2019, which mentioned India and China being among the top 10 improvers, stated that the leaders of these countries adopted the Doing Business indicators as a core component of their reform strategies. The scores for India used to be based on coverage of just two cities, with Mumbai carrying a weight of 47 per cent and Delhi a weight of 53 per cent. An e-mail query sent to the World Bank on the specifics on the data irregularities did not elicit a response at the time of going to press. According to the report released in October 2019, India, along with other top improvers, had implemented 59 regulatory reforms in 2018-19, accounting for a fifth of all reforms recorded worldwide. During 2018-19, India had implemented reforms across parameters such as 'starting a business', 'dealing with construction permits', 'trading across borders', and 'resolving insolvency'. The government's goal was to be among the top 50 economies by 2020. In a statement, the World Bank had said at the time of release that "special focus given by the top leadership of the country, and the persistent efforts made to drive the business reforms agenda, not only at the central level but also at the state level, helped India make significant improvements". China, for which irregularities were noted for the report released on October 31, 2017, held the 78th rank despite a member of the Doing Business leadership approving and authorising submission of the final report on October 16 that year in which China ranked 85th. The change in China's ranking happened after intervention from the bank's top executives and their staffers, as per the investigation report. In the case of Saudi Arabia, in the report released in October 2019, initially the country was placed second in the list of top improvers for that year, followed by Jordan. However, the Doing Business team was instructed "to find a way to alter the data



such that Jordan fell from its first-place position in the top improvers list”, the investigation said. The parameter that was altered to push Saudi Arabia’s score also impacted the UAE’s score because they followed a similar system. For Azerbaijan, involvement from World Bank staffers is believed to have resulted in the country’s score falling compared to previous years.

DELIVERY APPS TO PAY GST FOR RESTAURANTS, COMPLIANCE BURDEN OF SMALL PLAYERS MAY RISE

To prevent revenue leakage from the tax payable by restaurants in the country, the GST Council Friday approved a proposal to make food-delivery platforms like Zomato and Swiggy responsible for collecting and depositing the 5 per cent GST applicable on food with the government, effective January 1. Even as the move may push tax collections from restaurants, it may cause an increase in compliance burden for restaurants as well as the food-aggregators. Most significantly, tax experts pointed out, *the move may result in restaurants having to keep two separate books of accounts — one for their normal business and one for what they supply through online platforms.* Particularly, the move may impact restaurants with annual turnover less than Rs 20 lakh and were not liable to pay GST. “In essence, the compliance burden is likely to be shifted to food aggregators. From a consumer perspective, there should not be a material change because consumer will still pay 5 per cent GST on food. Small restaurants, which have less than Rs 20 lakh of turnover, are exempt from GST but if food-aggregators are made responsible, perhaps GST will be applicable on the smaller restaurants too,” Pratik Jain, partner, Price Waterhouse & Co, LLP said. The pandemic proved to be a shot in the arm for food-delivery platforms and the delivery segment for restaurants with the order volumes for aggregators like Zomato and Swiggy surging to 120 per cent of pre-covid levels towards the end of last year, after the initial lockdowns. This also translated in higher delivery business for restaurants. A Gurugram-based executive said the food-delivery companies are likely to seek meetings with the government in the coming week to get clarifications on certain issues like how the input tax credit will be applicable. However, the biggest red-flag in the process will be for restaurants opting for the *composition scheme*, through which smaller players can get rid of GST formalities. “While food delivery services would constitute e-commerce services, sufficient safeguards need to be taken in subjecting them to GST to ensure that smaller food outlets are protected and consumers do not end up paying more,” MS Mani, Senior Director, Deloitte India said. A senior Finance Ministry official said: “With respect to aggregator, it does not matter whether it is composition or not. It will get excluded from the turnover of the restaurant and aggregator will pay”. “Actually even when they were supplying through Swiggy/Zomato, they should have registered as Swiggy/Zomato to deduct 1 per cent TCS, but it was not happening. These platforms will have to make changes in their systems. It will require some time,” the official added.

COUNCIL RAISES GST ON LOW-COST FOOTWEAR, GARMENTS TO 12%

In its first physical meeting in two years, the GST Council on Friday effected several long-pending tweaks in tax rates including an increase in the GST levied on footwear costing less than ₹1,000 as well as readymade garments and fabrics to 12% from 5%. The new rates on these products, a decision on which had been deferred by the Council over the past year owing to the pandemic’s impact on households, will come into effect from January 1, Finance Minister Nirmala Sitharaman said. The Council approved a special composition scheme for brick kilns with a turnover threshold

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of ₹20 lakh, from April 1, 2022. *Bricks would attract GST at the rate of 6% without input tax credits under the scheme, or 12% with input credits. While this will please States like Uttar Pradesh that had sought a special scheme for brick kilns, a decision on extending such a scheme for other evasion-prone sectors like pan masala, gutkha and sand mining was put off.* The Council also decided to extend the concessional tax rates granted for COVID-19 medicines like Amphotericin B and Remdesivir till December 31, but similar sops offered by the Council at its last meeting in June for equipment like oxygen concentrators will expire on September 30. The Council also decided to make food delivery apps like Swiggy and Zomato liable to collect and remit the taxes on food orders, as opposed to the current system where restaurants providing the food remit the tax. Revenue Secretary Tarun Bajaj stressed this didn't constitute a new or extra tax.

HOW INDIA'S CONSUMER DEMAND GROWTH LOST MOMENTUM

Possibly the most fundamental policy debate around India's economy is about the nature of the economic slowdown. Correctly diagnosing the root cause for India's anaemic growth rate in the recent past is critical to finding the right policy solutions. The key question is: Is India's growth rate being held back due to weak consumer demand or should we blame inadequate supply for being a drag? A quick, albeit incorrect, way would be to look at any one sector or the other and arrive at a conclusion. For example, many who argue that India's economic slowdown is not because of weak demand, and rather due to supply bottlenecks while pointing to carmakers struggling to meet demand owing to a global chip shortage. Others could counter it by looking at some other variable, say the box office sales, and argue that consumer demand is still weak. Instead of picking and choosing sectors and industries, a more robust way would be to look at the official data for Gross Domestic Product, which is the monetary measure of the country's total output. The key variable to track within the GDP table is the Private Final Consumption Expenditure (PFCE). A look at how this variable has grown over the years should give us a decent understanding of whether India suffers from weak consumer demand.

What is PFCE and what is its significance?

The GDP is calculated by capturing the total expenditures of different components of the economy. So it adds up the expenditure by private individuals (*PFCE*), by the businesses investing money to ramp up production (Gross Fixed Capital Formation or *GFCF*), and all the spending by the government (Government Final Consumption Expenditure or *GFCE*). In India, *the PFCE accounts for 55%-56% of all national GDP in a year and is, quite obviously, the biggest driver of economic growth.* But apart from its direct influence of 55%, it also indirectly influences the next biggest driver of India's GDP — the Gross Fixed Capital Formation (*GFCF*). *The GFCF is nothing but a measure of the money spent by businesses when they make investments, and it accounts for 33% of all GDP.* It is crucial to understand the economic logic that links these two biggest drivers of economic growth which together account for 88% to 89% of all GDP in India. *If consumer demand slows down, it robs the businesses of any incentive to boost productive capacities by making fresh investments. More precisely, just boosting investments — without regard for demand — will not make sense.* The tremendously weighty role of private consumer demand in boosting India's GDP makes it the most important factor determining India's economic fortunes. The third driver of GDP is government spending (*GFCE*), and it accounts for 10%-11% of all GDP. It should typically be counter-cyclical. In other words, when the rest of the economy is doing well — consumers are



demanding lots of goods and businesses are investing in new capacities to furnish such demand — the government should try to limit its spending in such a manner that it does not hurt (or “**crowd out**”) private sector firms from accessing credit and markets. But when consumer demand is weak, and firms are holding back (justifiably) from making fresh investments, the government should ramp up its spending to jump-start the economy and, hopefully, “crowd in” the private sector in the growth process. The fourth engine — net exports or the net effect of India’s demand for imports and the Rest of the World’s demand for our products (exports) — is quite small in India’s case.

How has consumer demand grown over the years?

Private consumption expenditure grew at an annual rate of 8.2% between 2004-05 (Financial Year 2005 or FY05) and 2011-12. Then, between FY12 and FY20 (that is, just before Covid hit India), its annual growth slowed down to 6.8%. In fact, if one further zooms into the years FY17 (after which India’s GDP growth rate started decelerating sharply) and FY20, the PFCE annual growth rate had slowed to 6.4%. Then came Covid-induced lockdowns in FY21 and they destroyed the already weakening demand. If we include FY21 as well, then the PFCE growth rate since FY12 falls to below 5% per annum.

What about the current year?

Of course, in FY22, the current financial year, the Indian economy is expected to register a recovery. Even if we assume that at the end of the current financial year, PFCE would grow at the same rate — 6.8% — that it had in the eight years before Covid, the FY12 to FY22 annual growth rate would barely rise above 5%. But what is most revealing is if one forecasts the growth rate between FY17 and FY22 based on the same assumption; such a calculation throws up an annual growth rate of just 3.2%. Comparing this 3.2% annual growth rate in private consumption expenditure in the past five years with the preceding years, especially the 8.2% annual growth rate during FY05 and FY11, which was the best phase of GDP growth in India’s history, shows how India’s consumer demand lost its growth momentum.

What is the implication?

The most important implication of weak consumer demand is that investments by corporations are unlikely to pick up in a hurry. They are expected to remain subdued for the coming year or two as indeed they were in the years preceding the pandemic despite historic cuts in corporate tax rates in 2019. For instance, GFCF grew by just 3.9% every year between FY12 and FY20. It grew by 10.9% per annum between FY05 and FY11.

Still, does India have a supply problem?

A good measure of whether India has inadequate supply capacity or not is the rate of capacity utilisation. The data from repeated RBI’s OBICUS (Order Books, Inventories and Capacity Utilisation Survey) show how capacity utilisation has struggled to breach the 75% mark. Clearly, firms have been working far below their full capacity for several years now. Of course, Covid disruptions have created several bottlenecks or broken supply chains, say, due to shortage of labour etc., and this is reflected in delays and price inflation. But, as the analysis above shows, the truly substantive issue holding back India’s growth — and this holds true for the period before



Covid as well — is the weak growth in consumer demand. Unless this variable improves sharply, India's GDP growth will fail to achieve its potential.

WHAT THE Q1 GDP NUMBERS SAY

India's GDP data for Q1 of 2021-22 was released by the National Statistical Office (NSO) on August 31, 2021. Real GDP growth at 20.1% in Q1 of 2021-22 is largely because of the contraction of 24.4% in the corresponding quarter of the first COVID-19 year, that is, 2020-21. Even with this high growth, the magnitude of real GDP fell short of the corresponding level in 2019-20 by a margin of ₹3.3 lakh crore. *A growth rate of 32.3% was required in Q1 of 2021-22 for achieving the same level of real GDP as in Q1 of 2019-20.*

Annual growth prospects

The Indian economy would have done better in Q1 of 2021-22 had its performance not been beset by the adverse impact of COVID-19's second wave which largely affected the months of April and May 2021. The Q1 2021-22 output and GDP growth data reflect a strong base effect since the corresponding levels of Q1 of 2020-21 were significantly adversely impacted by the first wave of COVID-19. While the economic impact of the first wave was more severe, the health impact of the second wave was more serious. This occurred because of the difference in the nature and scope of lockdowns in the two waves. *An interesting issue is to utilise the Q1 national income data to formulate views on how much additional growth would be required for the Indian economy in the remaining three quarters of the current year in order to clock the annual growth of 9.5% as forecast by both the Reserve Bank of India and the International Monetary Fund. We estimate that an average growth of 6.8% in the remaining part of the year would enable the Indian economy to meet this target. This should easily be feasible in Q2 since there would still be the benefit of a base effect, considering a contraction of 7.4% in Q2 of 2020-21. The task would become relatively more demanding in Q3 and Q4 considering that the real GDP growth was positive at 0.5% and 1.6%, respectively, in the corresponding quarters of 2020-21.* The largest segment of GDP viewed from the demand side is *private final consumption expenditure (PFCE)*. Its average share over the last three years (2018-19 to 2020-21) was 56.5%. In Q1 of 2021-22, PFCE grew by 19.3%, which is marginally below the overall GDP growth. At the same time, it is notable that the contraction in PFCE in the corresponding quarter of 2020-21 was relatively larger at 26.2%. Thus, if PFCE were to reach back the 2019-20 level, it should have grown by 35.5% in this quarter. *The recovery in private consumption demand is lagging behind the overall GDP growth.* Since private consumption depends largely on income growth and its distribution, it would be useful to focus on further supporting income and employment levels for the MSMEs and informal sectors of the economy which have a higher propensity to consume. On the demand side, noticeable positive outcomes in Q1 of 2021-22 came from *exports* and to some extent, from investment as reflected by *gross fixed capital formation (GFCF)*. Exports grew by 39.1% over a contraction of 21.8% in Q1 of 2020-21. This differential is reflected in a positive growth of 8.7% over the export level in the corresponding quarter of 2019-20. *In the case of GFCF, the base effect was quite large. Despite a growth of 55.3% in Q1 of 2021-22, its magnitude was still 17.1% lower than the corresponding level in Q1 of 2019-20.* The *only demand segment which contracted even with reference to Q1 of 2020-21 was government final consumption expenditure (GFCE)*. This contraction was by a margin of (-) 4.8%.



The output side

The performance of the economy when viewed from the output side largely points to the adverse impact of COVID-19's second wave which dragged the performance of the key service sector — namely *trade, transport, storage* et al. This sector grew by 34.3% in Q1 of 2021-22 as compared to a contraction of 48.1% in Q1 of 2020-21. However, relative to its level in Q1 of 2019-20, the output of this large service sector was significantly lower by 30.2% in Q1 of 2021-22. Though *public administration, defence* and other services showed a growth of 5.8% in Q1 of 2021-22 over Q1 of 2020-21, they actually reflected a contraction of 5.0% as compared to Q1 of 2019-20. The key positive news came from the *agricultural sector* which showed a growth of 4.5% in Q1 of 2021-22, in continuation of annual growth of 3.6% in 2020-21. Given agriculture's positive growth in all the quarters of 2020-21, further contribution from this sector to the overall growth may not be expected. Its average weight to the overall output is also low at about 15%. It is the high weight manufacturing sector and the two substantive service sectors — trade, transport et. al and financial, real estate et al. — which will have to support growth in the remaining part of the year. Construction and electricity, gas, water supply and other sectors have already started showing a robust recovery. These may respond further to the government's emphasis on expanding investment in infrastructure.

Fiscal prospects

The government's intervention in the economy is reflected by the performance of GFCE on the demand side, and the public administration, defence and other services sector on the output side. In both cases, as noted earlier, the growth in Q1 of 2021-22 was less than desirable given the improvement in the Centre's tax revenue performance. *Fiscal data of the Controller General of Accounts released on August 31, 2021 shows that the Centre's gross tax revenues (GTR) grew sharply by 83.1% in April-July of 2021-22 over the corresponding period of 2020-21 and by 29.1% over the corresponding period of 2019-20.* The Centre's fiscal deficit in the first four months of 2021-22 amounted to only 21.3% of the budgeted target as compared to the corresponding average level of 90% over the last four years. Clearly, a significant policy space is opening up for the government to raise its demand and its contribution to output in the remaining part of the current fiscal year. Attempts should be made either to bypass or at least curb the adverse impact of COVID-19's likely third wave. Given the fiscal room, both the coverage of vaccination and the pace of investment in health infrastructure should be accelerated within the strategy of expanding the overall infrastructure investment. As revenues improve, expenditures can be increased. There is no need to reduce the fiscal deficit below the budgeted level of 6.8% of GDP. Even a growth rate of 9.5% in the current year will mean that over two years, the Indian economy had an annual growth rate of 1.1%. The real test will come in 2022-23. Will the Indian economy get back to a higher growth path of 7%? We need a faster rate of growth to make up for the loss of output in the previous two years from the trend rate. We must lay the foundation for a faster growth in this year itself.

TO PUSH PRODUCTION, CABINET CLEARS RS 26,058-CRORE PLI FOR AUTOMOTIVE SECTOR

The union Cabinet on Wednesday approved a Rs 26,058-crore Production Linked Incentive (PLI) scheme for automobile, auto component and drone manufacturers to boost their domestic



production capabilities. The scheme aims to enhance manufacturing of advanced automobiles, including electric vehicles, and auto components in India. According to the government, the scheme is expected to attract additional investment of Rs 42,500 crore to the automobile sector and generate 7.6 lakh jobs, according to the government. The total outlay of the scheme is, however, less than half of the previously announced Rs 57,000 crore expenditure that was planned for the automobile sector. “The scheme will strengthen the manufacturing capacity of advanced automobile vehicles and drones,” said Information & Broadcasting Minister Anurag Singh Thakur, adding the scheme was expected to generate incremental turnover of Rs 2.3 lakh crore in the automobile sector. The scheme includes incentives of Rs 25,938 crore for the automobile and auto component manufacturers and Rs 120 crore for drone manufacturers. When asked about the smaller outlay than what was previously announced, Thakur said the scheme had been designed after consultations with the industry. “It is necessary to increase India’s share of global automotive trade from 2 per cent currently,” Thakur said, adding the scheme would also help reduce annual automobile component imports of \$17 billion and help Indian companies become part of the global supply chain of advanced automobile components. *Selected auto companies have to put in a new investment of minimum Rs 2,000 crore in five years and for 2-3 wheeler firms, the target is Rs 1,000 crore.* Similarly in the component segment, selected firms would have to invest Rs 250 crore in five years and Rs 500 crore for new investors. Thakur clarified that besides this scheme, *manufacturers would continue to get benefits under the existing Rs 18,100 crore PLI scheme for advanced chemistry cells and the Rs 10,000 crore Faster Adoption of Manufacturing of Electric Vehicles (FAME) scheme.* “Encouraging production of auto components using advanced technologies will boost localisation, domestic manufacturing and also attract foreign investments. This will help component manufacturers strive for scale, which will require setting up of new facilities and create more jobs,” said Girish Wagh, executive director at Tata Motors. *Incentives for auto manufacturers will range from 13 per cent for turnover of Rs 2,000 crore to 16 per cent for sales of up to Rs 4,000 crore. Additionally, automobile companies reaching a cumulative turnover of over Rs 10,000 crore over five years will get further incentive of 2 per cent. Auto component manufacturers will get incentives ranging from 8 per cent for turnover of Rs 250 crore to 11 per cent for turnover of up to Rs 750 crore as well as an additional incentive of 5 per cent for manufacturers of battery vehicles and hydrogen fuel cell components.* “This will strengthen battery and powertrain manufacturing in India,” said Thakur about the incentives for auto component manufacturers. *The PLI scheme for drone manufacturing is expected to attract investments of Rs 5,000 crore over three years and create 10,000 jobs.*

TRANSIENT EASING

The latest retail inflation data suggest, at first flush, that price pressures have begun to moderate in the economy, with the August print for CPI showing inflation having slowed for a second straight month to a 5.3% pace, after July’s 5.59%. Price trends among the constituents of the Consumer Price Index and the latest Wholesale Price Index-based inflation, however, show that it would be premature to drop the guard on price gains. For one, *the year-earlier inflation reading was elevated thus imparting a favourable base effect. Month-on-month, however, the CPI nudged up 0.25% from July, belying the inference of softening inflation. And the pace of price gains in at least three essential food components speeded up from the preceding month, with meat and fish, dairy and oils and fats posting significant accelerations. Edible oils have been on a tear for months now — the August print was 33% after July’s 32.5% — and an earlier round of cuts in import duties have had*

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little impact in cooling their prices, forcing the Centre to announce another tranche of duty reductions this month. Inflation in two other vital protein sources, eggs and pulses, also continued to remain a cause for concern. While inflation in eggs remained in the high teens at 16.3%, price increase in pulses was 8.81% after slowing 23 basis points from July's 9.04% pace. *A persistent and wider deflation in vegetable prices was the main positive contributor to the easing in overall food and beverages inflation last month. The pace of inflation in fuel and light, clothing and footwear, health as well as household goods and services all ratcheted up last month.* Transport and communication, which includes pump prices of the main automotive fuels of petrol and diesel, stayed stuck in double digits at 10.2% albeit after a 30 basis points easing from July's 10.5% pace. And the WPI data show higher transportation costs combined with input price pressures fanned faster inflation in manufactured products as well, sending the segment's pace to 11.4%, a fourth straight month of double-digit price gains. The outlook for inflation is far from sanguine if one considers that IHS Markit's PMI survey for services revealed input costs rose in August at the fastest rate in four months, and a recent CII poll of CEOs showed a majority 67% expect average retail inflation this year to hover close to or exceed the RBI's mandated monetary policy upper threshold of 6%. Policymakers are only too well aware that ultimately, inflation is not just about a point reading but far more about consumers' and businesses' expectations of the trend in prices. Fears of future high inflation dampen sentiment and thus retard economic activity. Cutting fuel taxes is a sure-shot way to address a major component of price pressures and it is time the Government bites the bullet and acts to provide a more abiding solution.

SC: RESOLUTION CAN'T BE ALTERED AS IT MAY CREATE 'TIER OF NEGOTIATIONS'

The Supreme Court's ruling Monday that an insolvency resolution plan, once approved by the Committee of Creditors (CoC), cannot be allowed to be withdrawn or modified comes in the wake of separate appeals filed by three different companies. They had all sought to either withdraw their plans after approval, or sought to modify the same.

Why did the companies want to withdraw their resolution plan after CoC approval?

Of the three, the first appeal was moved by Ebix Singapore, which had filed a resolution plan for Educomp. The said resolution plan was approved by the CoC in February 2018, but failed to pass the muster of 75 per cent creditors approving the plan. However, the plan was later approved and passed after a creditor, who had initially abstained from voting, wrote to the Resolution Professional (RP) that they could not participate in the voting due to a technical error, and that their vote should be considered in affirmative for the plan. *Before the plan could be approved by the NCLT, some creditors of Educomp moved the NCLT seeking an investigation into the affairs of the company since there were reports of mismanagement and money laundering against the company. Based on these reports and other concerns, Ebix too filed a withdrawal application, stating that the approval application had been pending before the NCLT for far too long.*

What does NCLT and NCLAT say on withdrawal on CoC approved resolution plans?

Though the NCLT had twice rejected the withdrawal application filed by Ebix, it had approved the same the third time, which was subsequently overturned by the National Company Law Appellate Tribunal (NCLAT). In its third order, allowing the withdrawal, the NCLT had held that though a resolution plan becomes binding after it is approved, since Ebix was a "unwilling successful



resolution applicant”, it would be unable to effectively implement the said resolution plan. The NCLAT, however, overturned this order and said that NCLT did not have the jurisdiction to permit withdrawal after the plan had been approved by the CoC.

What did the Supreme Court say on the various withdrawal appeals filed by companies?

In its judgment, the SC has categorically said that the only process of withdrawal from IBC is by following the procedure detailed in Section 12A, which says that the corporate debtor must get approval of more than 90 per cent of creditors to take the company out of the resolution plan. “Enabling withdrawals or modifications of the Resolution Plan at the behest of the successful Resolution Applicant, once it has been submitted to the Adjudicating Authority after due compliance with the procedural requirements and timelines, would create another tier of negotiations which will be wholly unregulated by the statute,” the SC said in the judgment.

POST SC NUDGE, GOVT APPOINTS 31 MEMBERS TO NCLT, ITAT

*The government has appointed 31 members to the Benches of the National Company Law Tribunal (NCLT) and the Income Tax Appellate Tribunal (ITAT) after the Supreme Court urged the government to fill vacancies immediately. The Appointments Committee of the Cabinet approved the appointment of eight judicial and 10 technical members to the NCLT as well as six judicial members and seven accountant members to the ITAT, according to a communication by the Department of Personnel and Training on Saturday. The Bench noted that it did not want a confrontation with the government on this issue. *The appointments to the NCLT are for five years or until the member reaches the age of 65 while appointments to the ITAT are for 4 years or until the members reach the age of 67.* The Supreme Court had called out the government last week, saying the government had “emasculated” tribunals, such as the NCLT, by not appointing members. The court noted that a “critical situation has arisen” due to the vacancies at the NCLT and the National Company Law Appellate Tribunal (NCLAT) with respect to the completion of corporate bankruptcy proceedings. *Seventy five per cent of the 4,541 corporate insolvency cases that were ongoing at the end of June had crossed the 270-day threshold. The bankruptcy law requires that corporate insolvency proceedings be completed within 330 days, including a 60 day allowance for litigation. Cases that do not yield a successful resolution are required to be sent for liquidation barring exceptional cases.* The Bench had said it expected appointments by September 13, the next date of hearing. *Benches of the NCLT deal with matters pertaining to company law as well as bankruptcy resolution while the ITAT deals with appeals related to income tax matters.* The industry has flagged concerns about long pending vacancies at the NCLT as a key reason behind delays in bankruptcy resolution under the Insolvency and Bankruptcy Code. *The Standing Committee on Finance had also called out the government on the impact of vacancies at the NCLT, which is also operating without a full-time president, and the NCLAT, which is operating without a full-time Chairperson.* “There is no respect for the judgments of this court, that is what we are feeling. There is testing the patience of the court...,” Chief Justice of India N V Ramana, heading a three-judge Bench with Justices L Nageswara Rao and D Y Chandrachud, told Solicitor General Tushar Mehta.*



GOVT. SETS UP 'BAD BANK' TO CLEAR THE NPA MESS

Paving the way for a major clean-up of bad loans in the banking system, the Cabinet on Wednesday cleared a ₹30,600 crore guarantee programme for securities to be issued by the newly incorporated 'bad bank' for taking over and resolving non-performing assets (NPAs) amounting to ₹2 lakh crore. The Reserve Bank of India is in the process of granting a licence for the National Asset Reconstruction Company Limited (NARCL), following which toxic assets worth ₹90,000 crore that banks have already fully provided for will move to the NARCL, Financial Services Secretary Debashish Panda said. Finance Minister Nirmala Sitharaman said the Cabinet's decision, to extend a five-year guarantee for NARCL-issued security receipts to banks, completed the entire cycle of cleaning up India's banking system that began with the recognition of the extent of bad loans in 2015. Under the mechanism, the NARCL will acquire assets by making an offer to the lead bank. Private sector asset reconstruction firms (ARCs) may also be allowed to outbid the NARCL. Separately, public and private lenders would combine forces to set up an India Debt Resolution Company (IDRC) that would manage these assets and try to raise their value for final resolution.

'Back-stop arrangement'

"A 15% cash payment would be made to the banks based on some valuation and the rest will be given as security receipts. For those to hold on and have their value intact, there is a need for the government to give a back-stop arrangement and that is why this ₹30,600 crore has been cleared by the Cabinet," Ms. Sitharaman said. Once the NARCL and the IDRC have finally resolved the asset, preferably as a going concern and not through liquidation proceedings, the Minister said the balance 85% held as security receipts would be given to the banks. While there are 28 ARCs in the private sector, she said there was a need for government-backed receipts for big ticket resolutions. "The government back-stop will come in only as much as to pay the gap between the realised value and the face value of those receipts and this will hold good for only five years," she explained. "The whole idea is to ensure that these assets for which this whole set-up is being created, and the value that is locked in the assets is realised and comes back to the banks; they use it as a growth capital and the banking system becomes more robust," Mr. Panda said. "In all probability, some assets may have an upside, [and] by using the guarantee as a backstop, the entire upside will also come to the banks rather than getting retained by the NARCL," the Financial Services Secretary said. The five-year limit on the guarantee, with an increase in the fees charged for the guarantee every year, is an incentive for the resolution process to be completed at the earliest, he added. "We have addressed the issues facing the banking system in totality that in 2015 was a major challenge for the economy. The twin balance sheet problem which caused a lot of stress ... today, we have resolved this in a holistic way. Within those five years, all these [NPAs] will have to be resolved," Ms. Sitharaman emphasised. The government guarantee for the proposed security receipts is a positive stepping stone for unlocking stressed assets' value, said ICRA vice-president in charge of financial sector ratings Anil Gupta. "The upfront cash payment by the NARCL will immediately be accretive for the profitability and capital of the banks, however the ability of the NARCL to resolve these assets in a time-bound manner will be critical for future provision writeback by banks," Mr. Gupta noted. J. Sagar Associates' partner Anish Mashruwala said the bad bank's success would depend on the implementation and management of the transferred NPAs and it was likely that the government would keep a close eye on the management of the IDRC.



DEBT OF HOUSEHOLDS SURGED BETWEEN 2012 AND '18: NSO

The number of indebted households have risen sharply in rural India, with the average debt shooting up by 84% between 2012 and 2018, and COVID-19 has likely further doubled all households' borrowings by 2021. Rural households' average debt grew from ₹32,522 in 2012 to ₹59,748 by June 2018, according to the All India Debt & Investment Survey conducted by the National Statistical Office (NSO) over 2019, while urban households' average debt increased by 42% in the same period to little more than ₹1.20 lakh.

'Urban debt static'

The number of households in debt as measured by the incidence of indebtedness among surveyed households, had risen to 35% in rural India from 31.4% in the previous survey, while it remained static at 22.4% for urban households. "We project that household debt in rural and urban areas might have doubled in 2021 from the 2018 levels," SBI group chief economic adviser Soumya Kanti Ghosh said in a report on Wednesday, estimating that the rural household debt increased to ₹1.16 lakh and urban households' debt to ₹2.33 lakh. "This indicates that COVID impacted households significantly," he said.

DELAYING THE INEVITABLE

The Union Cabinet's approval on Wednesday of a relief-cum-reforms package for the financially stressed telecom sector, though verily a step in the right direction, is at best only likely to delay the inevitable. In a tacit acknowledgment of the extent of stress in the sector as well as the far-reaching economic consequences of protracted distress in the industry, *the Government decided to offer telecom service providers the option of a four-year moratorium on the payment of outstanding AGR and spectrum purchase dues.* This one measure alone is expected to ease the immediate financial pressure on the telcos, especially at Vodafone Idea and Bharti Airtel. The venture created by the merger of the Indian unit of the U.K.-based Vodafone Group Plc and billionaire Kumar Mangalam Birla's erstwhile Idea Cellular Ltd. had deferred spectrum payment obligations and AGR liabilities that exceeded ₹1.68-lakh crore as of June 30. The Government's moratorium offer should, at least for now, relieve the burden of finding the funds to service these liabilities at the loss-making telco, giving it the space to focus on continuing to provide vital telecom services to about 27 crore wireless subscribers still with it. However, the woes at Vodafone Idea are deeper and symptomatic of the broader industry-wide maladies that have pared the once more-than-dozen-strong field to just three private players and one struggling state-owned company. The entry of a deep-pocketed newcomer five years ago and its 'take-no-prisoners approach' to tariffs triggered a price war that depressed average revenue per user and bled most legacy telcos operationally into the red. *The after-effects of the bruising competitive plunge in call and data tariffs are still being felt by the surviving operators and the issue of a floor price is one among many that the latest reforms completely skirt.* To be sure, the Government has sought to address several anomalies in the policy regime including the definition of AGR that had led to the large build-up of dues and protracted and ultimately pointless litigation. *Non-telecom revenue will hereafter be excluded from the AGR, a long-standing demand from the telcos. The telcos would also not have to pay any spectrum usage charge for airwaves acquired in future auctions, could share spectrum without incurring any additional cost, and hold the airwaves acquired at an*



auction for 30 years instead of 20. Several procedural norms have also been simplified. Still, the prospects of the sector diminishing to a duopoly remain high. With Vodafone Group CEO Nick Read categorically telling analysts in July that the firm would not be investing any additional equity into India and Mr. Birla throwing in the towel last month, the Centre's relief may be too little, too late.

TELCO PLAYERS OBJECT TO REVISED LOCALLY SOURCED PRODUCT POLICY

The Department of Telecommunications (DoT) has received several objections from domestic telecom equipment manufacturers and trade bodies over the past 10 days for changing the definition of locally sourced products, which qualify for public procurement, sources said. In separate letters to Telecom Minister Ashwini Vaishnaw, the DoT, and the Department for Promotion of Industry and Internal Trade (DPIIT) Secretary, the Telecom Equipment Manufacturers Association of India (Tema) has said the DoT's move to classify even imported telecom products as local for public procurement purposes was "retrograde" and would hurt the government's 'Make in India' policy. *The move, Tema said in its letter to Vaishnaw, would permit 100 per cent import from China and other countries and make them eligible for public procurement preference "by simply assembling without even having 0.1 per cent of local components and without any emphasis on R&D, design development or IPR".* On August 31, the DoT issued a list of 25 telecom products, such as satellite phones, optical fibre and cables, ethernet switches, and optical fibre, which it said would qualify as local products even if they used imported components for domestic manufacturing. *The new notification, which is in supersession of August 2018 notification, says some of the products, even if brought to India in completely knocked down stage would be considered local and be eligible to be used in works of public sector companies.* The DoT's move, executives said, would hurt local companies which had been "aggressively planning expansion" owing to Make in India and preference planned for domestic firms. *"These products and services are now not required to comply with the Telecommunication Engineering Center (TEC)'s general and interface requirements.* It pits the likes of Nokia, Cisco, and Ericsson against small domestic companies, who have spent so much time and energy for R&D and design so that their products meet Indian TEC standards," a telecom equipment maker said. Industry executives have also questioned the rationale behind the decision, asking how the DoT decided that the domestic capacity and capability of these products disappeared since 2018, when the initial notification was issued. "There were 63 products which were brought in the list after due consultation from all trade bodies, domestic and foreign companies. This time the list has been brought down to 25, without any consultation from us," another industry executive said. The Telecom Equipment and Services Export Promotion Council (Tepc), which also has government nominated members, has also written to the DoT Secretary, arguing the policy would encourage "multi-national companies" to "inflate the prices of the imported parts, components to achieve the requisite level of 'local contents' of their telecom products".

AFTER GM, HARLEY, FORD MOTOR DRIVES OUT, SHUTS PLANTS

Ford Motor Company, one of the first global carmakers to enter the Indian market following the liberalisation that began in 1991, has decided to end manufacturing operations in the country. The American company said it had accumulated losses of over \$ 2 billion in the last 10 years, and that the phased closure of its two production units in Sanand, Gujarat, and Chennai, Tamil Nadu, would

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



affect approximately 4,000 employees. *Ford joins a growing list of global vehicle makers that have stopped operations in the world's fourth largest automobile market over the last five years.* In that list are Ford's American rival General Motors (GM) and the American motorcycle company Harley-Davidson. Ford's announcement came just months after discussions to transfer its operations to local rival Mahindra & Mahindra were called off. Ford in India was also reported to be in talks with mobility tech company Ola for the latter's plan to manufacture electric scooters, before Ola decided to go alone and set up a gigafactory of its own. *The Dearborn, Michigan-headquartered auto major's two plants in India have an annual manufacturing capacity of 400,000 units, but lately it had been operating at a utilisation of 20 per cent, half of which was being exported.* In August, Ford had a share of 1.4 per cent in the Indian market, which is *dominated by Japan's Maruti Suzuki and South Korea's Hyundai Motor, who together have more than 60 per cent share.* Ford India said that it would continue to sell imported CBU (Completely Built-up Unit) models, and would "significantly expand its 11,000-employee Business Solutions team in India in coming years to support Ford globally". "As part of our Ford+ plan, we are taking difficult but necessary actions to deliver a sustainably profitable business longer-term and allocate our capital to grow and create value in the right areas," Jim Farley, president and CEO of Ford Motor Company, said. *Before Ford, GM closed its manufacturing unit in Halol, Gujarat, in 2017, and sold its Talegaon, Maharashtra, facility to China-based Great Wall Motors. GM subsequently stopped sales in India citing mounting losses and near-negligible sales.* In September last year, *Harley-Davidson announced the closure of its production facility in Bawal, Haryana, in addition to "significantly reducing" the size of its sales operations in Gurgaon.* In a statement, Ford said it would cease manufacturing vehicles for sale in India immediately. Manufacturing for export will wind down at the Sanand vehicle assembly plant by October-December 2021, and at the Chennai engine and vehicle assembly plants by April-June 2022. "More than 500 employees at the Sanand engine plant, which produces engines for export for the best-selling Ranger pickup truck, and about 100 employees supporting parts distribution and customer service, also will continue to support Ford's business in India," the statement said. At the annual convention of the Society of Indian Automobile Manufacturers (SIAM) last month, top executives of vehicle makers had raised concerns over high taxation and rising fuel costs.

OLA TO SET UP 'WORLD'S LARGEST WOMEN-ONLY PLANT' FOR E-SCOOTERS; EMPLOY OVER 10,000

The 1-crore units a year electric two-wheeler manufacturing plant being set up by Ola will be entirely run by women, the company's co-founder Bhavish Aggarwal said Monday in a blog post, adding at full scale, the factory will employ over 10,000 women. "We welcomed the first batch this week and at full capacity, Futurefactory will employ over 10,000 women, making it the world's largest women-only factory and the only all-women automotive manufacturing facility globally," Aggarwal wrote. Last month, Ola unveiled its S1 electric scooter, which was expected to go on sale starting September 8 but was subsequently delayed to September 15, on account of "technical difficulties" with the company's website. *At the Tamil Nadu facility, which Ola claims will be the world's largest scooter manufacturing plant, the company will initially start production at a capacity of 10 lakh units a year, later expanding it to 20 lakh units annually, as part of the first phase.* The company has plans to deploy more than 5,000 robots across various functions. Ola had stated earlier that it would manufacture these vehicles on Industry 4.0 principles. For the same, it has tied up with Siemens and ABB to leverage their tech. As part of the agreement with Siemens, Ola has access to the company's integrated 'Digital Twin' design and manufacturing solutions to

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



digitalise and validate product and production ahead of actual operations. Also, Ola has deployed ABB's automation solutions in its factory's key manufacturing process lines, including its painting and welding lines, while the ABB robots are being deployed extensively for the battery and motor assembly lines. Aggarwal said the company has invested significantly to train and upskill women workers in core manufacturing skills and they will be responsible for the entire production of every vehicle at Ola Futurefactory, towards which the company has announced investment of Rs 2,400 crore.

TATA GROUP SUBMITS FINANCIAL BID TO ACQUIRE AIR INDIA

The Tata Group has submitted a financial bid for acquiring Air India, which the government plans to privatise. The group's holding company Tata Sons confirmed the bid but declined to divulge details. *Tata Sons has an 83.7% stake in AirAsia India and holds 51% in Vistara, a joint venture with Singapore Airlines.* The government confirmed that it had received bids from several parties. Spicejet chairman Ajay Singh is also said to have submitted a financial bid, according to multiple media reports. Secretary, Department of Investment & Public Asset Management, said in a tweet, "Financial bids for Air India disinvestment received by transaction adviser. Process now moves to concluding stage." E&Y is the transaction adviser. Wednesday was the last date for submitting financial bids. According to people familiar with the process, the disinvestment should be completed "towards the end of this financial year". *The government had decided to sell 100% stake in Air India along with low-cost subsidiary Air India Express. It also plans to sell its 50% stake in the ground-handling joint venture Air India SATS Airport Services Pvt. Ltd. Founded in 1932 as Tata Airlines, the carrier was renamed as Air India in 1946 and nationalised in 1953.*

WILL THE NEW SCHEME HELP TEXTILE INDUSTRY?

Ten months after it first approved a Production Linked Incentive (PLI) scheme for the textile sector, the Union Cabinet cleared it on September 8, after the Ministry of Textiles incorporated suggestions from the industry. With a total budgeted outlay of ₹10,683 crore, the government has designed the scheme with a view to providing a big fillip to the man-made fibres and technical textiles segments of the industry.

What are the details of the scheme?

The scheme is aimed at promoting industries that invest in the production of 64 select products. The product lines include 40 in man-made fibre apparel, 14 in man-made fibre fabrics, and 10 technical textile segments/products. The investment period is two years, and the incentive will be paid for five years after the first year of post-investment operation. The scheme is for two types of investments. *The first entails a minimum of ₹300 crore in plant, machinery, equipment and civil works in a unit that must register a minimum turnover of ₹600 crore once it commences operation. The second is for a minimum of ₹100 crore, where the business achieves a minimum turnover of ₹200 crore.* Thus, *the incentive is based on a combination of investment and turnover.* While details of the 64 specific products are expected to be announced once the scheme is notified — officials expect it by the end of this month — the government has indicated that *the incentive for the higher investment scheme would start at 15% of the turnover for the first year, and 11% in the case of the lower turnover plan,*



decreasing gradually by 1% each subsequent year over the next four years for both schemes. Priority will also be given to investment in aspirational districts, Tier-3, Tier-4 towns, and rural areas.

Why the stress on man-made fibre?

The scheme focuses on the man-made fibre segment to enable the Indian textile and clothing sector to regain its dominant status in the global textiles trade. Currently, Indian production and export of textile and clothing products are largely cotton-based. In 2018-19, while Indian textile and clothing exports amounted to about \$36 billion, less than one-third was man-made fibre-based. In contrast, of the total textile and clothing exports by China, it is estimated that almost 80% are man-made fibre-based. Similarly, *of the total global fibre manufacturing and consumption, 70% is man-made fibre-related, while in India it is just about 35%.* Annual textile and clothing exports have remained largely stagnant over the last seven years, and stuck in the range of \$30 billion-\$35 billion. *India is ranked sixth in the global trade in this sector. Added to this, in recent years, countries including Bangladesh and Vietnam have gained a sizeable share in the man-made fibre segment of the global textile trade, making it all the more vital for India to provide policy support to ensure the country remains competitive internationally.* Though the final list of products eligible for the scheme is yet to be notified, it is expected that most of the top globally traded man-made fibre product lines in which India's share is less than 5% will be covered.

How will it impact traditional textiles such as jute?

The scheme will not impact traditional textile segments such as jute or cotton. It has minimum investment thresholds and select product lines and hence targets a limited number of players. The traditional segments have a large number of industries spread across micro, small and medium enterprises and large-scale operations. They will continue to invest and grow in the fields they are strong in.

Will the scheme help lower dependence on imports?

During 2018-19, the import of man-made fibre garments jumped 39% from the previous year, while the import of the man-made fibre yarn, fabrics, and made-ups rose 16%. *With the government recently removing the anti-dumping duty on viscose staple fibre and Purified Terephthalic Acid, most man-made fibre is now available in India at internationally competitive prices.* With an incentive to invest in production too, Indian manufacturing of man-made fibre value-added products is expected to increase and thus bring down imports, especially of man-made fibre apparel and fabrics, from countries such as China and Bangladesh.

What lies ahead?

The government has said the scheme will help attract ₹19,000 crore of fresh investments and generate 7.5 lakh jobs. The expectation is that it will motivate industries to make fresh investments in the select product lines and scale up capacities. Global retail brands, which are present in India and sourcing man-made fibre-based apparel from other countries, are likely to start sourcing from India once the garments become available at internationally competitive prices.



OIL PALM PLAN IS A RECIPE FOR DISASTER

Given the widespread destruction of rainforests and native biodiversity caused by oil palm plantations in Southeast Asia, environmental experts and politicians are warning that the Union government's move to promote their cultivation in the northeastern States and in the Andaman and Nicobar Islands can be disastrous. Other concerns include the impact on community ownership of tribal lands, as well as the fact that the oil palm is a water-guzzling, monoculture crop with a long gestation period unsuitable for small farmers. However, the government says land productivity for palm oil is higher than that for oilseeds, with Union Agriculture Minister Narendra Singh Tomar giving an assurance that the land identified for oil palm plantations in the northeastern States is already cleared for cultivation.

Letter to PM

In a letter to Prime Minister Narendra Modi last week, soon after the launch of *the ₹11,040 crore National Mission on Edible Oil-Oil Palm (NMEO-OP)*, Meghalaya MP Agatha Sangma warned that the focus areas were *"biodiversity hotspots and ecologically fragile"* and oil palm plantations would denude forest cover and destroy the habitat of endangered wildlife. *It could also detach tribespeople from their identity linked with the community ownership of land* and "wreak havoc on the social fabric", said the National People's Party leader. Congress leader and former Environment Minister Jairam Ramesh said proposals for large-scale oil palm cultivation had been studied and rejected as part of the technology mission on edible oils in the late 1980s as it was a "recipe for ecological disaster". He alleged that "the present proposal of course is designed to benefit Patanjali and Adani", both corporates with interests in edible oil expansion. "The palm is an invasive species. It is not a natural product of northeastern India and its impact on our biodiversity as well as on soil conditions has to be analysed even if it is grown in non-forest areas. Any kind of monoculture plantation is not desirable," said Bibhab Talukdar, a biologist who heads the Guwahati-based conservation organisation Aaranyak, advising caution in introducing oil palm. The Union government insists it is already proceeding on the basis of cautious scientific analysis. *A study done by the Indian Council of Agricultural Research recommended 28 lakh hectares across the country where oil palm can be cultivated, out of which only 9 lakh hectares are in the northeastern States*, Mr. Tomar said. "This 9 lakh hectares is not being given by cutting forests or other crops. This is land available for cultivation. The other reason is that besides the availability of land and the suitability of climate, in the context of environment too, it will help bring balance," the Agriculture Minister told reporters after the Cabinet approved the new mission. "There is research going on to increase the production of oilseeds like mustard, groundnut, soyabean, sunflower, and there has been increasing growth in the production of these oilseeds, but if we have to fill huge gap in production versus demand [of edible oils] soon, we will have to venture into crops where production is more. The production of palm oil from one hectare is far greater than the production of mustard oil in the same area. So naturally, though we are promoting the production of other oilseed, the production rate of oilseeds cannot be compared to that of palm oil," he said. *Palm oil currently makes up a whopping 55% of India's edible oil imports, and the new mission is intended to move towards domestic production and self reliance instead.*



Previous experience

The Andaman and Nicobar Islands have already had some experience with oil palm, including some abandoned plantations on Katchal Island in the Nicobar chain, and a 1,593-hectare area on Little Andaman which was planted more than 35 years ago and abandoned on the instructions of the Supreme Court. According to a feasibility report prepared by the Indian Institute of Oil Palm Research (IIOPR), based on visits to the islands in late 2018, these can be revived and supplemented by *plantations in the grasslands, which make up more than 75% of the land area of Little Andaman, Katchal, Baratang, Kamorta and Teresa.* “Existing grass in the islands is not of any use and is being burnt every year to avoid snakebites,” said the IIOPR’s feasibility report, which added that the soil and climatic conditions were suitable for oil palm plantation, with high rainfall doing away with the need for irrigation which could suck out groundwater. All five islands are home to tribal communities, including the Jarawa and Onge tribes. The IIOPR suggested that multi-cropping during the first three years of the oil palm’s life cycle would help provide income before the plantation yields returns from the fourth to seventh years. However, in a January 2019 letter to the Agriculture Department, the Chief Conservator of Forests of the Union Territory pointed out that much of these lands are protected or reserve forests and any land use changes would require the approval of the Supreme Court, whose 2002 order had directed that existing plantations, whether of oil palm, rubber or teak, should be phased out. The land should be regenerated to its natural profile without any further introduction of exotic species, it said. In its feasibility report, the IIOPR said the Chief Secretary of the islands gave an assurance that “A&N administration would take care of issues relating to Supreme Court Ban and other Committee Reports with the help of the Government of India”.

Lesson from Sri Lanka

Although it shares similarly suitable climatic conditions, Sri Lanka has recently disavowed oil palm, with a May announcement to raze existing plantations and ban palm oil imports as the crop has replaced more environmentally friendly and employment generating plantation crops, dried up local streams, and showed signs of becoming an invasive species threatening native plants and animals. In the parts of peninsular India which already grow oil palm, the response has been mixed. Industry stakeholders in Kerala, which has had widespread experience with plantation crops, are excited about growth prospects via the new mission. Former Oil Palm India chairman Vijayan Kunissery told The Hindu that a number of rubber farmers are interested in switching to oil palm and expected a revival of the sector by 2022. The State government has identified potential sites for cultivation in Wayanad and Palakkad districts, apart from rejuvenation of existing gardens supported by the new mission. *In Andhra Pradesh, which currently grows more than 90% of India’s oil palm, farmers depended on bore well irrigation. G.V. Ramanjaneyulu, an agricultural scientist who heads the Hyderabad-based Centre for Sustainable Agriculture, pointed out that oil palm requires 300 litres of water per tree per day, as well as high pesticide use in areas where it is not a native crop, leading to consumer health concerns as well. The high levels of investment and the long wait for high returns tend to attract large corporate investors, while small cultivators have struggled with the long gestation period, and have required heavy government support.* “If similar subsidies and support are extended to oilseeds which are indigenous to India and suited for dryland agriculture, they can help achieve self-reliance without dependence on oil palm,” Dr. Ramanjaneyulu said.



WHAT IS THE NEW BH SERIES REGISTRATION PLATES FOR VEHICLES?

Relocating a car or a two-wheeler to another state may often be a pain. One has to get an NOC from the current state and then re-register the vehicle in the next state where the vehicle will be relocated. There is also the issue of paying road tax to the next state all over again. In order to free vehicle owners from all this hassle, the Ministry of Road Transport and Highways has notified Bharat series of "BH" series of registration which people can opt for. Those who are in transferable jobs, like those in Defence, Railways, other government employees or even private sector employees whose companies are present in multiple states, are often faced with this bit of lengthy paperwork and procedure about their vehicles. This pain point will be removed with the implementation of this new system.

How does the current system work?

At present, when a person relocates to another state and wants to take her vehicle along with her, she has to first get a No Objection Certificate from the state where the vehicle is currently registered. The government calls it the "parent" state of the vehicle. The parent state's NOC is a must for assignment of a new registration in another state. And new registration is a must because under Section 47 of the Motor Vehicles Act, 1988, a vehicle can reside in another state with the same registration for 12 months during which it has to be re-registered in the new state. She also applies for refund of the road tax in the parent state on a pro rata basis. This is because when one buys and registers a new personal vehicle, the state government, or the parent state, charges the road tax up front for the whole registered life of the vehicle, which is 15 years. When the same vehicle relocates in another state after, say, five years, the parent state has to refund the remaining 10 years' road tax it has already received. In the new state, the vehicle owner pays the road tax calculable for the remaining period of the vehicle's life, say 10 years. The government has finally realised that this provision to get a refund from the parent state is a very cumbersome process and varies from one state to another. One has to wade their way through the bureaucratic maze of the Regional Transport Offices and encounter several hurdles. The government—state as well as Centre—has not yet come up with a system wherein remaining road tax is transferred from one state to another.

The new system

The new system of allotting BH series registration to vehicles will be completely online without the vehicle owner having to figure out complicated red-tape. It will come into force from September 15 this year. The government by amending Rule 47 of the Central Motor Vehicle Rules, 1989, has mandated that vehicles bearing the BH registration mark will not require to be re-registered in a new state once it relocates.

Who is eligible to get this facility?

Anyone who is a government/PSU employee, state or Centre, is eligible. In private sector, an employee of a company that has offices in at least four states/UTs is eligible to get the BH number on voluntary basis. She has to apply by filling up Form 60 and furnish valid employment ID/proof online. The state authorities will verify the proof and then assign the BH registration. The registration number will be randomly generated by computer.



What about the tax issue?

Vehicles registering under the BH system will be levied road tax for two years and in multiple of two thereafter, instead of the owner paying for the whole amount of 15 years' worth of road tax up front. This frees the owner from having to seek refund before or after relocation because the tax has not pre-paid. After completion of the fourteenth year, the motor vehicle tax shall be levied annually which shall be half of the amount which was charged earlier for that vehicle.

How much will be the road tax?

The government has defined that for a BH registration vehicle, the road tax will be charged at 8 per cent if the cost of the vehicle is below Rs 10 lakh. It is 10 per cent for those costing between Rs 10-20 lakh. And for vehicles costing more than Rs 20 lakh, the tax is 12 per cent. The Ministry of Road Transport and Highways received several suggestions as well as carried out deliberation with states before coming up with this notification. *Diesel vehicles will be charged 2 per cent extra Electric vehicles shall be charged 2 per cent less tax.* The road tax charged varies from state to state, but this is largely the range anyway.

How does a BH number look like?

A typical BH number may look like "21 BH XXXX AA". In this the first two digits is the year of the first registration, BH is the code for the series, the four numbers (XXXX) are randomly generated, followed by two letters of the English alphabet.

POWERING AHEAD IN THE FUTURE

Several things are going right regarding two-wheeler electrification in India. First, the government increased the FAME-II incentives for electric two-wheelers (E2W) to ₹15,000/kWh. Second, more States such as Gujarat and Maharashtra have announced State-level electric vehicle incentives as part of their State policies. Third, many start-ups are launching new electric two-wheeler models. As a result, E2W sales in India are likely to at least double in 2021 compared with 2020 levels. Yet, even if that happens, E2Ws will account for less than a per cent of new two-wheeler sales. This is in part because the industry leaders (Hero MotoCorp, Honda, TVS, Bajaj, Suzuki, Royal Enfield and Yamaha), who account for nearly 99% of all two-wheelers sold in India, offer only two electric models between them, and only in a handful of cities.

Overcoming reluctance

The most active electric vehicle markets of the world have overcome this reluctance of leading companies to make and sell electric vehicles in two ways. The first is to establish a *zero emission vehicles (ZEV) credit programme*. This requires manufacturers of vehicles to ensure that either a certain fraction of their sales are ZEVs or that they purchase ZEV credits from manufacturers who have sold more ZEVs than required by the credit programme. There are many possible regulatory approaches by which India could set up such a programme. California and several U.S. States as well as China have used such an approach to stimulate model availability of electric vehicles. *The second is by putting in place a fuel efficiency/CO2 emission standard stringent enough that it can best be met by making and selling ZEVs.* As the example of the European Union's passenger car CO₂



standards shows, if CO₂ standards are sufficiently stringent, mainstream manufacturers introduce electric vehicles in meaningful numbers.

If the 2W CO₂ standards for FY2025–26 are set at 25gCO₂/km (compared with 38gCO₂/km in 2020–21), our research shows the cost-effective market share could be as high as 19% for electric motorcycles and 13% for electric scooters, for a 32% electric vehicle share of the total two-wheeler market. Similarly, if the two-wheeler fuel consumption standard were set at or below 20gCO₂/km for 2030, that would likely ensure that at least 60% of new two-wheeler sales are electric that year. Conversely, if the 2025–26 standards are lenient, say as high as 30gCO₂/km, then it will be cheaper to comply with ICE technology, and the standards will create no incentive in the market for E2Ws.

Environment friendly

In short, there are two reliable ways to overcome manufacturers' reluctance to enter wholeheartedly into the electric vehicles market: a mandate requiring them to build and sell electric vehicles, or efficiency standards stringent/ambitious enough to make building and selling electric vehicles the most profitable thing for them to do. We know that the total cost of ownership of E2W is already competitive with petrol two-wheelers thanks to generous State and national incentives, and petrol prices being above ₹100/litre. We also know that an E2W purchased today will contribute to an absolute reduction in greenhouse gas emissions. E2W are cost effective on total cost of ownership basis today, and likely to reach upfront cost parity later this decade. *E2W will reduce greenhouse gas emissions and will be a cost-effective alternative for manufacturers to do so if tailpipe CO₂ standards are set at stringent levels.* What we need now is for the Bureau of Energy Efficiency and the Ministry of Road Transport and Highways to set 2W fuel consumption standards at 25gCO₂/km in 2025 and 20gCO₂/km in 2030. Doing so will not only ensure a 30% E2W share in 2025 and a 60% E2W share in 2030, but it will also pave the way for India to transition completely to E2W across all two-wheeler segments by 2035.

DreamIAS



LIFE & SCIENCE

FIRST ALL-CIVILIAN CREW LAUNCHED INTO ORBIT ABOARD SPACEX ROCKET SHIP

A SpaceX rocket ship blasted off from Florida on Wednesday carrying a billionaire e-commerce executive and three less-wealthy private citizens he chose to join him in the first all-civilian crew ever launched into Earth orbit. *The quartet of amateur astronauts, led by the American founder and chief executive of financial services firm Shift4 Payments Inc, Jared Isaacman, lifted off just before sunset from the Kennedy Space Center in Cape Canaveral, and the spacecraft roared into the darkened skies.* A SpaceX webcast of the launch showed Isaacman, 38, and his crewmates — Sian Proctor, 51, Hayley Arceneaux, 29, and Chris Sembroski, 42 — strapped into the pressurised cabin of their gleaming white *SpaceX Crew Dragon capsule*, dubbed *Resilience*, wearing their helmeted black-and-white flight suits. Thumbs-up were on display as the capsule streaked into the Florida sky perched atop one of the company's reusable *two-stage Falcon 9 rockets*. The Crew Dragon, fitted with a special observation dome in place of its usual docking hatch, reached orbit almost 10 minutes after the 8.03 pm EDT blastoff. *The rocket's first-stage booster, after separating from the spacecraft's top half, descended back to Earth and touched down safely on a landing platform floating in the Atlantic on a drone ship affectionately named Just Read the Instructions.* The flight, marking the first crewed mission to orbit with no professional astronauts along for the ride, is expected to last about three days from launch to splashdown in the Atlantic, mission officials said. *It marked the debut flight of SpaceX owner Elon Musk's new orbital tourism business, and a leap ahead of competitors likewise offering rides on rocket ships to customers willing to pay a small fortune for the exhilaration — and bragging rights — of spaceflight.* Isaacman has paid an undisclosed sum to fellow billionaire Musk to send himself and his three crewmates aloft. Time magazine has put the ticket price for all four seats at \$200 million. *The mission, called Inspiration4, was conceived by Isaacman mainly to raise awareness and support for one of his favorite causes, St. Jude Children's Research Hospital, a leading pediatric cancer center in Memphis, Tennessee. Inspiration4 is aiming for an orbital altitude of 575 km above Earth, higher than the International Space Station or Hubble Space Telescope, and the farthest any human will have flown from Earth since the end of NASA's Apollo moon program in 1972, according to SpaceX. At that height, the Crew Dragon will circle the globe once every 90 minutes at a speed of some 27,360 kph, or roughly 22 times the speed of sound.*

Leap ahead of rivals

Rival companies Virgin Galactic Holdings Inc and Blue Origin inaugurated their own private-astronaut services this summer, with their respective founding executives, billionaires Richard Branson and Jeff Bezos, each going along for the ride. Those suborbital flights, lasting a matter of minutes, were short hops compared with Inspiration4's spaceflight profile. *SpaceX already ranks as the most well-established player in the burgeoning constellation of commercial rocket ventures, having launched numerous cargo payloads and astronauts to the International Space Station for NASA.* Two of its Dragon capsules are docked there already. *The Inspiration4 crew has no part to play in flying the spacecraft, which is operated by ground-based flight teams and onboard guidance systems, even though two crew members are licensed pilots.* Isaacman, who is rated to fly commercial and military jets, has assumed the role of mission "commander," while Proctor, a geoscientist and former NASA astronaut candidate, has been designated as the mission "pilot."

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



Rounding out the crew are “chief medical officer” Arceneaux, a bone cancer survivor turned St. Jude physician assistant, and mission “specialist” Sembroski, a US Air Force veteran and aerospace data engineer. The four crewmates have spent five months in rigorous preparations, including altitude fitness, centrifuge (G-force), microgravity and simulator training, emergency drills, classroom work and medical exams. Inspiration4 officials have said the mission is more than a joyride. While in orbit, the crew will perform a series of medical experiments with “potential applications for human health on Earth and during future spaceflights,” the group said in media materials. *Biomedical data and biological samples, including ultrasound scans, will also be collected from crew members before, during and after the flight.* “The crew of Inspiration4 is eager to use our mission to help make a better future for those who will launch in the years and decades to come,” Isaacman said in a statement.

COLLECTION OF RARE PAINTINGS, DYES, FABRICS AND TYPE SPECIMENS TO GO PUBLIC

In the 1840s, when British botanist William Griffith came across the rare holoparasitic flowering plant *Sapria himalayana* in Arunachal Pradesh, there were not enough ways to document it. A botanical portrait of the root parasite plant with bright red flowers and sulphur yellow dots was made as early as in 1842 hundreds of miles away, near Kolkata, by a painter named Lutchman Singh. Botanical painting was crucial to the discovery of numerous other such plants, including the *Eulophia nuda*, an orchid painted by G.C. Dass in May 1862 at the same historic location, the Acharya Jagadish Chandra Bose Indian Botanic Garden. Thousands of such botanical paintings, unique and almost two centuries old, are rare and valuable not only because of the artistic talent of their Indian painters but also because they highlight the country’s plant diversity. The Central National Herbarium of the Kolkata-based Botanical Survey of India (BSI) has the biggest collection of 3,280 large botanical paintings by about 20 painters, whose names appear on the paintings but not much else is known of them. Made prior to these works by Lutchman Singh, Gopal Dass and others were the 2,532 Roxburgh drawings, which don’t name their painters. The paper for the Roxburgh drawings was imported from London, and painters were paid ₹3 for each work. Most of the Roxburgh artists are believed to be painters of miniatures from the Mughal courts.

Father of Indian botany

Scottish botanist and physician, William Roxburgh (1751-1815), is also known as the father of the Indian botany for his contribution to plant taxonomy in India. Earlier this month, the Botanical Survey of India digitised the entire collection of Roxburgh drawings held by it. They will be available at <https://archive.bsi.gov.in>. A.A. Mao, Director, Botanical Survey of India, said that the only other place where the Roxburgh paintings can be viewed are the Kew Museum in London.

RANSOMWARE WILL DOMINATE THE CYBERCRIME LANDSCAPE

Cyberthreats are evolving rapidly and becoming more sophisticated and complex. Operators leverage real-world events to deceive individual victims, enterprises and governments all over the globe, including in India, says Anil Valluri, regional VP – India and SAARC, Palo Alto Networks. Excerpts:

What is the latest from the world of ‘bad actors’?



Ransomware Evil, REvil or Sodinokibi, a ransomware-as-a-service (RaaS) operation has emerged as one of the world's most notorious and latest ransomware operators. This criminal group provides adaptable encryptors and decryptors, infrastructure and services for negotiation communications, and a leak site for publishing stolen data when victims don't pay the ransom demand. As per our observation of cases, REvil and its affiliates pulled in an average payment of \$2.25 million during the first six months of 2021. Last month, it extracted \$11 million payment from the U.S. subsidiary of the world's largest meat packing company based in Brazil, demanded \$5 million from a Brazilian medical diagnostics firm and launched a large-scale attack on dozens, perhaps hundreds, of companies that use IT management software from Kaseya VSA. *Unit 42, a response-ready global team comprising threat researchers and cybersecurity consultants, has been monitoring threat actors involved in ransomware attacks and has worked over a dozen REvil cases so far this year.*

Ransomware is going to dominate the cybercrime landscape. At least 16 different ransomware variants are now exploiting victims by encrypting and stealing/threatening to expose data. The *NetWalker ransomware gang* leveraged this tactic the most, having leaked data from 113 victim organisations globally. Industry data indicated healthcare was the most targeted and vulnerable sector in 2020 and the sector continues to be under further attacks by RaaS models. India too has witnessed similar attempts of attacks happening around COVID and vaccination.

The cyber mafia has always been trying to keep pace with protection technology. How can we widen the gap?

The need of the hour is an integrated platform using ML (machine learning) and AI (artificial intelligence) to lift the burden off cybersecurity teams. Using AI, the frequently observed threat data and multiple threat feeds can be automated and left to ML algorithms that can decipher attack patterns, leaving cybersecurity teams to spend time on advanced threat hunting. We, at Palo Alto Networks, believe the future of cybersecurity depends on a platform approach, which will allow cybersecurity teams to focus on security rather than integrating solutions from different vendors. The reputational, operational, legal, and compliance implications could be considerable if cybersecurity risks are neglected.

WHAT IS THE PEGASUS EXPLOIT TARGETTING APPLE DEVICES?

A new zero-day, zero-click exploit called 'FORCEDENTRY' has been discovered in Apple's iMessage service, allegedly used by Israel's NSO Group to install Pegasus spyware in devices including the iPhone, iPad, MacBook and Apple Watch. The exploit was discovered by researchers at Toronto-based Citizen Lab, who have been investigating the extent to which Pegasus is being used to spy on civilians, politicians, judges, activists, etc. The Citizen Lab has advised everyone to update the operating systems on their Apple devices as the exploits can potentially affect their smartphones and laptops till the update rolled out by Apple on Monday is installed.

What are zero-day, zero-click hacks?

These are essentially hacks that occur without any intervention of the victim, using a loophole or a bug in a particular software, the existence of which its developer is unaware about. The same kind of exploits were earlier used to install Pegasus in WhatsApp and iMessage.



How to protect your devices against Pegasus spyware

Upon discovery of this exploit, Citizen Lab reached out to Apple last week regarding the loophole, following which the iPhone maker rolled out updates to its software to address the issue.

What is Pegasus, and why is it crucial?

Pegasus is a spyware developed by Israeli company NSO Group. The company claims it sells the software only to governments and government agencies, and is marketed as “a world-leading cyber intelligence solution that enables law enforcement and intelligence agencies to remotely and covertly extract” data “from virtually any mobile devices”. Once infected, a phone becomes a digital spy under the attacker’s complete control, extracting data such as passwords, contact lists, calendar events, text messages, and live voice calls (even those via end-to-end-encrypted messaging apps). It also gives the attacker control to the phone’s camera and microphone, and enables the GPS function to track a target. In July, Indian news portal The Wire reported that a leaked global database of 50,000 telephone numbers believed to have been listed by multiple government clients of NSO Group includes over 300 verified Indian mobile telephone numbers, including those used by ministers, opposition leaders, journalists, the legal community, businessmen, government officials, scientists, rights activists and others.

A NICK TO APPLE’S PROFITS COULD BE A WINDFALL FOR APP DEVELOPERS

Apple has taken to calling its iPhone App Store an “economic miracle,” and it has pointed to developers like Zach Shakked as proof. Shakked created an iPhone app that helps companies find trending hashtags on social media. Over the past 12 months, his sales have topped \$5 million. But one of Shakked’s largest expenses is paying a cut to the world’s richest company. In his case, Apple took nearly \$1.5 million — its fee for letting him run his app on its devices. Now, Shakked has hope that he could soon keep at least some of that money. *On Friday, a federal judge ordered Apple to allow developers to steer their customers off their iPhone apps to pay for their goods or services, which Apple had banned.* That is big news for developers like Shakked, because sales completed outside Apple’s payment systems are not subject to its commission of up to 30%. “It finally feels like the small guys got a win,” Shakked, 25, said. “There’s a sense of justice.” *The ruling in Apple’s yearlong legal fight with Epic Games, maker of the popular video game Fortnite, set off celebrations among app developers.*

There could be a number of barriers to the mandated App Store changes. Apple could ask another judge to temporarily block the order, which is set to take effect in 90 days. Epic on Sunday appealed the decision, a process that could take several years. Apple could also restrict how developers direct customers off their apps to complete transactions, including by making them list Apple’s payment system as an option and barring them from offering discounts for customers who don’t pay via Apple. Such discounts may be necessary to persuade customers to take the extra steps to open a web browser and enter their credit card information, versus simply tapping a button and paying via Apple. Nevertheless, *the tide may be starting to turn against Apple’s tight control over its App Store. Regulators in Japan and South Korea have forced Apple to tweak how it manages the store, and regulators and lawmakers around the world are also considering measures to curb the company’s influence.* Match Group, maker of dating apps Tinder and Hinge, is on track to pay Apple and Google — which controls a similar app store for phones that run its Android



software — more than \$500 million in commissions this year, the company's single largest expense, said Gary Swidler, Match's finance chief. The company was already considering ways to use Friday's ruling to cut down that bill as much as possible, including by charging less for subscriptions that are paid on one of its websites, he said.

FOOTPRINTS OF 3 DINOSAUR SPECIES FOUND

In a major discovery, footprints of three species of dinosaurs have been found in the Thar desert in Rajasthan's Jaisalmer district, proving the presence of the giant reptiles in the western part of the State, which formed the seashore to the Tethys Ocean during the Mesozoic era. The footprints, made in the sediment or silt of the seashore, later became permanently stone-like. They belong to three species of dinosaurs — Eubrontes cf. giganteus, Eubrontes glenrosensis and Grallator tenuis. While the giganteus and glenrosensis species have 35 cm footprints, the footprint of the third species was found to be 5.5 cm. Virendra Singh Parihar, assistant professor, Jai Narain Vyas University, Jodhpur, a member of the team of palaeontologists that made the discovery recently, told The Hindu on Friday that the footprints were 200 million years old. *They were found near Jaisalmer's Thaiat village.*

All carnivorous

The dinosaur species are considered to be of the theropod type, with the distinguishing features of hollow bones and feet with three digits. All the three species, belonging to the early Jurassic period, were carnivorous, said Dr. Parihar. Eubrontes could have been 12 to 15 m long and weighed between 500 kg and 700 kg, while the height of the Grallator is estimated to have been 2 m, as much as a human, with a length of up to three metres. Careful geological observations enabled the scientists to interpret ancient environments in which the rocks of the footprints, which were once soft sediments, were deposited. Fieldwork in the Kutch and Jaisalmer basins has suggested that after the main transgression during the early Jurassic period, the sea level changed several times.

SHAPESHIFTERS

Climate change affects not only humans but also animals. In adapting to a warming planet, some warm-blooded animals are shapeshifting and getting larger beaks, legs and ears to better regulate their body temperatures (Trends in Ecology and Evolution). *Strong shapeshifting has particularly been reported in birds.* Several species of Australian parrot have shown, on average, a 4%-10% increase in bill size since 1871. This is positively correlated with the summer temperature each year. North American dark-eyed juncos, a type of small songbird, had a link between increased bill size and short-term temperature extremes in cold environments. There have also been reported changes in mammalian species. Researchers have reported tail length increases in wood mice and tail and leg size increases in masked shrews. The researchers are next planning to investigate shapeshifting in Australian birds first-hand by 3D-scanning museum bird specimens from the past 100 years. "The increases in appendage size we see so far are quite small — less than 10% — so the changes are unlikely to be immediately noticeable," says bird researcher Sara Ryding of Deakin University in Australia Ryding in a press release. "However, prominent appendages such as ears are predicted to increase." "Shapeshifting does not mean that animals are coping with climate



change and that all is fine. *It just means they are evolving to survive it* — but we're not sure what the other ecological consequences of these changes are, or indeed that all species are capable of changing and surviving," she says.

CLIMATE CHANGE COULD CAUSE 216 MN TO MIGRATE

Climate change could push more than 200 million people to leave their homes in the next three decades and create migration hot spots unless urgent action is taken to reduce global emissions and bridge the development gap, a World Bank report has found. The second part of the Groundswell report published on Monday examined how the impacts of slow-onset climate change, such as water scarcity, decreasing crop productivity and rising sea levels, could lead to millions of what it describes as "climate migrants" by 2050 under three different scenarios with varying degrees of climate action and development. Under the most pessimistic scenario, with a high level of emissions and unequal development, the report forecasts up to 216 million people moving within their own countries across the six regions analysed. Those regions are Latin America; North Africa; Sub-Saharan Africa; Eastern Europe and Central Asia; South Asia; and East Asia and the Pacific. In the most climate-friendly scenario, with a low level of emissions and inclusive, sustainable development, the world could still see 44 million people being forced to leave their homes. The findings "reaffirm the potency of climate to induce migration within countries," said Viviane Wei Chen Clement, a senior climate change specialist at the World Bank and one of the report's authors.

Most vulnerable region

In the worst-case scenario, Sub-Saharan Africa — the most vulnerable region due to desertification, fragile coastlines and the population's dependence on agriculture — would see the most migrants, with up to 86 million people moving within national borders. North Africa, however, is predicted to have the largest proportion of climate migrants, with 19 million people moving, equivalent to roughly 9% of its population, due mainly to increased water scarcity in northeastern Tunisia, northwestern Algeria, western and southern Morocco, and the central Atlas foothills, the report said. In South Asia, Bangladesh is particularly affected by flooding and crop failures, accounting for almost half of the predicted climate migrants, with 19.9 million people, including an increasing number of women, moving by 2050 under the pessimistic scenario. "This is our humanitarian reality right now and we are concerned this is going to be even worse, where vulnerability is more acute," said Prof. Maarten van Aalst, director of the International Red Cross Red Crescent Climate Centre, who wasn't involved with the report. Many scientists say the world is no longer on track to the worst-case scenario for emissions. But even under a more moderate scenario, Mr. van Aalst said many impacts are occurring faster than expected, "including the extremes we are experiencing, as well as potential implications for migration and displacement."

WHY HEALTH JOURNALS HAVE CALLED FOR CLIMATE ACTION

In a first-of-its-kind effort, editors of more than 220 leading health journals from all over the world have published a joint editorial asking governments to take immediate and more ambitious climate action to hold global temperatures from rising beyond *1.5°C from pre-industrial times*. The editors have urged governments to treat climate change with the same kind of urgency that was



shown in dealing with the Covid-19 pandemic. “The science is unequivocal: a global increase of 1.5°C above the pre-industrial average and the continued loss of biodiversity risk catastrophic harm to health that will be impossible to reverse,” the editors have said.

The concerns raised

The editorial highlighted the escalating health impacts of climate change, and pointed out that these impacts “*disproportionately affect the most vulnerable, including children, older populations, ethnic minorities, poorer communities, and those with underlying health problems*”. “Concern is growing that temperature rises above 1.5°C are beginning to be seen as inevitable, or even acceptable, to powerful members of the global community... Insufficient action means that temperature increases are likely to be well in excess of 2°C, a catastrophic outcome for health and environmental stability... More can, and must be done now... and in the immediate years that follow,” it said. “Many governments met the threat of Covid-19 pandemic with unprecedented funding. The environmental crisis demands a similar emergency response,” it said.

Why health journals

Climate change has several adverse health impacts, both direct and indirect. *Heat-related diseases triggered by extreme heat events, which are on the rise because of changing climate, are an example of direct health impacts of climate change. Changing crop patterns, declining yields, water scarcity, and extreme precipitation are expected to have health consequences as well. Food shortages and resultant malnutrition are considered major side-effects of rising temperatures.* The World Health Organization estimates that about 250,000 excess deaths are likely to be caused by climate change-induced factors — *malnutrition, malaria, diarrhoea, and heat stress* — between 2030 and 2050. Indeed, the joint editorial points out that higher temperatures have led to “increased dehydration and renal function loss, dermatological malignancies, tropical infections, adverse mental health outcomes, pregnancy complications, allergies, and cardiovascular and pulmonary morbidity and mortality”.

Why now

The joint editorial in health journals comes weeks ahead of COP26, the 26th edition of the annual UN climate conference, in *Glasgow*. Before that, a similar *UN meeting on biodiversity is scheduled in Kunming, China*. The editorial is part of the exercise to create momentum for concrete and ambitious decisions at these meetings. Such exercises are normal in the run-up to these big meetings. In the weeks and months leading up to the climate summit, there is usually a lot of activity. Countries unveil new plans and pledges, NGOs and research institutions release several reports and studies, protests and demonstrations take place, all aimed towards creating sufficient pressure on negotiators to come to more ambitious agreements. All these do feed into the decision-making process and, to some extent, also influence the final outcome of these meetings. The editorial’s emphasis on the need to hold global rise in temperatures to 1.5°C — not just 2°C — is in line with growing clamour to put pressure on the governments not to abandon the 1.5°C. *The recent IPCC report had mentioned that the 1.5°C target was likely to be reached in less than two decades.*

SOIL MICROBES CAN MAKE FOR A GREENER REVOLUTION

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR

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Telegram: http://t.me/DreamIAS_Jamshedpur



Plants appear to be simple enough in their organisation. Whether small shrubs or tall trees, all they seem to be made up of is leaves, flowers, fruits, stems and roots. But simple they are not. Being rooted to one spot has required very special personality traits. The ability to make food from sunlight and the carbon dioxide in air has given them a central position in life forms on earth. They cannot run, but ably defend themselves. A fascinating aspect of their abilities lies out of sight, in the soil from which they sprout, and from which they derive water, micronutrients, and a host of other benefits.

Ancient association

The association between plants and fungi is ancient. Fossils of plants from about 400 million years ago show the first evidence of roots, and these roots are fungus associations – rhizoids – suggesting that *roots co-evolved with fungi*. One good example is species of *Penicillium*, the fungus from which *Alexander Fleming* isolated the antibiotic penicillin. *Fungus-root associations, called mycorrhizae, appear at first glance to be simple mutualisms that are beneficial to both. The root-invading fungus gains nutrients made by the plant, and the plants get difficult-to-find minerals like phosphorus from the microbe.* But the association is deeper.

The Wood Wide Web

Suzanne Simard of the University of British Columbia, working in the dense forests of the Pacific Northwest, made an interesting finding. In carefully controlled experiments with saplings of birch and fir trees enclosed in clear plastic bags that contained some radioactive carbon dioxide gas, she showed that the birch converted this labelled gas to radioactive sugars by photosynthesis, and within two hours, traces of this radioactive sugar appeared in the leaves of the fir saplings growing nearby. *The exchange is mainly through the mycelia of fungi, and may extend through the whole forest, with young trees that are struggling on a dry patch being helped out by carbon transfer from their luckier counterparts.* A reviewer writing in the journal Nature called such systems as the Wood Wide Web. *Bacteria that associate with roots are called rhizobacteria, and a very wide range of these species are plant growth promoters. Like the fungi, mutualism operates in these relationships too. In exchange for sugars, these bacteria offer plants a wide range of benefits. They may help plants ward off pathogens that cause diseases of the root. They may even trigger systemic resistance to a pathogen throughout the plant.*

Hybrid vigour

The green revolution brought a sea change in the growing of agricultural produce in our country. The key to this was the establishing of hybrid varieties of crop plants. Today, a vast majority of commercially grown crops are hybrids, where two inbred lines are crossed, with their first-generation hybrid offspring exhibiting a vigour that is lacking in either of its parents. *The property of hybrid vigour, called heterosis, has been known for centuries, but remains only partly understood.*

Root cause

A new and fascinating aspect to hybrid vigour has been found in the rhizomicrobiome – the rich collection of microbes that surround the roots of every plant. Maggie Wagner of the University of Kansas (at the heart of one of the great corn-producing areas of the world) addressed heterosis from the viewpoint of plant–root microbe interactions. Using maize as the model crop, her group



has recently shown that the rich biomass of roots in hybrid maize, as well as other positive traits, is reliant on appropriate soil microbes (PNAS, Volume 118(30), July 27, 2021). In laboratory-sterilised soils that are totally devoid of microbes, both the inbred parents and hybrid offspring grow equally well, there being no sign of vigour in the latter. Then they started to 'rebuild' the soil environment, one bacterium at a time. They could attain the normal parent-offspring difference in vigour by introducing just seven species of bacteria into the sterile soil. The experiment could be extrapolated to the fields too: *Fumigating, or steaming the soil in one experimental plot led to decreased heterosis, because this soil was depleted of microbes.* Agronomists estimate that depending on the fertility of the soil, hybrid maize requires 180–225 kg of artificial fertilizer for a yield of nine tons of grain per hectare. Producing this fertilizer is an energy intensive task. As our nation strives towards lofty goals for sustainable agriculture, using simple microbial ways of improving crop quality (and quantity) would be a small step in that direction.

SHELTERED VULTURES NOW AT HOME WITH NATURE

In October 2020, eight critically endangered Oriental white-backed vultures were released into the wild for the first time in India from the Jatayu Conservation and Breeding Centre (JCBC) situated at the Bir Shikargah Wildlife Sanctuary in Shivalik ranges of the Himalayan foothills in Haryana's Pinjore. A year later, they have blended well into the untamed habitat outside the aviary, offering hope to conservationists. But the grave threats to the survival of vultures are far from over. "The Oriental white-backed vultures that were released in the wild are resident birds and not migratory, so they largely stay within a radius of 50-100 km of the breeding centre. All eight vultures were deployed with satellite tracking devices on their back, and orange-coloured wing tags on both wings, so we are able to monitor them. They have been bred in captivity so they will gradually adjust in the wild. They are flying well and have managed to locate water," Dr. Vibhu Prakash, Deputy Director and Principal Scientist at the Bombay Natural History Society (BNHS), who heads the JCBC, told The Hindu.

Encouraging signs

"Also, they have managed to join the wild flock with other vultures such as the Himalayan griffon, which is surely an encouraging sign. They are not taking sustained flights as other wild birds do, but they are gradually increasing their time of flying, which is again good. We need to wait for another one year. If they survive, then it will be an indication that the environment is safe, after which we will release other raptors as well," he added. As many as 378 vultures of three species are housed at the centre, of which 131 are Oriental white-backed vultures, 195 are Long-billed vultures, and 52 are Slender-billed vultures. The "founder stock" of birds at the centre was collected from various States, including Assam, Haryana, Rajasthan, Gujarat, Madhya Pradesh and Maharashtra, to maintain genetic diversity. In 2016, the centre released two Himalayan Griffon vultures, bred in captivity for 10 years, into the wild. "One of the birds could be monitored for 45 days, and within this period, it started flying strongly and could soar very high with other species of vultures. There was no tracking device on these birds, so they could not be followed beyond 45 days. This gave us confidence to carry out future releases," said Dr. Prakash. *Once very common, vultures are on the verge of extinction in India.* Uncontrolled veterinary usage of non-steroidal anti-inflammatory drugs (NSAID), including *Aceclofenac, Ketoprofen and Nimesulide*, and the illegal use



of the drug *Diclofenac*, are toxic to vultures *if they feed on carcasses within 72 hours of the drugs' administration to such livestock.*

97% decline

The vulture population in India was estimated at 40 million once. Populations of three species of vultures have declined by over 97% since the 1990s, and that of the Oriental white-backed vultures by a drastic 99.9%. *It has been established that the vulture population was decimated by the veterinary usage of Diclofenac in India.* Navjit Singh, secretary of the non-profit Avian Habitat and Wetland Society, said the key reason behind the use of Diclofenac is the fact that it's a very low-cost drug. "Governments need to ensure that alternative drugs are subsidised to be cheaper than Diclofenac," Navjit Singh said.

DETECTING FRAGILE X SYNDROME

In 2017, a man in Delhi, affected by autism, underwent his first DNA blood test at the age of 40. He tested positive for *Fragile X Syndrome (FXS)*. This is caused by *changes in a gene called FMR1 which make an important protein (FMRP)*. This protein is required for brain development.

Largely undetected in India

It was in 1991, 14 years after that man was born, that the mutation was discovered and named FRAXA by three American geneticists — Ben Oostra, David Nelson and Stephen Warren. They found that it was the leading inherited cause of autism worldwide. Three decades ago, there was no primary knowledge of this among healthcare professionals. However, even after the discovery of FMR1, the lack of awareness and appropriate training to diagnose FXS in time prevails everywhere. In India, the lack of adequate screening and diagnostic facilities, the stigma attached to mental health, the absence of surveys in community settings, and bare minimum hospital data based on clinical experience have all kept FXS largely undetected. According to a 2019 review paper of the Advanced Centre for Evidence-Based Child Health, established by PGIMER, Chandigarh, under the aegis of the Indian Council of Medical Research, "there is an under-recognition of the genetic disorder due to delay in diagnosis at young age and the lack of uniform application of validated, accessible and affordable diagnostic tools." *It is estimated there are 4,00,000 individuals who have been identified with mutated FMRI in India and 40 lakh undiagnosed carriers of the gene.* According to Centers for Disease Control and Prevention (CDC), one in 7,000 males and one in 11,000 females are affected with FXS. *FXS is the leading inherited cause of autism in 4% of the population worldwide.* The CDC estimates that *one in 259 women and one in 800 men carry Fragile X. A mother who is a carrier has a 50% chance of passing the mutated gene to her children, who will either be carriers or have FXS. Men who are carriers do not pass the pre-mutation to their sons, but only daughters, who become carriers.* This knowledge is crucial and the numbers are critical and demand attention, according to Professor Sumantra Chattarji, senior neurobiologist at the National Centre for Biological Sciences in Bengaluru. His research is focused on correcting the powerful emotional symptoms of FXS. It helps empower parents with information about babies in whom the FMR1 shuts down the production of FMRP. Shalini Kedia, who founded the Fragile X Society of India in 2003 as a support system for families impacted with FXS, says that it is every woman's right to make an informed choice of becoming a special mother. Studies suggest a high effect of consanguineous parenting on FXS prevalence.



Timely detection

The simplest tool for timely detection is a DNA test. *In the U.S., FXS testing is mandatory for every child diagnosed with autism.* This helps parents plan their family better. In India, doctors often fail to appropriately guide women who have fertility issues, late pregnancies, opt for IVF with donor eggs, or donate embryo for surrogacy. Experts suggest an overhaul of the MBBS curriculum to include a detailed chapter on FXS and more government-organised Continuing Medical Education programmes for practising healthcare professionals so that FXS is treated as a major public health concern. *Mass awareness and an additional test in the list of pregnancy and prenatal and neonatal tests for other chromosomal abnormalities (such as Down Syndrome) will be beneficial. But the majority of people are either not aware of the FXS test or cannot afford it. Tests are done in major government hospitals and in a few private labs and cost between ₹4,500 and ₹7,500. People must understand that autism triggered by FXS is a behavioural condition.* The symptoms are *learning difficulty, speech delay, aggressive behaviour, hyperactivity, attention deficit, fear of the unfamiliar, sensory processing disorders and problems in motor skills. These cannot be cured, but early therapy can improve the individual's quality of life.* The National Policy for Treatment of Rare Diseases, 2017, was limited by challenges in implementation. This year, the government introduced the National Policy for Rare Diseases Act. It calls for systematic epidemiological studies on incidence and prevalence of rare diseases. Without naming FXS directly, it recommends prenatal tests for lesser-known single-gene and other genetic disorders. This is profound as the dialogue on rare diseases has to be kept open, even during the pandemic. Or else, it will leave all those who are trying to cope feel even more vulnerable and isolated.

NEW TECH BASED ON CRISPR TO CONTROL GROWTH OF MOSQUITOES

Leveraging advancements in CRISPR-based genetic engineering, researchers have created a system that restrains populations of mosquitoes that infect millions each year with debilitating diseases. *The "precision-guided sterile insect technique" (pgSIT), alters genes linked to male fertility—creating sterile offspring—and female flight in Aedes aegypti, the mosquito species responsible for spreading diseases including dengue fever, chikungunya and Zika,* the University of California, San Diego said in a press release. Details of the pgSIT have been described in Nature Communications. The pgSIT uses CRISPR to sterilise male mosquitoes and render female mosquitoes (which spread disease) flightless. The system is *self-limiting* and *is not predicted to persist or spread in the environment*, two safety features that should enable acceptance for this technology, the release said. The scientists say pgSIT eggs can be shipped to a location threatened by mosquito-borne disease or developed at an on-site facility that could produce the eggs for nearby deployment. *Once the pgSIT eggs are released in the wild, sterile pgSIT males will emerge and eventually mate with females, driving down the wild population as needed.*

WHO SIMPLIFIES TREATMENT GUIDELINES FOR HYPERTENSION (PROF. K. SRINATH REDDY, A CARDIOLOGIST AND EPIDEMIOLOGIST, IS PRESIDENT, PUBLIC HEALTH FOUNDATION OF INDIA)

The World Health Organization recently released guidelines for pharmacological treatment of hypertension. Though high blood pressure is a leading cause of disease, disability and death in all regions of the world, affecting an estimated 1.4 billion persons across the world, only 14% have it

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under control. This is because of three gaps in health system performance. *Many who have hypertension are unaware, several of those who are detected are not on treatment and only half of those who are treated are effectively controlled on their prescribed treatment.* If health systems do not improve their ability to detect and effectively treat *hypertension, serious diseases of heart, brain, kidneys and blood vessels will mount.*

Adopt healthy habits

All persons with raised blood pressure will need to adopt healthy living habits: *reduced salt intake; consumption of more fruit and vegetables; avoidance or limited intake of alcohol; regular physical activity; maintenance of a healthy body weight; adequate water consumption, good sleep and stress reduction.* In addition, several will need drugs for adequate control of blood pressure. The recent WHO guidelines, specifically addressing drug treatment, were framed by an international expert group chaired by me. Apart from assessing the strength of published scientific research, we also drew on the perspectives of policy makers, health system managers, healthcare providers, patients and communities. While several international guidelines on management of hypertension do exist, many of them reflect the tertiary care perspective of high-income countries. Effective hypertension control must pivot on competent and continuous primary care, for both early detection and long-term management. *Guidelines have also been divided over whether hypertension treatment should be initiated on the basis of blood pressure values alone or on a comprehensive risk assessment which takes into account age, gender, smoking status, body mass, prior cardiovascular disease, diabetes and blood cholesterol profile besides blood pressure values.* While these measures are useful for customised future risk assessment, insistence on such detailed a priori assessment requiring various laboratory tests may delay initiation of treatment and increase loss to follow-up in primary care. Guidelines must maximise benefits and minimise harm and inconvenience to patients. The benefit of drug treatment was assessed on health outcomes which included the following: blood pressure control, deaths from any cause, cardiovascular mortality, heart attacks, brain strokes, heart failure and advanced kidney disease. Recommendations were graded on the strength of evidence available and distilled with health system perspectives on feasibility of implementation. The aim was to develop evidence-informed, situationally adaptable, resource-optimising, operationally steerable and equity-promoting guidelines which can be implemented in all countries despite varying health system capacities.

Suggested thresholds

Initiation was recommended for all adults whose blood pressure readings, reliably measured, exceed 140 mm of mercury for the upper level (systolic) or above 90 mm for the lower level (diastolic). However, *for persons with a prior history of cardiovascular disease, diabetes or chronic kidney disease, treatment should be initiated if the systolic pressure exceeds 130 mm. The same threshold is advised for persons with a high future risk of developing cardiovascular disease, based on clinical and laboratory assessment.* Laboratory tests should be performed at the time of diagnosis of hypertension. However, if testing facilities are not readily available and tests are likely to be delayed, treatment may be initiated with a single relatively safe drug *amlodipine (a long acting calcium channel blocker)* and tests may then be ordered. When test results are available, they will help with choice of further treatments and in comprehensive risk assessment. When tests confirm that there are no contraindications to certain drugs, three classes of drugs are offered to the prescribing physician on the strength of evidence. They are: *thiazide diuretics* and thiazide-like



agents; *angiotensin-converting enzyme inhibitors* or *angiotensin receptor blockers* (both of which act at different levels of the renin–angiotensin system) and calcium channel blockers. *Better clinical outcomes are achieved in most persons when drugs from any two of these categories are initially used in combination, in moderate doses, rather than using a single drug in a high dose. This provides the advantage of combining two different but complementary modes of action and avoids the side-effects that accompany a high dose of any single drug.*

Recommended targets

The target is to lower blood pressure values to less than 140/90 mm, in all adults. In persons with known cardiovascular disease, the target is a systolic value less than 130 mm. This is based on strong evidence. The same target is also recommended for persons at a high risk of cardiovascular disease or with co-existing diabetes or chronic kidney disease. Persons in whom treatment has been initiated should be followed up monthly, till the target level has been achieved. Once that has been reached, follow up may be once in three to six months, as feasible. It has been recommended that non-physicians like nurses and pharmacists can provide drug treatment for hypertension if they receive proper training, have prescribing authority, follow specific management protocols and have physician oversight. Community health workers may assist in patient education, blood pressure measurement and delivery of medications, as part of a health team. Telemonitoring and home or community-based self-care are encouraged to improve blood pressure control, as part of an integrated management system. These guidelines are positioned within a strong scientific frame of evidence, while accommodating the practical aspects of implementation across diverse health systems. Low- and middle-income countries, which have the highest health burdens resulting from uncontrolled hypertension, should find it easier to implement these guidelines rather than those tailor-made for high-income countries.

TRACKING AIRBORNE POLLEN TO PREVENT ALLERGY

By studying airborne pollen and its seasonal variations for about two years, researchers from the Post Graduate Institute of Medical Education and Research (PGIMER) and Panjab University have created a *pollen calendar for Chandigarh*, arguably the first for any city in India. Titled, 'Pollen calendar to depict seasonal periodicities of airborne pollen species in a city situated in Indo-Gangetic plain, India', the study was recently published in the journal Atmospheric Environment. Dr Ravindra Khaiwal, Additional Professor of Environmental Health, Department of Community Medicine and School of Public Health, PGIMER, the lead investigator of the study, spoke to The Indian Express to explain this pollen calendar and its role in preventing allergies.

What is a pollen calendar?

Pollen calendars represent the time dynamics of airborne pollen present in a particular geographical area. They yield readily accessible visual details about various airborne pollen present throughout the year in a single picture.

Is this a new concept in India? Where else in the west has this calendar been used?

Though the concept is not essentially new, this is one of the major environmental concerns that had not been addressed for the Indian cities. Such calendars are location-specific, as pollen



concentrations are closely related to locally distributed flora. *Europe, UK and the US are using regional pollen calendars in a big way to prevent and diagnose allergic rhinitis/hay fever and predict the timing and severity of the pollen season.*

Why is it important to study pollen?

Pollen grains are male biological structures with the primary role of fertilisation, but *when inhaled by humans, they may strain the respiratory system and cause allergies. Pollen found suspended in air can cause widespread upper respiratory tract and nasobronchial allergy with manifestations like asthma, seasonal rhinitis, and bronchial irritation.* About 20-30 per cent of the population suffers from allergic rhinitis/hay fever in India, and approximately 15 per cent develop asthma. *Pollen is considered a major outdoor airborne allergen responsible for allergic rhinitis, asthma, and atopic dermatitis in humans.* Considering these concerns, we conducted this study for Chandigarh.

What were the key findings?

The study highlights the variability of crucial pollen types in different seasons. Spring and autumn are two seasons when airborne pollen dominate. *The findings will enhance the understanding of pollen seasons, which will in turn help minimise pollen allergies.*

How will a pollen calendar benefit people, especially those who have respiratory issues?

A pollen calendar provides a clear understanding for clinicians, as well as people with allergies to identify the potential allergy triggers and help to limit their exposure during high pollen load season.

The early advisories can be prepared and disseminated through media channels to the citizens so that they can use protective gear during the period when the concentration of allergic pollen will be high. People can access the Pollen Calendar through the Care 4 Clean Air website.

Does the study infer that gardens and parks in the city contribute to the pollen and thus there must be proper scientific tree plantation?

It is important to involve experts while designing parks. We should try to plant trees/shrubs that release no or little pollen. Trees such as palms, nettle, safeda, white mulberry (shahtoot), congress grass, pine, have a high incidence of pollen.

What kind of trees must be grown alongside our roads or in parks?

Plant monoecious plants (male and female flowers on the same plant). Hibiscus, lilies, and holly that are grown widely in Chandigarh are examples of such plants. Cucumbers and squashes are also monoecious. Select plants with low to moderate pollen production. Non-allergic or entomophilous plant species should be chosen to provide an allergen-free atmosphere. Examples of such plants include rose, jasmine, salvia, Bougainvillea, Raat ki rani and sunflower.

WHY MODERNA'S MRNA CANDIDATE BRINGS NEW HOPE FOR AN HIV VACCINE

Forty years since the HIV global epidemic began, new hope has arisen in the hunt for the so-far-elusive vaccine. The US pharmaceutical and biotech company *Moderna, which rolled out the world's first Covid-19 vaccine, recently announced human trials for two HIV vaccines.* These are based on the same platform — mRNA — as Moderna's Covid vaccine.

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The human trials

Moderna will be trialling two versions of its vaccine candidate. This is the first mRNA vaccine against HIV to be trialled in humans. According to the US National Institutes of Health's (NIH) clinical trials registry, 56 HIV-negative people between the ages of 18-50 have been recruited in the phase-1 trial. There will be four groups in the first phase, with two receiving a mix of the mRNA vaccine versions and two receiving one or the other. The trial is not blind: Participants will know which group they are in. The two mRNA vaccines will eventually be used alongside another vaccine, developed by the International AIDS Vaccine Initiative (IAVI) and Scripps Research. The hypothesis is that the two Moderna vaccines have the potential to prime a specific type of B-Cell to produce effective neutralising antibodies, and the other vaccine will stimulate them to do so. The study sponsored by IAVI and others is expected to run until May 2023, with the first phase lasting around 10 months.

HIV burden

HIV has claimed 36.3 million lives so far, according to the World Health Organization (WHO). *There were an estimated 37.7 million living with HIV at the end of 2020.* There is still no cure. However, with increasing access to effective prevention, diagnosis and care, including for opportunistic infections, HIV infection has become a manageable chronic health condition in recent years. According to the National AIDS Control Organization's India HIV Estimation 2019 report, there were an estimated 23.48 lakh people living with HIV in 2019. Overall, the estimated adult (15-49) HIV prevalence trend has been declining in India since the peak in 2000, and has been stabilising in recent years.

The elusive vaccine

HIV tends to change its envelope so rapidly that it is difficult to provide any antibody cover. Additionally, *the envelope proteins are covered by a sugar coating that affects generation of an immune response.* said Dr R R Gangakhedkar, former director of National AIDS Research Institute, and former Head, Division of the Epidemiology and Communicable Diseases division of Indian Council of Medical Research (ICMR). "An anti-HIV vaccine has been a challenge given the fact that it is a fast replicating virus and tends to mutate rapidly... Escape mutants are generated rapidly due to the high replication rate of HIV," said Gangakhedkar, who is also a C G Pandit national chair, ICMR. *Even when antibodies are made, by the time they are produced, the virus rapidly evolves and the antibodies do not neutralise the virus.* This rapid mutation allows the virus to escape the antibody response, said leading vaccine scientist Dr Gagandeep Kang. For example, *the virus sequences of an untreated individual with HIV tested three months apart would show differences between the later and earlier viruses, she said.*

Previous attempts

Dr Kang said previously inactivated forms of the virus and adenovirus vector-based vaccines have been tried, but have not worked. A handful of HIV clinical trials were very carefully set up and conducted, but were halted either for futility when vaccines did not work, or in the case of adenovirus vectored vaccine where there was a signal that participants were more susceptible to HIV, instead of being protected, she said. "The most important challenges in HIV vaccine development has been the inability to identify the exact correlates of immune response that need



to be stimulated to protect against HIV and the enormous diversity potential of the virus. *Inducing broadly neutralising antibodies against HIV envelope protein and CD8 T cell responses has been the major focus,*" said Dr Sanjay Pujari, infectious diseases consultant and expert member of the national Covid 19 task force.

mRNA: way forward

The Moderna trial is different as it allows one to use technology to design and develop a vaccine really fast, Dr Kang said. It is similar to the Covid-19 vaccine development work so that the body's cells can produce the virus's spike envelope to trigger an immune response. In the HIV context, the mRNA platform has shown promising results in vitro and monkey studies, and it would be useful to test it in human clinical trials, Dr Pujari said. The hope is that this platform has the ability to tweak the RNA to address emerging variants and their potential to escape immune response. *"Until now the major challenge for the development of mRNA vaccines was lack of efficient delivery technologies. This has been overcome successfully with Covid-19 mRNA vaccines,"* Dr Pujari said.

Preventive & therapeutic

Experts say two approaches can be considered for an HIV vaccine — a preventive and therapeutic one. A preventive approach would have to check how many vaccinated people develop HIV post-vaccination, or whether the vaccinated ones can resist infection. A therapeutic approach would result in an immune response that would attack the infected cells and prevent further replication, Dr Kang said. Therapeutic vaccines have been tried without success to achieve a functional cure. It would be interesting to study the performance of the mRNA platform in this context, Dr Pujari said. *For a therapeutic vaccine to work, it has to stimulate cells to generate broadly neutralising antibodies,* Dr Gangakhedkar said. "While *antiretroviral therapy* controls the infection, one has to take drugs lifelong and there are side effects. A curative modality with a therapeutic vaccine and medicine can cure HIV. However, this has to be tested over a period of time, to assess whether the immune response is sustained," Dr Gangakhedkar. With HIV incidence having gone down, it reduces the risk of exposure to HIV. Moreover, *use of other preventive measures adds to reduction in HIV incidence. These factors pose challenges in undertaking these trials and finding out whether or not the vaccine producing broadly neutralising antibodies actually prevents HIV infection,* Dr Gangakhedkar said.

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