



CURRENT AFFAIRS FOR UPSC

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INTERNATIONAL

ISKP, THE GROUP BEHIND KABUL BLASTS

In June 2015, a few months after the Islamic State (IS) announced its Wilayat Khorasan (Khorasan Province), the Taliban wrote a letter to the IS chief, Abu Bakr al-Baghdadi, asking him to stop recruiting jihadists in Afghanistan. The letter, signed by the then political committee chief of the Taliban, Mullah Akhtar Mansour (who would take over the insurgency in a month and be killed by a U.S. air strike in May 2016), said there was room for “only one flag and one leadership” in the fight to re-establish Islamic rule in Afghanistan. But the IS faction, which came to be known as the *Islamic State of Khorasan Province (ISKP)*, did not stop recruiting disgruntled Taliban fighters. Nor did it stop launching terror attacks across Afghanistan. On August 26, 11 days after the Taliban captured Kabul, the ISKP carried out one of its biggest attacks in Afghanistan, *killing over 180 people in the capital, including 13 American service members, posing the first major security threat to Afghanistan’s new rulers, who themselves are no strangers to terror tactics.* It was the deadliest day for the U.S. military in Afghanistan since 2011. The day also saw the first American fatalities in Afghanistan since the February 2020 U.S.-Taliban agreement.

An IS branch

In the past six years, the ISKP has built an organisational network in Afghanistan from the eastern Nangarhar province, attracted followers from across South, West and Central Asia, and killed hundreds. *When the IS announced the formation of the Khorasan Province, referring to an area encompassing Afghanistan, Pakistan and Central Asia, in January 2015, the group’s immediate strategy was to exploit the divisions within the main jihadist groups operating in the region.* It appointed Tehrik-i-Taliban Pakistan (TTP) commander Hafiz Saeed Khan as its leader and former Afghan Taliban commander Abdul Rauf Aliza as his deputy (both were killed in U.S. strikes). It attracted members from different groups such as Lashkar-e-Taiba, Jamaat-ud-Dawa, the Haqqani Network and the Islamic Movement of Uzbekistan into its fold, according to the U.S.-based Combating Terrorism Centre. *The ISKP declared its allegiance to Baghdadi. In operational tactics and ideology, it followed its parental organisation.* “There is no doubt that Allah the Almighty has blessed us with jihad in the land of Khorasan since a long time ago, and it is from the grace of Allah that we fought any disbeliever who entered the land of Khorasan. All of this is for the sake of establishing the Shariah,” the ISKP said in a video message in 2015. *When the IS in Iraq and Syria came under pressure in 2015 and 2016, the core organisation shifted its focus to Afghanistan, a divided country with the government’s writ hardly reaching its hinterlands.* The IS saw an opportunity in the country to rebuild its organisation. Having built its base in eastern Afghanistan, the ISKP issued propaganda messages, calling on Muslim youth across Asia to join the group. *Many radicalised youth, including dozens from India, travelled to Afghanistan to either join the IS or live an “Islamic life” under the Caliphate’s rule.*

Rivalry with Taliban

But the IS came under pressure in Afghanistan as well. *The Taliban did not like its monopoly over violent jihad being challenged by another organisation.* Also, *the Taliban are a tribal, nationalist militant force, backed by Pakistan, whereas the ISKP doesn’t believe in national borders, and stands*



for a global Islamic Caliphate. “The leadership of Daesh [IS] is independent, the goals of Daesh are independent,” Omar Khorasani, who was the ISKP’s top leader, told The Wall Street Journal earlier this month from prison. “We have a global agenda and so when people ask who can really represent Islam and the whole Islamic community, of course we’re more attractive.” The ideological and operational differences led to open clashes between the ISKP and the Taliban. *When the Taliban seized Kabul and took over prisons, they freed several of their members, but executed Khorasani.* Shahab al-Muhajir has been leading the terrorist group since Khorasani was arrested in April 2020.

Conflict continues

The U.S. has carried out a number of targeted attacks, killing several of the ISKP’s leaders. In April 2017, U.S. President Donald Trump ordered troops to drop the *‘Mother of all Bombs’*, the most powerful non-nuclear bomb, on IS caves in eastern Afghanistan. But *despite U.S.’s targeted bombings and the Taliban’s counter-attacks, the ISKP has continued to expand its operations.* As *much of Afghanistan remains lawless, the conditions favour the ISKP to grow, like they helped the IS in Iraq and Syria in 2013-14.* The Taliban’s growing rivalry with the ISKP was a point of engagement between the U.S. and the Taliban. *One of the key terms of the U.S.-Taliban agreement was that the latter would not allow terrorist groups such as al-Qaeda and the IS to use Afghan soil.* Unsurprisingly, *the Taliban condemned the Kabul blasts.* The Taliban offer themselves as a force that can stabilise Afghanistan and fight outfits such as the IS. The Kabul attack could allow them to strengthen this narrative. But the blasts could also serve as a warning of what’s awaiting Afghanistan. When the Taliban are preparing to rule Afghanistan, the ISKP wants to be the new Taliban.

NEAR AND PRESENT

The suicide bombing at Kabul airport which claimed close to 100 lives has shattered any residual optimism the world had that the West pulling out forces and handing the country over to the Taliban, as part of negotiations in Doha, would result in a more peaceful Afghanistan. Instead, what the complex attack claimed by the Islamic State-Khorasan (IS-K) has proven is that no matter what assurances the Taliban’s new regime or its benefactors in Pakistan may provide, they are unable or unwilling to stem the terror threat emanating from the country, despite being provided key intelligence inputs about the attack. *There are also suspicions of some collusion within the Taliban regime, as the Haqqani group that is securing Kabul and the airport periphery, is a UN designated terror entity that has carried out attacks with the IS-K in the past.* That the U.S. maintains that it continues to “coordinate” with the Taliban on security should further set the seal on any idea of investigations or operations against the Taliban. As this is an alarming scenario, the Government must now acknowledge and prepare for the threats to India. The situation will further enhance India’s already hostile continental flanks, in consonance with threats from Pakistan at the LoC and support to cross-border terrorism, as well China’s LAC aggressions. New Delhi must also focus on diplomacy to highlight its concerns, beginning with the UN where India will have a salient role. As a UNSC member, and President, India must ensure that the UN’s most powerful body does not appear helpless in the face of the Taliban’s challenge, and must make the red lines clear for the kind of government it must guarantee — including one that recognises human rights, adopts some form of representation for its people, and distances itself from terror



groups. Chief among these will be the *need to ensure that the Haqqani group, including its chief Sirajuddin Haqqani who is the Deputy to Taliban chief Haibatullah Akhundzada, is not included in the official power structure. The group has been responsible for terror and suicide attacks on Indian consulates and the Embassy in particular in 2008-09. As Chairman of the 1988 Sanctions Committee that lists 135 Taliban members as designated terrorists, India must stand firm on any move to ease sanctions on them, including travel, funds access and weaponry.* The UN General Assembly (UNGA)'s accreditation committee must also decide on whether to allow a future Taliban-led government to occupy Afghanistan's seat. *Given Prime Minister Narendra Modi's visit to the U.S. later in September, where he is expected to address the UNGA, and then the Quad summit, it is important that India's position on the Afghan situation and its impact on Indian security are articulated strongly.* While briefing MPs, External Affairs Minister S. Jaishankar said the Government is pursuing a "wait and watch" policy, but that assumes the luxury of distance from the ticking time bomb in India's neighbourhood, which New Delhi does not have.

A TALIBAN OUTREACH THAT NEEDS CORRECTION

Very few, if any, might have been surprised when the Taliban unleashed violence to take over territories in Afghanistan. What has surprised many is the pace at which the Taliban pushed their lines and replaced the Afghan state. The Doha peace deal with the United States and China's Foreign Minister Wang Yi's warm welcome to a Talibani delegation in Tianjin, in July, reflect the diplomatic successes of the Taliban at the international level. Almost all regional stakeholders at this point are engaging with the Taliban, openly or behind closed doors. The Special Envoy of the State of Qatar for Counterterrorism and Mediation of Conflict Resolution, Mutlaq bin Majed Al Qahtani, in June, confirmed India's outreach to the Taliban. Now that the Afghan state has failed, the Taliban is the most powerful political entity. But the Afghan people are the most important stakeholders and India must resist engaging with the Taliban.

Issue of legitimacy

Where is 'the good Taliban'? In the past, leaders and analysts have used the terms 'Taliban 2.0', or 'the good Taliban', to create an environment conducive to negotiate with them. The Taliban's unleashing of war to secure power has put an end to those arguments. The claim that the Taliban shall have to reform to secure international legitimacy is exaggerated. The conclusion of an agreement with the U.S. while excluding the Afghan government, and talks with China, have already accorded the required legitimacy to the Taliban, internationally. On the domestic front, *if the Taliban cared for legitimacy from the Afghan people they would have contested elections instead of capturing territory through force.*

Long-term settlement

Several reports that have emerged over the last couple of months have confirmed that violence and oppression are the Taliban's modus operandi. Women, as expected, have been hit the worst. Female students and employees have been let off. News of the Taliban forcing women to marry its soldiers or else assaulting them has increased. The already dwindling Afghan Sikh community is leaving the country. The progress made during the fragile peace in the last two decades has been undone in a matter of weeks. *As the struggle for power with and within the Taliban gains momentum, ethnic divisions will accentuate, and the minorities will become more and more*



vulnerable. Sadly, the Afghans who are leaving their homes today will not be returning to their homes anytime soon, if at all. Historically India has been one of the preferred refuges for Afghans beyond their immediate neighbourhood. First, nations must see refugees as their responsibility rather than a burden. This shall involve rapid processing of visa applications and ensuring safe routes to commute. Second, there should be an effort to develop a regional, and potentially an international, coalition to address the needs of Afghan refugees. An active policy to provide shelter, education, vaccination, and employment opportunities instead of sending them to congested, unhygienic, and then ignored refugee camps is needed. The policy must look beyond an immediate fix, and instead towards a long-term settlement strategy.

Looking beyond the Taliban

Many have argued that India must negotiate with the Taliban. The argument that India can engage with certain segments of a heterogenous Taliban overestimates India's capacity to begin and fruitfully engage with such elements and also underestimates the capacities of elements such as Inter-Services Intelligence and the Haqqani network to disrupt such negotiations. *Even China and Pakistan, which are deeply engaged with the Taliban, will be reluctant to completely rely on them in the future. U.S. President Joe Biden, while addressing the drawdown from Afghanistan based on the deal with the Taliban, stated that he does not trust them. Therefore, the claim that India — so far a peripheral party — can plan its Afghan policy or security in Kashmir based on Taliban assurances is not sound.* As far as terrorism in Kashmir is concerned, professor Rajesh Rajagopalan rightly argues, *we don't have a Taliban problem but a Pakistan problem*. The domestic efforts to reconcile differences with the local Kashmiris shall go a longer way than relying on the Taliban. Irrespective of that, *we must remember that a Pakistan-controlled and a Taliban-led Islamic Emirate is against the interests of a Shia-dominated Iran. The prospect of Afghanistan turning into a breeding ground for terrorist outfits is an issue for India but a bigger issue for Iran, the Central Asian States, China, Russia and even Pakistan.* The Tehrik-i-Taliban Pakistan (TTP) (or the Pakistani Taliban) is expected to strengthen if instability in Afghanistan continues. Therefore, there is an area for convergence amongst the parties if they seek to work together. Further, *it is naive to believe that the other regional states would be comfortable with Pakistan having complete control over the future of Afghanistan.* Taliban may itself seek greater autonomy from Rawalpindi as its grip over Afghanistan tightens.

Then and now

The overwhelming narrative to engage with the Taliban reflects the hegemony that men and realists hold in security analysis. There is a need to diversify the discourse, this will automatically lead to the budding of new policy options in Afghanistan. A policy that is ignorant or unconcerned of its consequences for women and minorities is not worth pursuing. One must remember that the Taliban's rise in 2021 is not like its rise in 1996. *Mohammed Omar enjoyed a certain level of popularity amongst Afghans as he led the Taliban to oust the warring Mujahideens in 1996. In 2021, the median age of the Afghan population is 18.4 years. Most of them have come up in a far more progressive environment than the Taliban's rule. The resistance has already begun in Panjshir. Afghan citizens will continue to resist. So must we.*

THE LEGAL CHALLENGES IN RECOGNISING THE TALIBAN



The Taliban's horrific takeover of Afghanistan has triggered a new debate in international law on the issue of recognising an entity that claims to be the new government of a state. This debate assumes significance because China and Russia, two of the five permanent United Nations Security Council members, have seemingly shown readiness to recognise a Taliban-led government whereas countries like Canada have opposed it. Questions of recognition do not arise when change of government within a state occurs when political power is transferred through legal means. However, *things are different when the change of government happens through extra-legal methods like ousting the sitting government using unconstitutional means. The Taliban's takeover of Afghanistan squarely falls in this category. Recognition of governments under international law is vital for several reasons. It is important to know who the governing authority of the state is, who has the responsibility for effectually carrying out domestic and international legal obligations ranging from pursuing diplomatic relations to the protection of human rights, and so on.*

Government versus state

A salient point to remember is that recognition of the government should not be confused with recognition of the state under international law. As Malcolm Shaw, the celebrated international lawyer, writes, "a change in government, however accomplished, does not affect the identity of the State itself." Thus, in the current debate, the issue is not about the recognition of Afghanistan, whose legal personality remains intact. Whether countries recognise the Taliban regime or not will depend on their political considerations and geo-strategic interests, as evident from the Chinese and Russian overtures. However, certain criteria have evolved in international law on deciding the issue of recognition of governments and these need to be prudently looked at.

Tests in international law

Traditionally, the test used in international law to make a decision about the recognition of a new government is that of 'effectiveness'. According to this principle, to recognise a government means to determine whether it effectively controls the state it claims to govern. In other words, it means to determine whether the government has effective control over the state's territory (or a part of it), a majority of the population, national institutions, the banking and monetary system, etc. with a reasonable possibility of permanence. *The inherent assumption is that effective control means the people of the country accept, or at least acquiesce to, the new regime; if they did not, they would overthrow it.* Under this doctrine, it is immaterial how the new government occupied office (whether through civil war, revolution, or a military coup). Since there is hardly any doubt that the Taliban now effectively controls Afghanistan, as per this test, it would be recognised as Afghanistan's government for international law and thus, international relations. *A doctrine competing with the effective control theory is that of democratic legitimacy.* According to this doctrine, recognition of a government also depends on whether it is the legitimate representative of the people it claims to govern. So, governments that capture power through non-democratic means — notwithstanding their exercising de facto control over the country — should not be recognised by states. The end of the Cold War, the subsequent spread of democracy in the world, and the growing demand for universal respect for human rights gave an impetus to this doctrine in the last three decades. *This doctrine has led many countries to bestow de jure recognition (legal recognition) on governments in exile in place of governments exercising effective control.* Two recent examples can be offered. First, many countries recognised Yemen's Abdrabbuh Mansur Hadi government in exile since 2015 on the ground that the rebellious separatists acquired power in



Yemen through illegal means. Second, the Nicolás Maduro government in Venezuela is not recognised by several countries due to the alleged lack of democratic legitimacy. The Taliban regime, despite exercising effective control over Afghanistan, lacks democratic legitimacy. *Thus, it would fail to be recognised as the legitimate representative of Afghanistan if the doctrine of democratic legitimacy is applied.* Things would become even more complicated if the Afghan President, Ashraf Ghani, who fled the country when the Taliban entered Kabul, were to announce a government in exile. However, some international lawyers like Erika de Wet doubt whether the doctrine of democratic legitimacy, notwithstanding its worth and instinctive appeal to the champions of liberal democracy, has become a binding part of customary international law when it comes to the recognition of governments. In other words, governments may rely on the doctrine of democratic legitimacy to refuse de jure recognition of the Taliban. Nevertheless, there is no binding legal obligation on countries to withhold recognition of the Taliban on the ground that it does not enjoy democratic legitimacy. Thus, *if Russia and China were to formally recognise the Taliban regime due to its effective control of Afghanistan, it would be consistent with international law.*

Options for India

Given the Taliban's brutal past, its extremist ideology, and profound absence of democratic legitimacy, India is within its right to withhold de jure recognition of the Taliban regime. Nonetheless, it will have to find a way to engage with the Taliban given India's huge investments in Afghanistan and stakes in the South Asian region. *India should adopt a clear policy that it will deal with the Taliban simply because it is the de facto government, not because it is a legitimate one.* This principle should be followed for bilateral relations and also for multilateral dealings such as within the South Asian Association for Regional Cooperation.

THE SWORD ARM OF TALIBAN

On August 17, Sirajuddin Haqqani, the leader of the Haqqani Network, arrived in Kabul from Quetta in Pakistan. The Haqqanis have been part of the Taliban and the responsibilities given to Sirajuddin point to the influence the group has over the Taliban. He is the leader in charge of military operations in Afghanistan. Believed to be in his 40s, Sirajuddin has established himself as a key figure in the Taliban-led "Islamic Emirate of Afghanistan" that will take shape in the coming days. *In terms of importance, Sirajuddin is seen as the third most powerful Taliban figure after Mullah Baradar and Hibatullah Akhundzada.* With this, Sirajuddin is emerging as the top leader of the Haqqani Network, *the much-feared group that first emerged to fight the Soviet troops in Afghanistan and continued to fight and defeat the U.S. with its terror tactics.* Although his stature has risen within the militant ranks, *Sirajuddin remains a UN-designated global terrorist responsible for the suicide bombings and raids unleashed on the U.S. and NATO troops as well as civilians in Afghanistan over the past two decades.* The Haqqani Network has also been responsible for some of the attacks on prominent targets in Afghanistan. In June 2011, they attacked the Kabul Intercontinental Hotel. *They have carried out attacks against the Indian and the U.S. Embassies in Kabul, the Afghan Presidential palace and the office of the NDS, the Afghan national intelligence.*



Power tussle

In July 1988, Jalaluddin Haqqani had voted for peace along with the tribal elders of entire Afghanistan. He had put his signature in a long list of tribal leaders of the northeast Afghanistan, where his clan, the Haqqanis, dominated over an area that traditionally covers Waziristan of Pakistan. His representatives came to meet the UN-appointed special negotiator for Afghanistan, Diego Cordovez. The plan was to create the “broadest” possible government in Afghanistan that would put an end to the violence that had broken out in Afghanistan beginning with the Soviet invasion of the country in 1979. The peace process, or the Cordovez formula, however, did not take off as Pakistan began to chart its own course after the withdrawal of the USSR. *Afghanistan had become an open space for power tussle after Soviet withdrawal.* Jalaluddin belonged to the Zadran tribe in the northwest frontiers of Pakistan and the mountains in the eastern Afghanistan. These were some of areas where resistance to the Soviet occupation rose prominently among the Pashtuns.

The Haqqani Network’s emergence as the sword arm of the Taliban in Kabul has surprised many observers, who believe the Haqqanis are closely aligned with Arab insurgent groups such as al-Qaeda, a tradition that goes back to Jalaluddin’s collaboration with the Arabs against the Soviets and his own marriage to an Arab woman. According to the Taliban-U.S. agreement, the leading figures of the Taliban and aligned groups are expected to be out of the list of global terrorists. Any delay to this effect will create complications for the Haqqanis, who are now in Kabul.

THE VALLEY OF RESISTANCE

When the Taliban took Kabul in 1996, President Burhanuddin Rabbani and Defence Minister Ahmad Shah Massoud, along with their allies, retreated to northern Afghanistan. The Taliban had captured much of Afghanistan, except the north. Massoud, who was called ‘the Lion of Panjshir’, built a united front of anti-Taliban forces in the Panjshir Valley, and continued the resistance against the Taliban regime. Massoud was assassinated by al-Qaeda on September 9, 2001, two days ahead of the terrorist attacks on the World Trade Center in New York. But the Northern Alliance he had commanded played a critical part in the U.S.-led attacks on the Taliban that saw a quick collapse of the Taliban regime in 2001. After 20 years, the Taliban are back in Kabul. The Taliban are now controlling almost all of Afghanistan—except Panjshir. In the province, located in the northeast of the country, *Ahmad Massoud, the 32-year-old son of Ahmad Shah Massoud, is leading the new resistance against the Taliban. Amrullah Saleh, the First Vice President of the Ghani administration, is believed to be with Mr. Massoud in Panjshir. Last week, Mr. Saleh declared himself the ‘legitimate caretaker President of Afghanistan’ as per the Afghan Constitution.* While the Taliban are trying to tighten their grip on Afghanistan, early signs suggest a resistance to their rule is taking shape in Panjshir.

Located 150 km north of Kabul, the Valley is near the Hindu Kush mountain range. It’s divided by the Panjshir river and ringed by the Panjshir mountains in the north and the Kuhestan mountains in the south. The mountain tops are covered by snow throughout the year. This difficult terrain makes the Valley a nightmare for invaders. It allowed Massoud to keep the Valley away from first the communist government and then the Taliban regime.



UN BANS BRITISH STAMPS IN CHAGOS ISLAND

Mauritius has welcomed the UN postal agency's decision to ban British stamps from being used on the Chagos archipelago, calling it a victory for the island nation in its dispute with London. The vote by the *Universal Postal Union (UPU)*, a United Nations agency focusing on the mail sector, follows a longstanding spat between Mauritius and Britain over the Chagos Islands, where London and Washington operate a joint military base. "This is another big step in favour of the recognition of the sovereignty of Mauritius over the Chagos," Mauritian Prime Minister Pravind Jugnauth said. *Although Mauritius became independent in 1968, the Chagos archipelago remained under British control, sparking protests by Chagossians, who accuse London of carrying out an "illegal occupation" and barring them from their homeland.* Following Tuesday's vote, *"the UPU will stop registering, distributing and transmitting stamps" bearing the words British Indian Ocean Territory (BIOT), the name given by Britain to the archipelago,* Mr. Jugnauth said. *In 2019, the International Court of Justice ruled that Britain should give up control of the islands. Later that year, the UN General Assembly adopted a resolution recognising that "the Chagos Archipelago forms an integral part of the territory of Mauritius"* and urged UN agencies "to support the decolonisation of Mauritius". The British Foreign Office said it was "disappointed" by Tuesday's vote. *"The U.K. has no doubt as to our sovereignty over the British Indian Ocean Territory, which has been under continuous British sovereignty since 1814," a spokesperson for the Foreign Office said.* Britain insists the archipelago belongs to London and *has renewed a lease agreement with the U.S. to use Diego Garcia, the largest of the islands, until 2036.*

KAMALA HARRIS REACHES HANOI AFTER 'HAVANA SYNDROME' DELAY

Vice-President Kamala Harris began a visit to Vietnam on Wednesday to stress U.S. commitment to Asia, a trip critics have slammed as tone-deaf given the parallels with the superpower's evacuations from Saigon and Kabul. Ms. Harris will meet the communist state's President and Prime Minister in Hanoi, a day after accusing regional giant Beijing of intimidation in the disputed South China Sea. *Her arrival was delayed due to what U.S. officials called an "anomalous health incident" in Hanoi, an apparent reference to the so-called "Havana syndrome", which has afflicted U.S. diplomats in several countries including China and Russia.* It is not clear what causes the syndrome and it has led to unproven allegations that Russians or others used sonic or other high-intensity electronic devices to physically harm U.S. diplomats. The visit, the first to Vietnam by a sitting U.S. Vice-President, comes after a two-day stop in Singapore, where Ms. Harris took aim at China and sought to shore up U.S. credibility in the wake of the Taliban's stunning return to power. But the Vietnam leg of the Asian tour has sparked criticism after the chaotic evacuation of Kabul prompted comparisons with the trauma of 1975 Saigon, when U.S. helicopters ferried final evacuees from the embassy roof in the last days of the Vietnam War. Ms. Harris used a speech in Singapore to say Beijing "continues to coerce, to intimidate" and to make unreasonable claims to large areas of the South China Sea. "We need to find ways to pressure and raise the pressure, frankly, on Beijing to abide by the United Nations Convention on the Law of the Sea," she added. China hit back at the accusations through its state media on Wednesday, accusing the U.S. of hypocrisy in attempting to "coerce and intimidate" countries in the region in its "scheme to contain China". China claims almost all of the resource-rich South China Sea, through which



trillions of dollars in shipping trade passes annually, with competing claims from four Southeast Asian states including Vietnam.

IN FREE FALL

Lebanon, which has been battling multiple crises for the last couple of years, is on the brink of an economic collapse. *The meltdown that forced the country to default on its bonds in 2019 for the first time since its independence in 1943 was aggravated by last year's Beirut port blast.* The explosion that killed over 200 people and wounded about 7,000 others on August 4, 2020 is estimated to have caused damage worth \$15 billion. *The blast has also deepened the country's political crisis as Lebanon has been ruled by a caretaker government ever since. The Mediterranean country is now reeling under a severe economic downturn, medicine, food and fuel shortages and rising crimes.* Recently, its central bank stated that it could no longer finance fuel imports at subsidised rates citing depleted reserves. Fuel shortages have led to chaotic scenes across the country. Last week, at least 28 people were killed in the country's north when a fuel tank exploded while locals were scrambling for its fuel. *UNICEF has warned that millions of Lebanese are facing a severe water shortage. The economic crisis has pushed more than half the population into poverty, while the currency value has fallen by 90%. According to the World Bank, Lebanon's GDP per capita fell by 40% in dollar terms between 2018 and 2020, while real GDP contracted by 20.3% in 2020.* The Bank assesses that even with quick reforms, it will take years before the economy gets back to its pre-crisis size. Since the Beirut blast, President Michel Aoun appointed three Prime Minister-designates. Two of them stepped down after having failed to form a government. *According to Lebanon's Constitution, the President should be a Maronite Christian, the Prime Minister a Sunni, and the Parliament Speaker a Shia. Political parties are divided largely along sectarian lines. The PM-designates, who were Sunni politicians or technocrats, often failed to bring together the country's different political factions, including that of President Aoun.* In late July, former Prime Minister Najib Mikati was tasked with forming the next government. He is yet to conclude talks with other political blocs. With the country facing a severe fuel shortage, Hezbollah, the powerful Shia militia-cum-political party, has moved to import fuel directly from Iran. Hezbollah says it is trying to ease the country's fuel situation while its opponents say the move is aimed at drawing Lebanon further into the Iranian orbit and could be counterproductive as oil deals with Iran could attract sanctions from the U.S. Lebanon's politicians have sought fresh loans from the IMF, but the fund will release money only if the government commits itself to reforms. For that, Lebanon has to form a government first. Lebanon's political elites should realise that the country is facing a once-in-a-century crisis, set aside their sectarian politics, and come together to form a stable government. If not, nothing can stop the country's free fall.

BLUSTER AND BOGUS CLAIMS

Brazilian President Jair Bolsonaro's attempt to replace electronic voting machines with paper ballots failed in Congress recently. But this may not deter him from sowing confusion ahead of the 2022 presidential elections. On August 10, Mr. Bolsonaro's proposal fell short of the majority needed to effect a constitutional amendment. This is the closest the President has come to carrying out his threats to thwart the functioning of representative institutions.



Sliding popularity

The fiery far-right nationalist President warned in July that either there will be a clean election or no election next year, alleging without evidence that electronic voting machines, in vogue since 1996, were highly susceptible to manipulation. Mr. Bolsonaro has in the past insisted that but for fraud, he would have clinched the 2018 presidential contest in the first round. Several sitting and former Supreme Court justices have emphasised the absence of any record of malpractices under the electronic voting system, even as supporters of Mr. Bolsonaro have demanded changes. While the superior electoral court is probing Mr. Bolsonaro for abuse of office, the Supreme Court is examining a charge of guilt on grounds of spreading fake news. Mr. Bolsonaro, who assumed office in January 2019, has seen a rapid slide in his ratings following his callous mishandling of the COVID-19 pandemic, which has claimed over half a million lives. He is also embroiled in criminal investigations relating to financial irregularities and dereliction of duty in the government's procurement of the COVID-19 vaccines. In a deal that was subsequently suspended, Brazilian authorities reportedly agreed to pay much more than the original price quoted by Bharat Biotech, which is producing Covaxin. Experts have suggested in *The British Medical Journal* that Mr. Bolsonaro wilfully allowed the contagion to spread to create herd immunity, a strategy that could amount to crimes against humanity. By one estimate, more than 50% of Brazilians think that Mr. Bolsonaro must be removed from office. As per another, the former President, Luiz Inácio Lula da Silva, who is likely to emerge the frontrunner after his corruption conviction was overturned in March, could win the presidency in the first round of next year's contest.

Admirer of the military

While his waning popularity may have sparked the recent assault on the election commission, Mr. Bolsonaro has long remained an unapologetic admirer of the country's previous military rulers. Many former generals hold cabinet ranks in his government. With close ideological affinity to Brazil's extreme right anti-communist icon Olavo de Carvalho, the Brazilian President lamented on one occasion that the dictators' mistake was to stop at torturing rather than killing dissidents. Within months of his ascent, Mr. Bolsonaro instructed the armed forces to commemorate the anniversary of the 1964 coup which brought the military to power. In a sign of the prevalent sharp polarisation, the move was equated in the Left circles with Holocaust denial, while Mr. Bolsonaro's supporters hailed it a revolution to counter communism. The prosecutor general's office declared that the event would be tantamount to celebrating an unconstitutional dictatorship, while another court ruled the event incompatible with the country's democratic reconstruction. In April this year, the leaders of all three branches of the armed forces resigned after Mr. Bolsonaro replaced the Defence Minister who allegedly said that the armed forces owed loyalty to the constitution and were not the President's personal force. Arguably, no leader among the world's large democracies befits the epithet 'elected dictator' more than Mr. Bolsonaro. As the number of petitions for his impeachment increase, the President will probably further intensify his shrill rhetoric against the courts and Brazil's Congress until the next elections.

RUSSIAN STEALTH FRIGATES TO COME IN 2023

The first of two additional Krivak class stealth frigates being built by Russia is expected to be delivered to India in the middle of 2023, Alexey Rakhmanov, chief executive officer of United Shipbuilding Corporation, said. "Due to COVID we had delays in execution of some of the stages of
3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



construction. There was an approximately eight-month delay. The first ship should be delivered in the middle of 2023,” Mr. Rakhmanov said at the ongoing Army 2021 exhibition in Moscow. *In October 2016, India and Russia signed an Inter-Governmental Agreement (IGA) for four Krivak or Talwar class stealth frigates — two to be procured directly from Russia and two to be built by Goa Shipyard Ltd. (GSL) — after which a \$1 billion deal was signed for the direct purchase.*

Technology transfer

On the construction at GSL, Mr. Rakhmanov said they would soon be inviting Indian technicians for the ongoing construction of the *two frigates at the Yantar shipyard in Russia to familiarise themselves with the specificity of the equipment and the construction. In the second stage, substantial work would be done at GSL, including technology transfer*, he said. He added that the frigates were being built to operate both Indian and Russian equipment. The keel for the first ship to be built at GSL was laid in January and for the second ship in June this year. *Keel laying is a major milestone in shipbuilding symbolises the formal commencement of the construction process. The Navy had recently said that the first of these ships would be delivered in 2026 and the second six months later.* In November 2018, GSL signed a \$500 million deal with Rosoboronexport of Russia for material, design and specialist assistance to locally manufacture the two frigates, and in January 2019 the contract was signed between the Ministry of Defence and GSL. *The Navy currently operates six Krivak class frigates procured in two different batches.*

WHY CHINA IS BUILDING MISSILE SILOS

Satellite images have revealed that China is building at least three missile silo fields in Yumen in Gansu province, near Hami in Xinjiang province, and at Hanggin Banner, Ordos City, in Inner Mongolia. It appears that China is constructing around *120 missile silos at Yumen, around 110 silos in Hami, and 29 in the Hanggin Banner field.* Earlier this year, 16 missile silos were detected in the People’s Liberation Army Rocket Force’s (PLARF) Jilantai training area, also in Inner Mongolia. The Yumen field was discovered by commercial satellite images obtained by researchers at the James Martin Center for Nonproliferation Studies, California; the *Hami field was identified by nuclear experts at the Federation of American Scientists (FAS) using Planet Labs satellite images;* the Hanggin Banner field was discovered by researchers at the China Aerospace Studies Institute, Washington DC. The Yumen and Hami fields are identical, and the silos are positioned in a perfect grid pattern, roughly 3 km apart. Some of the silos have dome shelters. The fields are supported by nearby PLARF facilities. For several decades before these discoveries in 2021, China operated only 20 missile silos for its DF-5 liquid-fuel intercontinental ballistic missile (ICBM). On completion of the ongoing work, China could have 250-270 new missile silos, more than 10 times the number it had maintained for several decades.

Why is China building missile silos?

There could be three explanations.

FIRST, some Chinese political scientists believe this could be *China’s attempt to move towards a launch-on-warning (LOW) nuclear posture. LOW refers to a launch at an adversary on detection of an incoming missile before the adversary’s missile hits its target.* China’s nuclear strategy has remained largely unchanged since 1964, when it first exploded a nuclear device. It is based on



achieving deterrence through assured retaliation. The crucial requirement for this is the survivability of China's nuclear arsenal following the first strike — conventional or nuclear — by an adversary. In order to move to the LOW posture, China would have to mate a few warheads with missiles, and keep them in alert status for a quick response. Currently, China stores its warheads and missiles in a de-alerted status separately under different commands. The 2013 Science of Military Strategy document of the PLA Academy of Military Science noted that China "can" LOW, and the Defence White Paper published by China in 2015 mentioned "rapid response". Admiral Charles A Richard, Commander of the US Strategic Command (Stratcom) said in his testimony to Senate in April 2021 that *"a portion of China's force has already moved to a LOW posture". However, silos alone, at such an early stage of construction, are not conclusive evidence of China's move to LOW.*

SECOND, it enables China to achieve its *goal of increasing its nuclear warhead stockpile. China currently has around 350 nuclear warheads.* Hans M Kristensen and Matt Korda of the Nuclear Information Project of the nonprofit FAS have estimated that 272 of these 350 warheads are assigned to operational forces; the remaining 78 have been produced for China's new DF-41 solid-fuel road-mobile ICBM. China has around 150 land-based missiles that can deliver between 180-190 nuclear warheads to some parts of the United States. If all the new silos are loaded with a single-warhead missile, the count would increase to 410-440. If the silos on completion are loaded with the DF-41s, which can carry up to two-three warheads per missile, this count would rise to 930-940 warheads. For this, China would have to increase the number of DF-41s in its inventory, and almost triple its nuclear warheads — unlikely in the immediate future. However, the construction of the silos does indicate an increasing trend in China's nuclear warheads and DF-41 missiles going forward.

The THIRD guess is that China could use these *silos as decoys. Chinese scholar Tong Zhao of the Nuclear Policy Program at the Carnegie Endowment for International Peace in Beijing has argued that China worries about the improvement in US missile defence systems and conventional precision strike weapons, which could undermine China's nuclear deterrence.* He has claimed that at the National People's Congress in March 2021, *President Xi Jinping directed the military to "accelerate the creation of advanced strategic deterrent" capabilities. The recently discovered silos could be an initiative to enhance deterrence by keeping the adversary guessing.* This could be China's shell game — where one, some, or all silos could have missiles, forcing the aggressor to target all of them during an escalation. The aggressor would have to waste more warheads or precision-guided weapons to destroy only a few missiles, or perhaps target empty silos. This would be a cost-effective strategy for China, and could also bolster its image as serious nuclear power and an equal to the US.

How has the US reacted to the discovery of the silos?

On July 28, *Stratcom retweeted a report on the silos in The New York Times, saying: "This is the second time in two months the public has discovered what we have been saying all along about the growing threat the world faces and the veil of secrecy that surrounds it."* In his April Senate testimony, Adm Richard had said China is deploying ICBM silos on a large scale. It is likely Stratcom knew about China's construction of the silos before they were discovered last month by scholars using satellite pictures. After the discovery of the Yumen field in the first week of July, a State Department spokesperson had said: *"The PRC's nuclear arsenal will grow more quickly, and*



to a higher level than perhaps previously anticipated. This buildup is concerning. It raises questions about the PRC's intent." A Pentagon spokesperson told The Washington Post at the end of June that "Defense Department leaders have testified and publicly spoken about China's growing nuclear capabilities, which we expect to double or more over the next decade." The US Department of Defense's 2020 China Military Power Report projected China's nuclear warhead stockpile, currently estimated in the low 200s, to at least double over the next decade.

And what has China said?

Neither the Chinese Ministry of Foreign Affairs nor the Ministry of National Defence has reacted. Some Chinese media have said the silos are wind farms, and accused American academics and journalists of spreading a "*China threat theory*".

So should India be concerned?

Seen in isolation, these silos appear to be built specifically to enhance deterrence against the US. But broadly, India should be watchful about China's nuclear ambiguity and its latest DF-26 intermediate-range road-mobile dual-use missiles — of which 16 launchers were deployed in Korla, Xinjiang, during the ongoing standoff. India could be a potential target given the strike ranges of these missiles and the timing of deployment. Although both China and India have pledged nuclear 'no first use' doctrines, India's modest ballistic missile defence capabilities and China's nuclear ambiguity are matters of concern for India.

What should the world do about these developments?

There isn't an obvious option for the US or anyone else. China has stated that it will not join the *NEW START (Strategic Arms Reduction Treaty)*. *Fu Cong, Director-General of the Department of Arms Control of the Chinese Foreign Ministry, recently said that the US and Russia have almost 20 times more nuclear warheads than China, and that "It is unrealistic to expect China to join the two countries in a negotiation aimed at nuclear arms reduction." Several American arms control scholars have argued for a renewal of the US government-funded US-China track 1.5 nuclear dialogue that was suspended after 15 years in 2019 due to growing friction, "declining value", and the failure to launch track 1 dialogue. Some others have said that the US's newer missile defence capabilities disturb strategic stability and complicate arms control.*

MALABAR WAR GAMES TO BEGIN ON THURSDAY

The Quad countries — India, the U.S., Australia and Japan — will carry out the next edition of the Malabar naval exercise from August 26 to 29 off the coast of Guam amid mounting global concerns over China's growing military muscle-flexing in the Indo-Pacific region. Indian stealth frigate INS Shivalik and anti-submarine warfare corvette INS Kadmatt arrived in Guam, an island territory of the U.S. in the Western Pacific, on Saturday to take part in the exercise that would feature complex drills, Indian Navy officials said on Sunday. "The Malabar-21 will witness high-tempo exercises among destroyers, frigates, corvettes, submarines, helicopters and long-range maritime patrol aircraft of the participating navies," Navy spokesperson Commander Vivek Madhwal said.



Expanding ties

The exercise is taking place in the midst of growing convergence of interests in the maritime domain as well as military cooperation among the Quad nations in the face of China's increasing assertiveness. Though the exercise is not part of the framework of cooperation under Quad, it is seen as a reflection of the increasing partnership among the four countries. Senior officials from the Quad nations held talks on August 12 on advancing practical cooperation to achieve the goal of a free and open Indo-Pacific. China has been suspicious about the purpose of the exercise as it feels that the annual war game is an effort to contain its influence in the Indo-Pacific.



DreamIAS



NATION

THE SAROOP OF SIKH HOLY BOOK

Among the most striking images emerging from the flight of Sikhs from Afghanistan have been those of Union Minister Hardeep Singh Puri carrying on his head, on Tuesday, one of the saroops of the holy Guru Granth Sahib flown in from that country.

So, what is saroop?

Saroop is a physical copy of Sri Guru Granth Sahib, also called Bir in Punjabi. Every Bir has 1,430 pages, which are referred to as Ang. The verses on every page remain the same. The Sikhs consider the saroop of Guru Granth Sahib a living guru and treat it with utmost respect. They believe that all the 10 Gurus were the same spirit in different bodies, and the Guru Granth Sahib is their eternal physical and spiritual form. It was the fifth Sikh master, Guru Arjan Dev, who compiled the first Bir of the Guru Granth Sahib in 1604, and installed it at the Golden Temple in Amritsar. Later, the tenth Sikh master, Guru Gobind Singh, added verses penned by the ninth master, his father Guru Tegh Bahadur, and compiled the Bir for the second and last time. It was in 1708 that Guru Gobind Singh declared the Guru Granth Sahib the living Guru of the Sikhs. "Guru Granth Sahib is a compendium of hymns written by six Sikh gurus, 15 saints, including Bhagat Kabir, Bhagat Ravidas, Sheikh Farid and Bhagat Namdev, 11 Bhattas (balladeers) and four Sikhs. The verses are composed in 31 ragas," said Giani Harpreet Singh, Akal Takht Jathedar.

What does the act of carrying the saroop on one's head signify?

The installation and transportation of Guru Granth Sahib is governed by a strict code of conduct called rehat maryada. Under ideal circumstances, five baptised Sikhs are required to transfer the Guru Granth Sahib from one place to another. As a mark of respect, the Bir of the Guru Granth Sahib is carried on the head, and the person walks barefoot. Whenever a devout sees the Bir of Guru Granth Sahib passing by, s/he removes her shoes and bows. A ceremonial whisk is waved high over the Guru Granth Sahib either on the move or while reading from it. Gurdwaras have a separate resting place for the Saroop, called 'Sukh Asan Sthan' or 'Sachkhand' where the Guru rests at night. This takes place at the end of the day when the holy book is ceremoniously shut and rested. In the morning, the saroop is again installed in a ceremony called 'prakash'. Many tourists specially come to watch the prakash and sukha asan ceremony of the Guru Granth Sahib at the Golden Temple.

Where are copies of the Guru Granth Sahib published?

There was a tradition among Punjabis, both Sikhs and Hindus, to copy the Guru Granth Sahib by hand and produce multiple copies. The Udasi and Nirmla sects also played a role in making handwritten copies of the Birs until the British introduced the printing press. The British also published several small copies of the Guru Granth Sahib for their Sikh soldiers so that they could carry these with them in the battlefield. Nowadays, the Shiromani Gurdwara Parbandhak Committee (SGPC) has the sole rights to publish the Birs of the Guru Granth Sahib, and this is done at Amritsar.



What is done with old Birs?

Old and worn Birs of the Guru Granth Sahib are brought to Goindwal Sahib in Tarn Taran district, where they are cremated. These days, only printed Birs are cremated as the SGPC and other Sikh bodies have been trying to protect the few handwritten Birs that remain.

How many sarroops were there in Afghanistan?

“There were 13 sarroops of the Guru Granth Sahib in Afghanistan, of which six were already shifted to India earlier. Three have been shifted today (Monday) and now just three more remain in Afghanistan. Those too will be shifted soon,” said Chhabol Singh, member Karte Parwan Gurdwara Committee. *The previous seven sarroops were transferred following an attack on Gurudwara Har Rai Sahib in Kabul on March 25, 2020, when an Islamic State gunman stormed inside and killed at least 25 Sikhs.*

BREAKING THE LOGJAM, HANDING OVER THE BATON (P.D.T. ACHARY - FORMER SECRETARY GENERAL, LOK SABHA)

For the first time ever, the Supreme Court Collegium led by the Chief Justice of India (CJI) recommended/selected as many as nine persons at one go to be appointed to the apex court. With the appointment later of the nine judges by the President of India, *barring one vacancy which arose after the Collegium met, all the nine vacancies in the Supreme Court will be filled up. The highest court in the country having its near full strength will ease the pressure on it considerably.*

Much-awaited move

Every CJI during his tenure has taken up the filling up of vacancies as a matter of highest priority, but many could not succeed. *CJI T.S. Thakur, in fact, broke down, in 2016, at a function attended by the Prime Minister in a rare expression of extreme anguish because of his inability or helplessness in filling the vacancies which was seriously affecting the functioning of the supreme judicial forum of the country.* It is indeed a happy augury that the present CJI, Justice N.V. Ramana, could, along with his colleagues in the Collegium, select the judges within a short period of his assumption of office. It is almost a truism that the selection of judges for appointment to the higher courts, particularly the top court is a complex exercise. *After the Collegium came into existence, much to the consternation of political class, the selection of suitable judges has become most arduous as much as the members of the Collegium have to take extra care to ensure that the process of selection remains transparent and the suitability of the persons selected attracts the highest level of approbation.*

Difficult task

This is by no means an easy task. The members of the Collegium are all the senior most judges who have in their own way helped shape the ethos of the highest judiciary. With their keen intellect, long years of experience at the Bench and an admirable ability to discern merit in individuals, it is a tough task to build a consensus around one person or a few persons. The CJI being the head of the Collegium, has an unenviable task in building that consensus. Therefore, it can be said without any fear of contradiction that the job of selecting as many as nine judges for



appointment to the Supreme Court was done admirably well. Going by news reports, it appears that the selection process was concluded in the first ever formal meeting of the Collegium.

Justice Ramana deserves full credit for taking along his colleagues in the true spirit of being the first among equals. *The latest resolution of the Collegium gave effect to the multiple judicial pronouncements of the top court on the subject, particularly in recommending three women, a feat which may not be possible to be repeated in the foreseeable future.* Article 142 (1) contains the concept of 'complete justice' in any cause or matter which the Supreme Court is enjoined to deliver upon. The citizens of the country look up to the Supreme Court for complete justice. So, while selecting a judge to adorn the Bench, the fundamental consideration should be his/her ability to do complete justice. The Supreme Court has gone into this fundamental normative matrix in which the whole exercise of selection of judges is performed. In the Supreme Court Advocates-on-Record Association and Another vs Union of India (1993), the Court spelt out the parameters within which to accomplish the task of selecting candidates for appointment to the higher judiciary. The most crucial consideration is the merit of the candidates. But consideration of merit should be done "... without giving room for any criticism that the selection was whimsical, fanciful or arbitrary or tainted with any prejudice or bias" (paragraph 330). The merit is the ability of the judge to deliver complete justice.

Need for transparency

India is perhaps the only country where the judges select judges to the higher judiciary. It is, therefore, necessary to make the norms of selection transparent. The Supreme Court has emphasised the need for maintaining transparency and an openness with regard to the norms of selection. In 2019, a five judge Bench of the Supreme Court, of which the present CJI was also a member, laid emphasis on this point. The Bench observed: "There can be no denial that there is a vital element of public interest in knowing about the norms which are taken into consideration in selecting candidates for higher judicial office and making judicial appointments". Thus, *the essence of the norms to be followed in judicial appointments is a judicious blend of merit, seniority, interests of the marginalised and deprived sections of society, women, religions, regions and communities.* A closer look would reveal that these norms are followed in their essentiality in selecting the nine for the Bench. *The selection of three women judges, with one of them having a chance to head the top court, a judge belonging to the Scheduled Caste and one from a backward community and the nine selected persons belonging to nine different States (Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Madhya Pradesh, Uttar Pradesh, Delhi and Gujarat; <https://bit.ly/385WJbP>), all point towards an enlightened and unbiased approach of the members of the Collegium.* It is also a matter of public knowledge that many of those selected have zealously upheld citizens' freedoms and public interest. The contributions of a few of them in waking up governments from their slumber in the wake of the COVID-19 pandemic is well documented. A high level of social consciousness possessed by a Judge enhances the quality of justice. The present CJI can be credited with recognising this crucial factor in the selection of judges.

Unwarranted

A needless controversy is sought to be raised by a section of the media about this round of selection citing the non-existing 'Rule of Seniority'. It is this insistence, on one single criterion, which led to the piling up of vacancies in the Supreme Court for nearly two years. The logjam of



22 months has been finally broken by the Collegium led by the CJI through a pragmatic approach. It is also significant to note that those who are complaining of omission have not alleged that the selected nine cannot do complete justice as the Constitution mandates. There is no doubt that there are meritorious people outside this group too. But in a population of 1.3 billion, to select just nine suitable persons to man the highest judiciary is not without difficulty. Considering the merit of the selected persons, one can undoubtedly say that the Collegium has done a good job. *With seven names (district judges) cleared by the Collegium for the Telangana High Court in one go, we can safely trust Team Ramana to speedily fill up all judicial vacancies.* The Collegium has started doing its job. Now, it is time for the Government to match the pace and take the process of appointments to its logical conclusion at the earliest.

INCOME AND QUOTAS

The Supreme Court's ruling that economic criterion alone cannot be used to classify a member of a Backward Class as belonging to the 'creamy layer' adds an interesting nuance to the jurisprudence of affirmative action. There was a time when backwardness was primarily related to the inadequate social and educational advancement of a group. Ever since the Court, in Indra Sawhney (1992), introduced the concept of 'creamy layer' — a term describing the well-off among the Backward Classes — and declared that this section should be denied reservation benefits, the original idea of including groups based on social backwardness was matched by a parallel exercise to exclude the more advanced among them. This position has crystallised into law. Many support the formulation that once caste is accepted as a basis for determining backwardness, there is nothing wrong in excluding the affluent among the eligible castes. The Union government has unreservedly accepted the 'creamy layer' rule, and formulated criteria for identifying those who fall under the category. *The proponents of economic criteria feel that genuine social justice means reservation benefits should be restricted to the poorer among the backward; while sections championing Backward Class assertion disfavour any dilution of the social basis for reservation.* The Court's latest judgment in a Haryana case corrects a grave error by the State. It has struck down a notification fixing an annual income of ₹6 lakh as the sole criterion to identify whether a family belongs to the creamy layer. It was contrary to Indra Sawhney that had spoken of different criteria, including being the children of high-ranking constitutional functionaries, employees of a certain rank in the Union and State governments, those affluent enough to employ others, or with significant property and agricultural holdings and, of course, an identified annual income. *The Court has found that the Haryana criterion based on income alone was contrary to its own law that specifies that the creamy layer would be identified through social, economic and other factors. The Constitution permitted special provisions in favour of 'socially and educationally backward classes' through the first Amendment, as well as reservation in government employment for 'backward classes'. Judicial discourse introduced a 50% ceiling and the creamy layer concept as constitutional limitations on reservation benefits. However, the 103rd Constitution Amendment, by which 10% reservation for the 'economically weaker sections' (EWS) has been introduced, has significantly altered the affirmative action programme. With the current income ceiling being ₹8 lakh per annum for availing of both OBC and EWS quotas, there is a strange and questionable balance between the OBC and EWS segments in terms of eligibility, even though the size of the respective quotas vary.*



CASTE COUNTS

The clamour for a fresh caste census is getting louder in the country. Bihar Chief Minister Nitish Kumar led a delegation of 10 political parties of the State to meet Prime Minister Narendra Modi on Monday. No political party in the country has publicly opposed the demand as yet, and most have supported the call. Mr. Modi listened to the delegation but did not open his mind on the topic. Predictably, there will be more political mobilisation on the issue. The Bharatiya Janata Party has the advantage of being in the saddle and could time an announcement best suited for itself. *The last time India's population was enumerated on the basis of caste was in 1931, when it was under colonial rule.* There is a strong argument that the colonial census was about creating and reinforcing caste and religious categories in India rather than recording them in a benign manner. Effective governance requires robust data on the governed. The creation of categories is itself a political act. Indian politics and the governance structure are all premised on categories that were firmed up during colonialism. *But the salience of caste as the fundamental marker of identity for an Indian has only grown since Independence. As the democratisation of society deepens, questions are being raised regarding the status of Dalits, tribal communities and a large section of the population that is characterised in the Constitution as Socially and Educationally Backward Classes.* Political representation of these communities has increased and their participation in government jobs has risen. *It is assumed that particular groups within each category have benefited disproportionately from political and job reservations, and there are demands for sub-quotas.* Many communities are demanding inclusion in one category or the other. Some communities are feeling short-changed by the affirmative action steps of the state. *With the role of the Government as a big employer diminishing, there is a demand for affirmative action in the private sector.* All these questions are being debated without adequate and reliable data, leading to conflicting and often misleading claims. *Supporters of a caste census cite these reasons, while sceptics fear it will only widen social rifts.* They also point to the multitude of practical problems such an exercise will encounter. What is not debatable, however, is the fact that inequitable distribution of power and wealth endangers the stability of any society. Partisan political gains should not be the motivation for a fresh census. *A renewed vision for a just and united India, where all divides are reduced must guide the discussion on a caste census.*

MANDAL IN KAMANDAL

The political career of Kalyan Singh, the former Uttar Pradesh Chief Minister, who died on Saturday aged 89, reflects the ebb and flow of the BJP's electoral fortunes since its formation in 1980. His spectacular rise in the 1990s and marginalisation in the 2000s coincided with the BJP's own transformation from a cadre-based party that talked of Gandhian socialism to a mass outfit that championed Hindu nationalism during a period of political upheaval in northern India. Singh was well poised to ride the crest of the two ideas that had captured the zeitgeist of the decade — Mandal and Mandir — and occupy office in Lucknow as the *BJP's first CM of UP.* Along with Uma Bharti, he was the prominent face of the BJP's own Mandalisation process, through which the party had tried to shed its image of being a caste Hindu outfit and embrace a pan-Hindu identity with a support base that included large numbers of backward castes. Born in a Lodh-Rajput family, Singh's rise to office was viewed as representative of the empowerment of OBCs within the rubric of Hindutva politics, which also neutralised the political edge that Lohiaite groups had gained on



the ground, post Mandal. *As CM, he presided over the demolition of the Babri Masjid, a moment that shamed constitutional democracy, but also irreversibly changed the contours of the country's politics.* It also cost Singh his office. When the tide that rose with the Ram Janmabhoomi movement fell and equations within the BJP changed, Singh found himself dispensable to the party though he had become CM a second time in 1997. Singh quit the BJP in 1999 (and in 2004) to float his own outfit only to realise that he could at best be a caste leader and dent the BJP's electoral fortunes, but would need the support of his chief political adversary in the '90s, Samajwadi Party supremo Mulayam Singh Yadav, to win even his own Lok Sabha seat. Singh returned to the BJP after more than a decade at the political fringes, but like Bharti, was a much diminished leader with little or no influence within the party on his return. It only seemed to confirm that leaders like Singh and Bharti commanded influence as products of a moment and movement, which overtook them, left them behind. Their relegation also suggested that OBC empowerment in the BJP could only exist as a current within the main course of Hindutva politics. However, the churn that Singh was a part of, and contributed to, has not ceased. It continues to shape the electoral and ideological contours of India's politics.

PROTEST CANNOT HINDER TRAFFIC

The Supreme Court took a nuanced stand on Monday, saying farmers have the right to protest but the agitation should not hinder traffic or public movement. A Bench led by Justice S.K. Kaul said the solution to end the farmer-government impasse over the three agriculture laws lay with the government. Protesting farmers have been camping on the outskirts of the capital for over a year. The Supreme Court has asked the Central, Haryana and Uttar Pradesh governments to take stock of the ground situation. The Bench, including Justice Hrishikesh Roy, was hearing a petition filed by Monica Agarwal, a Noida resident. She has complained that commuting to and fro between Delhi and Noida has become a nightmare due to road blocks because of the ongoing farmers' protest. "The solution lies in the hands of the Union and States. If the protests are on, the traffic should not be stopped in any manner, so that to and fro for people is not disturbed," the Bench remarked. The court asked Solicitor General Tushar Mehta, appearing for the Central government, to ask his client to intervene. In a recent affidavit, the Uttar Pradesh government said it had reached out to the farmers about the inconvenience being caused to commuters. Blocking free public movement was illegal, it stated.

'Administrative failure'

The court scheduled the next hearing for September 20. "It is her say that she is a single parent and also has some medical issues and it has become a nightmare to travel to Delhi where it is taking two hours instead of normal 20 minutes. She contends that despite the various directions passed by this Court to keep the to and fro passage clear [the roads], the same still does not happen. *We did put to her if it is so, it is an administrative failure as the judicial view has already been propounded by us,*" the Bench noted in its April order.

HELPING AND HINDERING JUSTICE

In early June, while dealing with issues arising in connection with the CoWIN portal, the Supreme Court pointed out some of the major impediments in the delivery of vaccines to the people at large.



They were: *inadequate digital literacy across the country, inadequate digital penetration, and serious issues of bandwidth and connectivity, particularly in remote and inaccessible regions.* Despite the ambition of bringing the benefits of vaccination to every human being in the country, the policy was falling short of its goal because of the inherent difficulties pointed out. The premise in the observations of the court was that relying solely on digital transformation may not be a sound idea. It could result in exclusion of a large section of the population on account of the enumerated shortfalls. Soon after this, the government said that CoWIN registration would no longer be mandatory for vaccination.

Rising to the challenge

What the court observed about the delivery of vaccines through digital portals alone is equally true of the delivery of justice, which is as important as ensuring the health of the people of the country. Although the courts have risen to the challenge posed by the COVID-19 pandemic, by using existing technology at an unprecedented scale and speed, it is proving to be an uphill task. In the wake of the pandemic, courts began using facilities like e-filing in true earnest. In May 2020, *the Supreme Court also introduced another innovation: a new system of e-filing and artificial intelligence-enabled referencing. This was meant to herald efficiency, transparency and access to court delivery services for every user. The judiciary's effort is not merely a one-off action to tide over the pandemic-created emergency.* It also seeks to harness technology in overcoming and resolving the intractable ills that have for long dogged the judiciary. These include the massive backlog of cases and unacceptable levels of judicial vacancies across the country at all levels. *Deep house cleaning is required in each court and there also needs to be an outreach to all litigants in a cost-effective, convenient and efficient manner. Perhaps, this could be the opportune time for making lasting changes that could transform the creaking justice delivery system in India. But an over-reliance on technology is not a panacea to all the ills plaguing the courts and if done without forethought, could become counterproductive.* Let us take the analogy of vaccination a little forward. Just like the rigorous process of vaccine trials is a pre-requisite to rolling out universal vaccination programmes, after which technology is incorporated across the board, it would be imperative to resort to performance audits and sandboxing measures to carefully understand and gauge the potential and risks. *Evidence shows that despite considerable investment to digitalise judicial infrastructure and administration, beginning with Phase 1 of the eCourts in 2007, the judiciary's performance during the pandemic period has left a lot to be desired. In absolute terms, data show that pendency reached an all-time high during this year of virtual functioning of the courts. In the case of district courts, pendency rose sharply by 18.2% between December 31, 2019 and December 31, 2020, according to the National Judicial Data Grid.* Across the 25 High Courts, pendency witnessed its sharpest increase of 20.4% in 2019-2020. This, of course, does not include all those matters that were never filed.

The way forward

Given that the pandemic caught all institutions by surprise, there is bound to be teething trouble. However, now that we are in its second year, our next course of action should be based on an evidence-based rational approach. *For instance, we need to study and understand why video conferencing in criminal cases has neither shortened trials nor reduced the number of people awaiting trial.* Similarly, we need to address uneven digital access: while mobile phones are widely owned and used, access to the Internet remains limited to urban users. *Lawyers in semi-urban and*



rural districts find online hearings challenging, mostly due to connectivity issues and an unfamiliarity with this way of working. Just as doctors cannot be replaced by chatbots, technology, no matter how advanced, cannot be a substitute for judges of whom there remains a big shortfall. The India Justice Report 2020 pegs vacancies in the High Court at 38% (2018-19) and in lower courts at 22% for the same period. More than four out of every 10 posts of High Court judges remain vacant as on August 1 this year. If deployed with adequate data-based planning and safeguards, technological tools can be a game changer. *However, technology is not per se value-neutral — that is, it is not immune to biases — and therefore, it must be properly evaluated for us to see whether it works to increase the power imbalance between citizens and the state or whether it affirms and furthers citizens' rights. Open court is a cardinal principle in the delivery of justice.* The question of public access cannot be pushed to the sidelines but must be a central consideration. *The shortage of technical infrastructure has too often meant that access to online hearings is curtailed. This ad hoc deviation cannot be allowed to become a habit of convenience. The latest Vision Document for Phase III of the e-Courts Project seeks to address the judiciary's digital deprivation. It envisages an infrastructure for the judicial system that is 'natively digital' and reflects the effect that the pandemic has had on India's judicial timeline and thinking.* However, we must keep in mind that there will always be an inherent resistance to change, whether for good or bad. Therefore, two preconditions need to be addressed: *adequate trained manpower, and tailoring systems to the specifications and contexts that we require. This is more a matter of mindset — not just of judges, but of litigants and lawyers as well; and is linked closely to trust in digital interventions.*

PHYSICAL PRESENCE MANDATORY FOR MARRIAGE REGISTRATION: DELHI GOVT.

The Delhi government on Wednesday informed the High Court that the physical presence of a couple, seeking registration of their marriage, before the authority concerned is mandatory and it cannot be done through videoconferencing. The government's counsel said the process of marriage registration includes a photograph of the couple being taken at the SDM's office. Justice Rekha Palli, while hearing a plea by a couple who got married in 2012 and are currently residing in the U.S., said the process to be undertaken only pertained to the registration of a marriage that has already happened. "You are only registering something. They are not marrying in your presence," the judge remarked. The court will hear the case again on September 6.

THE INDORE TEST

The attack on a Muslim bangle-seller in an Indore neighbourhood is another example of a Hindutva mob targeting a citizen for his religion, on the pretext of "protecting Hindu women". The Madhya Pradesh government's response to the violence has been to let the communal pot simmer. *While the police arrested four men for abusing and thrashing Tasleem Ali for daring to step into a "Hindu area", Home Minister Narottam Mishra appeared to condone the violence, alleging that Ali had used a "Hindu name" and owned two Aadhaar cards.* Subsequently, Ali has been booked and arrested on charges, among others, *of forgery and attempting to harass the minor daughter of one of the men accused of assault.* Meanwhile, organisations that claim to "protect Hindu rights" have taken out rallies in the city, ratcheting up the divisive rhetoric. *The attack on Ali follows a few communally sensitive incidents in Indore.* The apparent silence and inaction of Chief Minister Shivraj Singh Chouhan, who is best placed to calm tensions and defuse provocative situations, is, therefore, all the more disturbing. The communal belligerence on public display was, by and large, absent in his



earlier three terms as chief minister. Within the BJP, Chouhan had earned himself a reputation for being a leader with an instinct for moderation and consensus. In his fourth term as chief minister — in which power has been wrested not by mandate, but by the fall of the Congress government — he appears to be on visibly unsure ground, as ministers more adept at rabble-rousing are increasingly seen and heard. Signs of him shedding a moderate persona came in January this year, when he threatened a law against “stone-pelters” as unrest in the Malwa region followed an aggressive fund collection drive for the Ram temple in Ayodhya. *The state government also followed the UP example by endorsing the paranoia over “love jihad” with an anti-conversion bill against inter-faith marriage.* Chouhan’s record of providing a stable government, his recent stand against the real estate mafia, and Indore’s reputation as a city where civic governance has benefited ordinary people are all put at risk if communal antagonisms are allowed to play out unchecked. *In many parts of the country, majoritarian mobilisation has licensed violence against ordinary Muslims, threatening to divide cities and villages into spaces for “us” and “them”, and reduce citizens to their religious identities.* Down this road lie social disharmony and more violence. The Madhya Pradesh Chief Minister must end this sense of drift, and arrest this politics of unreason.

GUJARAT LAW AGAINST CONVERSION FOR MARRIAGE: WHAT HC INTERIM STAY MEANS

The Gujarat High Court this week stayed key provisions of The Gujarat Freedom of Religion (Amendment) Act, 2021 pertaining to marriages involving religious conversion of either of the two parties. While a larger constitutional challenge is still pending, the interim stay provides relief to interfaith couples.

What is the law under challenge?

The law under challenge is The Gujarat Freedom of Religion (Amendment) Act, 2021. The legislation amended the 2003 Gujarat Freedom of Religion Act. The amendment was brought in line with several similar laws enacted last year by BJP-ruled states, starting with Uttar Pradesh. The laws ostensibly seek to end conversion through unlawful means, specifically prohibit any conversion for marriage, even if it is with the consent of the individual except when prior sanction is obtained from the state. Apart from UP and Gujarat, Madhya Pradesh and Himachal Pradesh too, have also enacted similar laws.

Why have the laws been criticised?

The new anti-conversion laws shift the burden of proof of a lawful religious conversion from the converted to his/her partner; define “allurement” for religious conversion in vague, over-broad terms; prescribe different jail terms based on gender; and legitimate the intrusion of family and the society at large to oppose inter-faith marriages. They also give powers to the state to conduct a police inquiry to verify the intentions of the parties to convert for the purposes of marriage. Legal experts have pointed out that *the laws interfere in an individual’s agency to marry a partner from a different faith and to choose to convert from one’s religion for that purpose.* Apart from being vague and sweeping, the laws also test the limits to which the state can interfere in the personal affairs of individuals. *The freedom to propagate one’s religion and the right to choose a partner are fundamental rights that the new anti-conversion laws impinge upon.*



What has the Gujarat High Court held?

A Division Bench of the Gujarat High Court comprising Chief Justice Vikram Nath and Justice Biren Vaishnav have granted an interim stay on certain provisions of the amendment that interfere with inter-faith marriages. *“Prima-facie inter-faith marriages between two consenting adults by operation of the provisions of Section 3 of the 2003 Act interferes with the intricacies of marriage including the right to the choice of an individual, thereby infringing Article 21 of the Constitution Of India,”* the High Court order says. The other provisions stayed include Section 6A that reverses the burden of proof on the partner of the converted spouse to prove that he/she did not coerce the other spouse; Section 4, which allows the aggrieved person, their parents, brother, sister, or any other person related by blood or marriage or adoption to file an FIR challenging the conversion and subsequent marriage. However, this reading of the High Court will be subject to its final decision, as the remaining provisions of the law are yet to be examined. The interim stay on certain provisions will have to be confirmed when the larger challenge is decided.

What is the impact of the ruling?

The HC ruling, although preliminary, comes as a relief to interfaith couples from being harassed. The reading could have a bearing on challenges pending in other HCs. However, its real impact on the ground could be limited, as larger constitutional nuances are often difficult to permeate, especially when it is not a final and binding verdict.

PURSUING POST-POLL TRUTH

Political violence has long been a feature of West Bengal politics. Whether it is due to a sense of mass empowerment, or an outcome of political awareness, or the partisan nature of electoral politics, the phenomenon has been a subject of debate as well as a cause for concern. *Post-election violence, however, stems from the victor's sense of entitlement and triumphalism, making it more condemnable and far less spontaneous than the frequent confrontations that mark the State's political scene.* The latest round of violence broke out soon after the declaration of results of the State Assembly elections on May 2. *The Calcutta High Court has ordered a Central Bureau of Investigation (CBI) probe into incidents of rape and murder that took place during this post-poll violence, while other incidents will be probed by a special team of State police officers.* Both the probes will be under the court's supervision. The verdict by a five-judge Bench is a welcome denouement to days of fierce recriminations by the ruling Trinamool Congress and the Opposition led by the Bharatiya Janata Party over the incidents. It is a reflection of the state of affairs in the State that there is a dispute over how bad the violence was and how long it lasted. To make matters worse, the Mamata Banerjee government claimed that the violence was brought under control as soon as the party assumed office on May 5, giving the impression that three days of mayhem brooked no response from the police. The court's decision to get the National Human Rights Commission to form a panel, including representatives of the State Human Rights Commission and the State Legal Services Authority, to make a field assessment was contested by the State government, but the report the exercise yielded confirmed large-scale and widespread violence, much of it by ruling party supporters against their political adversaries. *The main judgment by Acting Chief Justice Rajesh Bindal has explained the reasons for handing over the probe to the central agency: the lack of concrete action, the absence of first information reports, or diluted ones registered after a committee had pointed out such cases, and the tendency to downplay many cases.* Further,

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



when faced with allegations of police apathy and inaction, only an investigation by an independent agency will inspire confidence. In a separate opinion, Justice I.P. Mukerji said that there was nothing to show that the ruling party intended to promote political violence, but agreed that the CBI probe was needed to ensure a fair investigation into heinous crimes. The State government may appeal against the verdict, but the doubt cast on the ruling party's commitment to the rule of law is genuine. *An impartial investigation may not only result in credible prosecutions but also be a much-deserved blow against the culture of violence and post-election triumphalism in West Bengal.*

FACIAL RECOGNITION SPREADS, CONCERN OVER ABSENCE OF DATA PROTECTION LAW

Across some of India's busiest airports and train stations, facial recognition technology (FRT) software systems are being hooked up with a progressively spreading network of closed-circuit cameras by multiple state-owned agencies to pan through databases of photos to identify people on a real-time basis. The growing list of users of this technology, which started with the *Home Ministry's National Crime Records Bureau (NCRB) and various police forces, now includes the Airports Authority of India, the Indian Railways, public sector utilities, and the state-owned agency mandated to issue a unique identity to all residents of India.* FRT software vendors include both domestic firms and global companies. The systems seek to achieve a range of objectives: better identification of criminals, law enforcement use at railway stations, passenger check-ins at airports, biometric attendance at companies, and even student authentication mechanisms. FRT systems are in the process of being deployed at airports in Kolkata, Varanasi, Pune, Vijayawada, Bengaluru, and Hyderabad as part of a trial under the Ministry of Civil Aviation's Digi Yatra initiative. For four of these airports — Kolkata, Varanasi, Pune and Vijayawada — that are managed by the Airports Authority of India (AAI), Japanese electronics company NEC has been roped in for the implementation. The project is expected to start by the end of this year. AAI said it is currently testing the solution at Varanasi airport. *"The solution is designed as per prevailing industry standards with respect to data security & privacy. The consent of the user is taken before the biometrics are captured as part of the enrolment process to Digi Yatra program,"* an AAI spokesperson said in response to a query sent by The Indian Express. As part of a broader Indian Railways plan to install facial recognition tech at railway stations to "identify criminals", Western Railway has commissioned 470 video cameras featuring real-time FRT developed by the Russian video analytics firm NtechLab, which has been certified by the Research Designs and Standards Organisation (RDSO), a technical adviser and consultant to the Indian Railways. The camera system, which is said to ensure simultaneous recognition of up to 50 people in a single frame, will be used on the busiest section of the network. The video analytics system can be used to "shape strategy" by counting passenger traffic on the network at any given time, alongside the stated objective of "identifying criminals" and "searching for missing persons", according to the systems vendor. "Our video analytics technology employs high-precision, real-time face recognition mode, in the video stream. Images are compared with a database of wanted individuals. If there is a match, it notifies law enforcement immediately. The entire process, from the appearance of the person in front of a camera to law enforcement receiving a signal, takes less than three seconds. This enables a fast response to situations as they develop," according to Andrei Telenkov, CEO of NtechLab. The NCRB, which compiles crime statistics and maintains a database, is deploying "an automatic FRT system" aimed at facilitating "better identification of criminals, unidentified dead bodies & missing/found children and persons". The Home Ministry has said that the automatic FRT system will use "police records and will be accessible only to Law Enforcement Agencies".

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



However, in March 2018, the Delhi Police, which comes under the Home Ministry, acquired an automated facial recognition software as a tool to identify lost boys and girls by matching photos, the data from which are learnt to have been subsequently fed into the automated facial recognition system to identify people who repeatedly turned up at protests, and who were photographed during the riots of last year. The software deployed by Delhi Police is learnt to have been supplied by the Delhi-based tech company Innefu Lab, which describes itself as a security, analytics, and intelligence firm. The company lists Delhi Police as a client on its website, in addition to “more than a dozen LEA departments” where its solutions have been deployed. In December 2018, Uttar Pradesh Police deployed a software called Trinetra developed by Gurgaon-based company Staqu to “zero in on the criminal” in a quick and targeted manner using techniques such as facial recognition, biometric record analysis, etc. The database at the time was created using criminal records of the state police, the prisons department, and the Government Railway Police. Besides law-enforcement agencies, utilities too are leveraging the technology. State-owned NTPC Ltd has started implementing FRT alongside biometrics to capture the attendance of employees. As per NTPC’s policy, consent of employees “shall not be” required for implementation of FRT. A red flag that has been raised is that the extensive use of FRT systems is taking place in the absence of data protection laws that would mandate necessary safeguards in the collection and storage of user data. This is especially significant because other government agencies planning to deploy FRT systems include those with a much wider ambit — such as the Unique Identification Authority of India (UIDAI), which is developing the Aadhaar-based Face Authentication in Proof of Concept (PoC) phase to supplement authentication mechanisms in addition to biometric and iris-based authentication procedures. Also, the Central Board of Secondary Education (CBSE) is using facial recognition for one-to-one face matching as one of the authentication mechanisms for issuing digital marksheets to students. The Ministry of Education has informed Parliament that there is no collection or storage of biometric facial data, and the use of the application is based on the consent of the individual. A government official involved in the exercise said FRT is “distinct” from face authentication mechanisms being used by CBSE for digital marksheets. *Apart from the fact that these systems are currently operating in a legal vacuum given that India does not yet have specific laws with regard to FRT and personal data protection, experts have also flagged the issue of lack of informed consent. While individuals in a CCTV-surveilled area may be aware they are under surveillance, the use of images gathered from CCTV networks in conjunction with FRT would mean their images will be stored for longer, if not permanently.* “This data will also be used to extract particular data points such as the facial features and other biometrics, which the individual has not consented to sharing when entering a CCTV-surveilled zone, and these data points can be used to track future movements of the person. Therefore, integration of FRT with a network of CCTV cameras would make real time surveillance extremely easy,” the non-profit Internet Freedom Foundation wrote in a blog post on surveillance-related privacy concerns. *Footage collected through CCTVs are governed by rules and regulations laid down by various states and local law enforcement authorities, and include aspects such as the time the footage is stored for and the uses to which it is put. However, for all CCTV cameras, privacy is governed by provisions in The Information Technology Act, 2000, which prescribes “punishment for violation of privacy” for any person who “intentionally or knowingly captures, publishes or transmits the image of a private area of any person without his or her consent, under circumstances violating the privacy of that person”.* The Indian Express reached out by email to the Railway Board, NTPC, and the Ministry of Education requesting comments for this report, but got no responses.



THE UGLY FACE OF A CRIME-FIGHTING MOVE

In the monsoon session of Parliament, no meaningful debate could take place due to the controversy over Pegasus, the spyware. Some Indian journalists, civil society activists and political leaders, and a top election strategist were possibly under surveillance. There has been no categorical denial by the Government and that the Israeli software was not purchased. But above this, there is a much bigger issue of the privacy of the entire citizenry which has not received much public attention. On June 23, 2021, the Joint Committee examining the Personal Data Protection Bill (2019) was granted a fifth extension by Parliament (<https://bit.ly/388uk4Z>). While informational privacy is not the Government's priority, it has been simultaneously exploring the potential of facial recognition technology.

A prying technology

To empower the Indian police with information technology, India approved implementation of the National Automated Facial Recognition System (NAFRS) to "facilitate investigation of crime and detection of criminals" in a quick and timely manner. On its implementation, it will function as a national-level search platform that will use facial recognition technology: to facilitate investigation of crime or for identifying a person of interest (e.g., a criminal) regardless of face mask, makeup, plastic surgery, beard or hair extension. *The technology is absolutely intrusive: computer algorithms map unique facial-landmarks (biometric data) such as shape of the cheekbones, contours of the lips, distance from forehead to chin, and convert these into a numerical code — termed a faceprint.* Thus, for the purposes of 'verification' or 'identification', the system compares the faceprint generated with a large existing database of faceprints (typically available to law enforcement agencies) through a database on driver's licence or police mugshots). But *the real problem is that facial recognition does not return a definitive result — it 'identifies' or 'verifies' only in probabilities (e.g., a 70% likelihood that the person shown on an image is the same person on a watch list).* Though *the accuracy of facial recognition has improved over the years due to modern machine-learning algorithms, the risk of error and bias still exists.* For instance, there is a possibility of producing '*false positives*' — a situation where the algorithm finds an incorrect match, even when there is none — resulting in wrongful arrest. Moreover, much research suggests facial recognition software is based on pre-trained models. Therefore, if certain types of faces (such as female, children, ethnic minorities) are under-represented in training datasets, then this bias will negatively impact its performance. As NAFRS will collect, process, and store sensitive private information: facial biometrics for long periods; if not permanently — it will impact the right to privacy. Accordingly, it is crucial to examine whether its implementation is arbitrary and thus unconstitutional, i.e., *is it 'legitimate', 'proportionate to its need' and 'least restrictive'?* What is its potential for abuse and misuse with the pending-status of the Personal Data Protection Bill (PDPB), and the absence of clear guidelines for its deployment? How does it impact other fundamental rights such as the right to dissent? Should NAFRS be banned or simply regulated? The Federal Bureau of Investigation in the United States uses facial recognition technology for potential investigative leads; police forces in England use facial recognition to tackle serious violence. In other cases, countries such as China use facial recognition for racial profiling and mass surveillance — to track Uighur Muslims. Policing and law and order being State subjects, some Indian States have started the use of new technologies without fully appreciating the dangers involved.



Test of 'proportionality'

Facial recognition being an intrusive technology has an impact on the right to privacy. The Constitution of India does not explicitly mention the right to privacy. However, a nine-judge Bench of the Supreme Court, in Justice K.S. Puttaswamy vs Union of India (2017) recognised it as a precious fundamental right. Since no fundamental right can be absolute and thus even in respect of privacy, the state may impose reasonable restrictions on the grounds of national integrity, security of the state, public order, etc. The Supreme Court, in the K.S. Puttaswamy judgment provided a three-fold requirement (which was reiterated in Anuradha Bhasin while examining denial of the 'right to Internet' to the people of Kashmir) to safeguard against any arbitrary state action. Accordingly, any encroachment on the right to privacy requires the existence of 'law' (to satisfy legality of action); there must exist a 'need', in terms of a 'legitimate state interest'; and, the measure adopted must be 'proportionate' (there should be a rational nexus between the means adopted and the objective pursued) and it should be 'least intrusive.' Unfortunately, NAFRS fails each one of these tests. First, NAFRS lacks 'legitimacy'. *It does not stem from any statutory enactment* (such as the DNA Technology (Use and Application) Regulation Bill 2018 proposed to identify offenders or an executive order of the Central Government. RATHER, IT WAS MERELY APPROVED BY THE CABINET COMMITTEE ON ECONOMIC AFFAIRS IN 2009 DURING UNITED PROGRESSIVE ALLIANCE RULE. Second, and more importantly, even if we assume that there exists a need for NAFRS to tackle modern day crimes, this measure is grossly disproportionate. This is because *to satisfy the test of 'proportionality', benefits for the deployment of this technology have to be sufficiently great, and must outweigh the harm.* For NAFRS to achieve the objective of 'crime prevention' or 'identification' will require the system to track people on a mass scale — avoiding a CCTV in a public place is fiendishly difficult — resulting in everyone becoming a subject of surveillance: a disproportionate measure. In the absence of a strong data protection law or clear guidelines on where this technology can be used or who can be put on a watch list? And, how long the system will retain sensitive personal data of those the surveilled people, NAFRS will indeed do more harm than good.

Impact on rights

From a technical angle, facial recognition technology can be tasked to 'identify', among other uses, cases. In doing so, one faceprint is compared to many other faceprints stored in a database (known as 1:N matching). In some cases, it is known that the person to be identified exists in the database, whereas, in other scenarios, it is not (for e.g., when persons are checked against watch lists). This is where its deployment becomes hugely worrisome. With the element of error and bias, facial recognition can result in profiling of some overrepresented groups (such as Dalits and minorities) in the criminal justice system. Further, *as anonymity is key to functioning of a liberal democracy, unregulated use of facial recognition technology will dis-incentivise independent journalism or the right to assemble peaceably without arms, or any other form of civic society activism.* Due to its adverse impact on civil liberties, some countries have been cautious with the use of facial recognition technology. The Court of Appeal in the United Kingdom ruled the use of facial recognition technology by South Wales as unlawful in the absence of clear guidelines. In the United States, the Facial Recognition and Biometric Technology Moratorium Act of 2020 was introduced in the Senate to prohibit biometric surveillance without statutory authorisation. Similarly, privacy watchdogs in the European Union have called for a ban on facial recognition.



Unchecked pathway

At present, the Information Technology Act 2000, and the Rules framed thereunder offer broad powers to the Central government to infringe privacy in the name of the sovereignty, integrity or the security of the state. The Personal Data Protection Bill 2019 is not much different. It gives the central government unchecked power for the purposes of surveillance — it can exempt any agency of the Government from the application of the proposed law in the name of legitimate state interest. Without adequate safeguards such as penalties that are dissuasive and sufficiently deterrent, police personnel may routinely use facial recognition technology. *In sum, even if facial recognition technology is needed to tackle modern-day criminality in India, without accountability and oversight, facial recognition technology has strong potential for misuse and abuse.* In the interest of civil liberties and to save democracy from turning authoritarian, *it is important to impose a moratorium on the use of facial recognition technology till we enact a strong and meaningful data protection law*, in addition to statutory authorisation of NAFRS and guidelines for deployment. If the Government has the will, it can get any law passed with god speed just like the recently passed 20 Bills including the OBC Bill or three Farm Bills.

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What is the law under challenge?

The law under challenge is The Gujarat Freedom of Religion (Amendment) Act, 2021. The legislation amended the 2003 Gujarat Freedom of Religion Act. The amendment was brought in line with several similar laws enacted last year by BJP-ruled states, starting with Uttar Pradesh. The laws ostensibly seek to end conversion through unlawful means, specifically prohibit any conversion for marriage, even if it is with the consent of the individual except when prior sanction is obtained from the state. Apart from UP and Gujarat, Madhya Pradesh and Himachal Pradesh too, have also enacted similar laws.

Why have the laws been criticised?

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What has the Gujarat High Court held?

A Division Bench of the Gujarat High Court comprising Chief Justice Vikram Nath and Justice Biren Vaishnav have granted an interim stay on certain provisions of the amendment that interfere with inter-faith marriages. *“Prima-facie inter-faith marriages between two consenting adults by operation of the provisions of Section 3 of the 2003 Act interferes with the intricacies of marriage including the right to the choice of an individual, thereby infringing Article 21 of the Constitution Of India,” the High Court order says. The other provisions stayed include Section 6A that reverses the burden of proof on the partner of the converted spouse to prove that he/she did not coerce the other spouse; Section 4, which allows the aggrieved person, their parents, brother, sister, or any other person related by blood or marriage or adoption to file an FIR challenging the conversion and subsequent marriage.* However, this reading of the High Court will be subject to its final decision, as the remaining provisions of the law are yet to be examined. The interim stay on certain provisions will have to be confirmed when the larger challenge is decided.

What is the impact of the ruling?

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HARYANA'S CHANGES TO LAND LAW; WHY THEY HAVE BEEN CRITICISED

The Haryana Assembly on Tuesday passed The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Haryana Amendment), Bill, 2021, which seeks to expedite development projects by simplifying the procedure for acquisition of land. The new law has brought Public-Private Partnership (PPP) projects to the 'exempt' category, for which Social Impact Assessment (SIA)/ consent of landowners, a requirement under the Central Land Acquisition Act of 2013, is not required. The Opposition Congress has criticised the Bill for allegedly being “anti-farmer” and promoting “crony capitalism”. The Narendra Modi government's attempt to amend the Central law in 2014 had failed since the BJP and its allies did not have a majority in Rajya Sabha at the time. The Centre dropped the idea, but asked states to suitably amend the law in their jurisdictions.

Exemptions from SIA

Following the passage of the amendments by the Assembly, the government will not be required to obtain the consent of landowners, or carry out a Social Impact Assessment for a range of projects. They include: Projects vital to national security or defence of India; rural infrastructure including electrification; affordable housing, housing for the poor and for rehabilitation of persons displaced due to land acquisition or a natural calamity; industrial corridors set up by the state government or its undertakings wherein land up to 2 km on either side of the designated railway lines or roads can be acquired; infrastructure projects relating to health and education, PPP projects wherein the ownership of land continues to vest with the state government, and urban Metro and rapid rail projects. *Under the Central Act, it is mandatory for the government in PPP projects to seek the consent of at least 70 per cent of affected families.* According to the Opposition, *doing away with*



that requirement will give arbitrary powers to the government to impose acquisition on landowners — primarily farmers — who would have no choice but to accept the compensation and hand over their lands. Even irrigated or cultivable land can now be acquired, with or without the consent of the owner.

Powers of the Collector

A new Section 31A pertains to the payment of a lump sum in lieu of rehabilitation and resettlement costs for projects that are linear in nature, up to 50 per cent of the compensation determined, to the affected family. The Collector can determine the fair compensation and make the award without further enquiry if he is satisfied that all persons interested in the land have consented to the terms and conditions of their free will. Critics of the Bill have argued that in such a situation, tenants and poor persons who may have non-proprietary rights on the land are likely to lose out. Also, the share of female heirs is often not recorded in rural areas. And persons with right of access, such as among the co-sharers of a Khewat, and usufructuary rights as in a mortgage or easement rights of an owner, are not duly recorded in official records.

Those living on the land

*The new provisions in the Bill seek to do away with the condition of 48-hour prior notice to the occupants of an acquired building to evacuate. Occupants would be liable to vacate the building immediately after the Collector announces the award. “This is extremely draconian and arbitrary. The state machinery shall be armed with powers to throw out the belongings of an affected person even at midnight without any notice or redress,” Leader of Opposition and former Chief Minister Bhupinder Singh Hooda told The Indian Express. **The amendments also do away with the provision to give the evicted people plots of land in addition to monetary compensation.***

Government’s position

Deputy Chief Minister Dushyant Chautala, who also holds the revenue portfolio, has rejected the apprehensions that acquired lands will eventually go to corporates. “The Amendments have been made to acquire the land for public sector projects. The ownership of the acquired land shall remain with the government,” he said. Chief Minister Manohar Lal Khattar said, “There is no reduction in the amount of compensation. It shall continue to be the same as it used to be under the Central Act. The provisions are only aimed at issues concerning consent — whether they (landowners) want to sell their land or not. “For instance, **linear projects** such as railways, Metro rail, highways, have their own norms, and for that, land is required. For projects like a school etc, we can change the location, but linear development cannot be altered. Similarly, projects of public importance have been included in the Bill. There should be no problem with this Bill.” Chautala has also pointed out that Haryana is not the only state to have sought to make the amendments in the Central Act — 16 other states, including Telangana, Gujarat, Tamil Nadu, and Maharashtra, have done the same. However, in certain states, the law has been challenged and cases are pending in courts.



PLAN TO DEPORT 60,000 CHAKMAS FROM ARUNACHAL SLAMMED

Chakma organisations have slammed the proposed deportation of 60,000 people belonging to the Chakma and Hajong communities from Arunachal Pradesh. They said other States in India, specifically Assam, must not be the dumping ground of “unwanted people of the Northeast” although 94% of the Chakmas and Hajongs settled in present day Arunachal Pradesh by the Government of India in the 1960s are Indians by birth.

CM Khandu’s speech

In a statement on August 23, the Chakma Rights and Development Organisation (CRDO) expressed concern over Chief Minister Pema Khandu’s Independence Day speech and Law and Justice Minister Kiren Rijiju’s ‘warnings’ during his *‘Jan Ashirvad Yatra’ in the State*. While Mr. Khandu said *“all illegal immigrant Chakmas will be moved and settled outside Arunachal Pradesh with honour, and this matter has already been taken up and discussed with Union Home Minister Amit Shah”*, Mr. Rijiju said there should be “no confusion about the fact” that Chakmas and Hajongs “will not be allowed to subsist or live in Arunachal Pradesh”. *The Chakma and Hajong people were brought by the Government of India from Chittagong Hill Tracts (now in Bangladesh) from 1964-68 and rehabilitated in the North East Frontier Agency (NEFA) that became Arunachal Pradesh later on, the CRDO noted. “The rehabilitation was under a Centrally-sponsored plan following a series of discussions between the representatives of the Central government, the NEFA administration and local tribal leaders,”* its president Mahendra Chakma said. “We are very worried about our future as we and our forefathers have suffered long enough because of partition. We oppose any move to dislodge the Chakma community from the State,” the Arunachal Pradesh Chakma Gaonburah Association said.

T.N. LAUNCHES ₹100 CR. URBAN EMPLOYMENT SCHEME

The Tamil Nadu government will implement an urban employment scheme on the lines of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) at a cost of ₹100 crore to improve the livelihood of urban poor, Minister for Municipal Administration, Urban and Water Supply K.N. Nehru said in the Assembly on Tuesday. “In the current year, it will be implemented in two zones in the Greater Chennai Corporation, one zone each in other Municipal Corporations, one municipality each in under the seven Regional Directorate of Municipal Administration and one town panchayat each in 37 districts,” the Minister said while replying to the debate on demands for grants for his department. Mr. Nehru said, unlike other States, the urban population in Tamil Nadu was growing fast and it would reach 60% of the total population by 2036. A total of four crore people are now living in urban areas, accounting for 53% of the total population. Mr. Nehru added that as announced in the State budget, the government would implement the Kalaingar Urban Development Scheme at a cost of ₹1,000 crore. “Infrastructure including community hall, markets, modern libraries will be created in municipalities and town panchayats,” he said.

Pilot scheme

Government sources told The Hindu that this was a pilot scheme and the government would soon come out with guidelines for providing wages under the scheme. The objective of the programme

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was to provide employment to urban poor, who had lost their jobs because of the COVID-19 pandemic as recommended by the committee headed by former RBI Governor C Rangarajan. “Thousands of jobs were lost and the government discussed ways to create jobs for them. Under the scheme, workers will be used for activities such as desilting of water bodies and maintenance of public parks and other places,” a senior official said. Asked if the scheme would be implemented permanently, he said, “no decision has been taken so far”. The State government had submitted a memorandum to the Centre seeking funds for an urban employment scheme but was yet to get a response.

(M) FINDING A HEALTHY WAY TO COOK

In India, many women in poor households who use firewood or dung cakes for cooking spend long hours collecting firewood and making dung cakes. This is drudgery. It affects their health and puts the safety of women and girls in jeopardy. Using firewood and dung cakes also leads to indoor pollution, as chulhas (firewood-based stoves) using these sources of energy release carbon monoxide and carbon dioxide into the atmosphere. Both these gases have an adverse impact on the health of the family members. They also impact the environment. The earlier solution to this problem — smokeless or fuel-efficient chulhas for cooking — was introduced in the 1980s. *The National Programme on Improved Chulha was launched in 1984. This was backed by training programmes for making and maintaining these chulhas.* But these programmes failed when subsidies were withdrawn, governments lost interest, people could not be convinced to use the new chulhas and did not participate, target beneficiaries were not properly identified, and there was little quality control.

Introducing LPG

The Indian government then introduced Liquefied Petroleum Gas (LPG) in June 2013 under the PAHAL scheme on an experimental basis. The scheme finally covered 291 districts. Access to this clean energy was expected to alleviate the public health burden posed by household air pollution on women. With rising incomes, the lower classes were expected to be covered by the scheme. *The scheme, it was thought, would improve women’s access to education, leisure, and the labour market, and also improve the environment, climate, and human health.* In 2016, the Modi government launched the LPG scheme as the Pradhan Mantri Ujjwala Yojana (PMUY). NITI Aayog laid out a road map for universal access to LPG by 2025. The subsidy for LPG increased from ₹12,000 crore in 2016-17 to ₹21,000 crore in 2017-18 (Petroleum Analysis and Planning Cell, 2018), and 94% of all households had an LPG connection as of September 2019, an increase from 56% in 2014-15. However, as per evaluation studies, many LPG connection holders were found to still be using other fuels like firewood and dung cakes. This is because men, who usually make the decision of buying the refill, often do not agree to a refill which is expensive for the poor. Studies found that the poor use LPG mainly for making tea or snacks while they continue to use firewood or cow dung for their main cooking, as these sources of fuel are free of cost and easily available. *Usually, as low value is attached to women’s time in production, the opportunity cost of women’s labour is low even when a capital subsidy is available, and women have to depend on traditional fuels. LPG is used for cooking when the opportunity cost of women’s labour is considered high, such as in the peak season in farming.* On the other hand, urban households with reasonably high incomes and rural households belonging to upper income groups consider LPG refill a necessity



for full cooking. Official data show that 48% rural households used LPG (2018) but only partially. The other problems in accessing LPG are administrative and include the distance to LPG distribution centres, long waiting time, and rising costs of LPG cylinders. Despite these findings, the Prime Minister recently introduced Ujjwala 2.0 under which one crore additional PMUY connections aim to provide deposit-free LPG connections to those low-income families who could not be covered under the earlier phase of PMUY. *Under Ujjwala 2.0, migrants will not be required to submit ration cards or address proof. The amount allocated for this purpose is ₹14,073 crore this year. It is clear that the planners have not looked at the evaluation studies of Ujjwala 1.0 and the official data on the performance of the scheme. LPG cylinders are not a priority for the poorest. They sometimes even sell the cylinder to meet their urgent needs.*

One size cannot fit all

There is no doubt that crores of poor and middle class women need better sources of cooking energy that are time saving, healthy, easily accessible and affordable. LPG works well, but only for non-poor households. *Others need affordable alternatives to choose from, such as solar energy and solar cookers, smokeless chulhas, biogas plants and electric cookers where electricity is cheap. Good research and development efforts need to be made in the public and private sectors to explore these alternatives. As one solution may not fit all, there is a need to offer a set of energy sources to households so that each of them finds a suitable energy for itself. Women in India can achieve energy security for cooking only through cheaper and efficient alternatives.*

ONUS ON STATES TO REGULATE GAMBLING WEBSITES

The Delhi High Court was informed by the Centre that online gambling was a State subject and the State governments have to make laws to regulate such activities. “The legislative competence to determine whether a game is a game of skill or a game of chance or is involved in gambling [played with stakes or not] is conferred on the States only or to the court of laws [which possess the judicial wisdom],” the Centre said in an affidavit.

‘MeitY powerless’

It, additionally, said the Ministry of Electronics and Information Technology (MeitY) “does not possess the judicial wisdom to determine whether an online game is involved in gambling or not”. The Centre’s submission came in response to a petition filed by Avinash Mehrotra seeking directions to the authorities to take appropriate steps to ban or prohibit online gambling websites from operating in the country. A Bench of Chief Justice D.N. Patel and Justice Jyoti Singh, which was hearing plea, *observed that online gambling is dangerous and websites earning cannot be at the cost of youngsters. The court posted the case for further hearing on October 11. The plea claimed that despite there being laws enacted by various States prohibiting such activities, a large number of websites providing gambling, betting and wagering games are still accessible in India.* The plea contended that “all these activities are being carried out because of a lack of enforcement of the laws in question”.



DAYS AFTER GOVT DELETED PARA ON MUGHALS, CULTURE SECTION OF GOVT WEBSITE BECOMES A PHOTO GALLERY

Two days after the Information Technology Ministry removed a paragraph on the Mughal Empire from its website, the *'Culture and Heritage' section of knowindia.gov.in has been turned into a photo gallery*. The section, which showcased India's history, tradition, monuments, arts and other activities, was removed Tuesday. It reappeared Wednesday, without any text, displaying merely 30 photographs showcasing dance forms and monuments. Sources told The Indian Express that *the "corrected text, portraying the actual history" will be floated on the website in a few weeks*. On Monday, *a paragraph on the IT Ministry site describing the Mughal Empire as among the "greatest ever" was deleted when complaints tagging the Ministry of Culture were raised on social media*. Even as the Ministry distanced itself from the issue, it also said that it was working with the agencies to "accurately portray the events". Maintaining that neither was the content generated by any department of it nor had it made any recommendations to the MeITY, the Ministry of Culture had tweeted: "It has been brought to the Ministry's notice about content in Know India website (KnowIndia.gov.in) that misrepresents India's history. The Ministry of Culture does not run this website and is working with the concerned entities to accurately portray the events." *The paragraph on the Mughals, on the IT Ministry site's Medieval India page, said: "In India, the Mughal Empire was one of the greatest empires ever. The Mughal Empire ruled hundreds of millions of people. India became united under one rule, and had very prosperous cultural and political years during the Mughal rule. There were many Muslim and Hindu kingdoms split all throughout India until the founders of the Mughal Empire came."* The website is run by the National Informatics Centre, an attached office under the IT Ministry, which provides infrastructure to help support the delivery of government IT services and the initiatives of Digital India.

WHAT'S NEW IN HIGHER EDUCATION

The new National Education Policy is in the news again with Delhi University (DU) approving the introduction of the four-year undergraduate programme from next year, amid opposition from teachers. The NEP proposes several reforms for higher education. A look at how, if implemented in letter and spirit, the NEP can change the classroom experience:

Multidisciplinarity

Higher education in India is focused on producing disciplinary experts. *But the new NEP proposes to break disciplinary boundaries. What this means is that B Tech students, for example, would no longer limit themselves to their engineering branch. Instead, their programmes will have a more significant component of arts and humanities. "Students of arts and humanities will aim to learn more science, and all will make an effort to incorporate more vocational subjects and soft skills,"* the policy states. *IIT-Bombay's new Liberal Arts, Sciences, and Engineering (LASE) Programme is one example of how the NEP's vision translates on ground.* The LASE programme, which has been introduced this year, *gives students the option to graduate with a Bachelor of Science (BS) degree in five fields or "concentrations" — engineering sciences, natural sciences, social sciences, art and design. The fifth option permits the student to design her own concentration. LASE students will study a set of foundation courses in their second year such as modern South Asian history, history of science,*



contemporary digital societies, current social structures, reading and writing literature, in addition to their STEM courses.

4-year undergrad programme

While multidisciplinary is the final destination, the four-year undergraduate programme suggested in the NEP document is a means to that end. Undergraduate programmes in India, except professional degrees such as B Tech and MBBS, usually last three years. The new policy proposes to “adjust” the length of degree programmes to allow students “to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per the choices of the student”. *While the NEP doesn't call for scrapping of the three-year format, it states that the four-year multidisciplinary Bachelor's programme “shall be the preferred option”. While students pursuing undergraduate education will be studying an extra year, they will also have the option to leave before that with “appropriate certification”. Quitting after the first year will earn you a certificate, after the second year a diploma, and after the third a Bachelor's degree. Completing the entire programme would lead to a bachelor's degree “with Research” if the student completes “a rigorous research project” in her major area(s) of study. Delhi University is the first higher education institution to implement this NEP suggestion.* Starting next year, DU students can opt for either a three-year honours programme, or a four-year honours programme, or a four-year honours programme with research. They can also exit with appropriate certification.

Academic Bank of Credit

The *University Grants Commission (UGC) had introduced a choice-based credit system (CBCS)* before the NEP. Under this system, you earn credits for each course you take during your degree studies. *The Academic Bank of Credit (ABC) proposed by the NEP is where higher education institutions will digitally deposit credits earned by students for courses they studied. So, how will this affect the classroom experience? On ground, the ABC is expected to aid the multiple entry and exit system as well as multidisciplinary in higher education. In other words, a student's deposit of credits in the ABC (read: her prior learning represented in course units) should help her move laterally from one higher education institution to another, if needed.* Designating credits to each course would also mean that courses or projects in areas such as community engagement and service, environmental education, sciences, mathematics, art, sports and value-based education would carry weight. *This, according to the NEP, would go a long way in “attainment of a holistic and multidisciplinary education”.*

Regional languages

The new education *policy lays emphasis on promoting Indian languages, arts and culture through education. One of the ways it proposes to do so is by getting higher education institutions to adopt regional languages or the local tongue as the medium of instruction in the classroom.* To begin with, the government has allowed 14 engineering colleges to teach selected engineering programmes in five languages: Marathi, Tamil, Bengali, Telugu and Hindi. *This, the policy states, will help increase the Gross Enrolment Ratio in higher education as students who are not proficient in English will be encouraged to pursue further studies in regional languages.*



National Entrance Test

Another proposal that could change the higher education experience of students is a single university entrance exam conducted by the National Testing Agency. If this is implemented, students will not have to appear for multiple entrance tests. “The high quality, range, and flexibility of the NTA testing services will enable most universities to use these common entrance exams — rather than having hundreds of universities each devising their own entrance exams — thereby drastically reducing the burden on students, universities and colleges, and the entire education system. It will be left up to individual universities and colleges to use NTA assessments for their admissions,” the policy states.

LEARNING SAFELY

teaching and non-teaching staff in schools by Teachers’ Day (September 5) adds a measure of confidence that resumption of face-to-face classes from September is not fraught with high risk. Several States are preparing to reopen schools, mostly for Class 9 and higher, next month. Some, including Haryana, Telangana and Gujarat, have announced that they will allow offline classes even for younger children. Amidst fears of a third wave of the pandemic, epidemiologists, academicians and policymakers have been wrestling with the question of a low-risk trade-off, balancing protection from the virus with some bridging of the learning deficit caused by prolonged school closures that are crippling future prospects of millions of children. It is encouraging that half of the 97 lakh teachers in the country have already been immunised, by official estimates, making it feasible to reach the rest by September 5. The risk of infection to children in schools remains, however, and must be addressed with utmost seriousness, particularly with fast-transmitting virus variants present in all States. This calls for a coherent response that incorporates the best learnings from epidemiology and decentralises decision-making to the districts based on local circumstances. It is, of course, a step forward that a vaccine, the three-dose ZyCoV-D, has been approved for the 12-18 age group, but this is to be administered only from October. *The reversion to physical classes will, therefore, have to be carefully calibrated. Vaccination of children over 12 years of age has been allowed in some countries, but the pandemic’s course has remained unpredictable. In Israel, one of the most vaccinated countries with an estimated 78% coverage of the over-12 population, the Delta variant swiftly caused a spike in infections as distancing norms, the mask mandate and travel bans were eliminated.* In one instance, an entire class of students was infected by one unvaccinated child who had been on vacation. This cautionary tale serves to emphasise the importance of priority vaccination of children, starting with those who may have other health conditions, maintaining safety protocols, and adopting low-cost non-pharmaceutical interventions such as good classroom ventilation and open-air instruction wherever feasible. Credentialed studies in the U.S. indicate that these are effective measures, along with vaccination. It is vitally important for the Centre to share information on the school reopening experience with all States and issue alerts in real time to enable decision-making. An empirical approach will also enable organisations such as the National Institute of Disaster Management collate useful insights. Parents must be convinced by transparent official measures that the health and education prospects of their children are in safe hands.



GRASPING AT STRAWS: THE RACE TOWARDS HERD IMMUNITY

In the beginning of the pandemic, when vaccines were still undergoing clinical trials, the goal was to quickly reach herd immunity through vaccination and natural infection. *Herd immunity — where a large percentage of the population is infected or vaccinated so that virus spread in the population is significantly slowed or stopped — was seen as an endgame of the pandemic.* There have been instances in some countries where the virus spread has largely been under some kind of control at least for some duration. However, the emergence of highly contagious new variants, breakthrough infections even among the fully vaccinated and such people spreading the virus to others, and reinfections in the unvaccinated have made the race to reach the magical herd immunity threshold look like chasing a mirage.

No magic number

“If herd immunity is viewed as a magic number where, if we achieve X percent infection or vaccination, life will get back to normal then that is not going to happen in near term. In other words, attaining high levels of population protection to slow virus spread is an end goal, but is not the endgame,” Dr. Gagandeep Kang, Professor of Microbiology at CMC Vellore says in an email to The Hindu. Immunologist Dr. Satjajit Rath, formerly with the National Institute of Immunology, is even more blunt in dismissing the notion of achieving herd immunity to control the SARS-CoV-2 virus spread. “Herd immunity is not, in fact, it cannot be, a prospective end goal for a public health policy, especially one aimed at a globally spreading new infection. We have no idea what percentage of population coverage will end up being effective [for] herd immunity,” he says in an email. “It is quite likely that any state of such ‘herd immunity’ in a given community will not be stable — people move, thereby changing the demography of the ‘herd’; variants emerge, thus making the ‘immunity’ less effective, and all of these changes can well lead to loss of herd immunity.” Dr. Rath adds: “The idea that we can aim for a stable situation of herd immunity and then just stop worrying about the pandemic has always been more wishful than real.”

Role of variants

If the Alpha (B.1.1.7) variant was 60% more transmissible than the original strain, the Delta variant is even more contagious thus requiring an even higher herd immunity threshold to break the transmission chain. It is estimated that the Delta variant *may have a basic reproductive number of between 6.5 and 8, which means that herd immunity will be 85% or higher.* The next layer of complexity is seen when *even fully vaccinated people get infected by the Delta variant*, and such people shed virus at levels that resemble previously uninfected individuals and thus infect others. “But the duration of shedding may be shorter, which means that the overall ability of the virus to spread in previously infected or vaccinated individuals will be lower,” Dr. Kang says. *Even if the duration of virus shedding in the vaccinated is short, it makes it harder to break the transmission chain even in a population that is highly vaccinated. Thus, even the theoretical possibility of protecting through herd immunity those individuals who cannot take a vaccine gets diminished.* “There is no question of ending transmission until we end infections,” she adds. According to her, *the data from Israel seems to indicate that there is strong protection from transmission with the mRNA vaccines shortly after vaccination, and this then declines with time.* But she says that these are early data, and there is a lot to learn about the performance of other vaccines and over time.



Help from vaccines

“There are many more vaccines to come, and it is feasible that the next wave of vaccines or combinations of vaccines could help drive down transmission through lower levels of replication and better protection from infection,” says Dr. Kang. “Vaccines are needed for almost everyone. *Expecting the benefit to pass on to the unvaccinated does not seem to be possible with this virus,*” explains epidemiologist Dr. Giridhara Babu from the Public Health Foundation of India, Bengaluru. Dr. Rath adds that except for very rare cases of someone who already has, for example, a major life-threatening allergy-related illness, there are really no individuals who cannot take a vaccine; there are only those who do not want to take a vaccine.

Small surveys

The over 63% average seroprevalence in the country combined with increased vaccination coverage can help reduce the speed of virus spread. But more importantly, natural infection and vaccination can decrease the risk of severe disease and death even when reinfected. But the over 63% seroprevalence is only an average and has been arrived at based on a survey of less than 30,000 people in less than 10% of India's districts. “It does not mean that two-thirds of every neighbourhood is seropositive; the reality is much more of a patchwork quilt, making any easy predictions misleading,” Dr. Rath clarifies. This makes quickly vaccinating a large percentage of people very important. Unfortunately, the pace of vaccination is slow in India — less than 33% are vaccinated with one dose and less than 9.5% fully vaccinated — and vaccine shortages in many States have become a norm. *This makes reaching the imaginary herd immunity threshold anytime soon a big challenge.* Even among the vaccinated, inequity in terms of geography and socio-economic strata is rampant. “This inequity means that the reality will be well-vaccinated and poorly-vaccinated communities living cheek-by-jowl, making any idea of stable herd immunity even less likely,” Dr. Rath notes.

Lasting immunity

Finally, *by the time the entire country reaches very high seropositivity either through vaccination or natural infection to achieve herd immunity, it remains unclear if protection would last in those who have been infected/vaccinated early on.* It is likely that protection from severe disease and mortality might last for several years. However, there is no data at the moment. While Dr. Babu feels that the endgame might be a situation where we would have to live with the virus with some level of endemicity but with reduced hospitalisation and lower mortality, Dr. Kang says it is too early to give up on herd immunity. “There are viruses that are much more infectious than SARS-CoV-2, such as measles. We have achieved reasonable control of measles and are striving to do better. We have not hit the herd immunity threshold in many parts of the world, and yet measles is no longer the major global killer it once was,” she says.

‘M’ IN US, ‘L’ HERE: GOVT BEGINS SURVEY TO CHART INDIA-SPECIFIC SIZES

What exactly is a “size 14”? How does a “medium” tag in the US often fit a person with a “larger” physique in India? To do away with this confusion, an India size survey, *titled INDIAsize, was officially launched on Thursday. A joint initiative of the Ministry of Textiles and National Institute of Fashion Technology (NIFT), the aim of the project is to introduce a new standardised size chart for*

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India in the ready-to-wear clothing sector. While the project was announced in February 2019, it got delayed because of the pandemic. “The textile sector is the second largest employer in the country and generates about Rs 140 billion, of which Rs 100 billion is from Indian consumers alone. We only export for about Rs 40 billion. The need for a standard sizing has been there for a while. Now with *INDIAsize, we are conducting size surveys across six regions of India, namely Delhi, Chennai, Mumbai, Hyderabad, Shillong and Kolkata,*” said Upendra Prasad Singh, Secretary, Textiles. “The new sizing chart will have a size identification number, which will be created by mapping, categorisation and defining of the body size and type. Currently, only about 18 countries in the world have their own sizing charts,” said Singh. The Delhi leg of the survey is currently underway, and aims to reach about 5,700 participants. “*We are using about 100 anthropometric data points from each of the participants. The study, for us at NIFT, is also an exercise in scientific research. It will have participants from different age groups, income brackets and varied ethnicities. All this will help us to bring about a comprehensive and standardised size chart,*” said Shantmanu, DG NIFT. “To successfully gather anthropometric data from a sample population, we are using a safe 3D whole body scanner technology. It is following all international protocols of national sizing survey, and the sizing can then be used by the apparel industry,” he said. The move for an “India specific” size chart is an echo of a global conversation doing the rounds of the fashion world. There has been a lot of criticism for labels of many international fast fashion brands, who use tags like small, large, medium and extra large to denote a body type. “We Indians have a different body type when we compare to Europe. We don’t have such long arms for example. A size 39, may fit me on the shoulder, but the sleeves may hang by a mile. Also, we have encountered international discrepancies, where a particular size measures as medium for men, and the measurement is labelled as extra large for women,” said Shantmanu. “We hope the data can be used in many ways. Hopefully, creating our own shoe sizing system will be next”. Initial findings from the survey will be made available in some months, and the whole exercise is scheduled to be completed by the end of 2022. *The new size survey has received support from the Clothing Manufacturers Association Of India (CMAI). There are plans to get international clothing brands to subscribe and adhere to the new sizing chart. It’s good business sense. A lot of money and energy is spent just returning ill-fitting and wrong-sized clothes.* Brands like H&M have shown a positive interest in the move,” said Noopur Anand, professor, NIFT and principal investigator of the project. The INDIAsize survey is part of a larger “fibre-to-fashion” initiative of the Ministry of Textiles. “We want to focus on the larger fibre-to-fashion narrative. There is a lot to be done. We want to focus on the technical aspect of textiles. Also, there are plans to create seven dedicated textile parks and our own machinery for textile production, we import a lot of it,” said Singh.

SCHOLAR-ACTIVIST BEHIND SEMINAL WORK ON PHULE, CASTE, DEAD

One of India’s foremost caste scholars, as well as noted author and activist, Dr Gail Omvedt passed away Wednesday after a brief illness at her residence in Kasegaon in Maharashtra’s Sangli. The 81-year-old *who was born in Minnesota in the US* but made India her home had authored books on Dalit politics, women’s struggles and anti-caste movements and *co-founded the Shramik Mukti Dal with her husband, activist Bharat Patankar.* In 2000, addressing the fourth Dr Ambedkar Memorial Annual Lecture at Jawaharlal Nehru University, Omvedt had called the leader “India’s most significant figure” as it assessed “the past millennium” and laid out “hopes and visions for the new one”. “Ambedkar’s vision of a new social order can be summed up in the way in which he so often did, with the great slogan of the French Revolution, ‘liberty, equality, fraternity’. I would change

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the final term to 'community' because I think it captures for our gender-concerned times the real meaning of the final term. Liberty, equality and community are the three most important components of a human vision for the new millennium," Omvedt had said. Throughout her life, she and Patankar worked to alleviate the conditions of the marginalised and the exploited, including tribals, Dalits, peasants, labourers and women, setting up the Shramik Mukti Dal in the '80s. *Omvedt had studied sociology and got her PhD from the University of California, Berkeley, during the restive 1970s. Deeply involved in student movements, including anti-war protests against the Vietnam War, she developed resistance to all forms of exploitation at this time. She came to India for research as part of her doctoral thesis on non-Brahmin movements in western India, and met here the famous Maharashtrian freedom fighter and social activist, Indumati Patankar, whose son Bharat she would later marry. She took Indian citizenship in 1983.* As part of her work, Omvedt travelled extensively across Maharashtra, interacting closely with people across caste and class barriers. "Back in those days, she took the effort to come to India and learn Marathi. Leaving behind a life of luxury in the US she spent her whole life in Kasegaon, which proves her dedication to the cause," says Communist leader Ajit Abhyankar. Omvedt's thesis went on to become a seminal guide for other researchers on anti-Brahmin movements in western India, initiated by the revolutionary efforts of Jyotiba Phule in the 19th century. Abhyankar asserts *it was Omvedt who first studied the political implication of Phule's Satyashodhak Samaj, which led to new research in it. "The assertion of the political identity of the movement was of immense help to the Left movement in the state,"* he says. Alongside working with women in Sangli and Satara, her scholarship saw her rising to the board of many research institutes and universities like Savitribai Phule Pune University, the Nordic Institute of Asian Studies and Indira Gandhi National Open University. *In recent years, she was associated with the United Nations Development Programme as a consultant on various issues.*

HISTORY'S FORGOTTEN PEOPLE

Chahe jitni tarah se kahi jaye, aur jitni bar, Azadi ki kahani se kuchh chhut hi jata hai (No matter how many ways and how many times it is said, some things always remain unsaid when it comes to stories of the freedom struggle), I heard this statement from a balladeer in eastern Uttar Pradesh who used to compose songs on the heroes of freedom movement. It is true that history is the "narrative of what happened", but it is not fixed, it continuously evolves. When communities become aware and assertive, they explore their unsung histories and stake claim on mainstream narratives. Thus, the history of Dalits, tribals and marginal communities emerge in two ways — *as academic history and as public history.* Both interact, influence, overlap, contradict and debate with each other to tell the story of the subaltern. In the '90s, when I was doing fieldwork in the villages of Uttar Pradesh and Bihar, I would come across various thans (space of worship) under peepal trees near Dalit bastis, like Shahid Baba, Ladaka Baba, etc. When I enquired further, I found that some of them were remembered by the Dalit people as freedom fighters killed by the British. I also heard and collected many folk songs and folk narratives in praise of these heroes. These living memories — in the form of shrines, songs, folklore — keep in circulation the memories of the men and women whom mainstream history has overlooked. Most of these heroes that we documented were related to the 1857 uprising, now known as the First War of Independence. *The memories of Gangu Baba of Bithoor who belonged to the Balmiki community, Banke Beer (Jatav), Beera Pasee, Matadin Bhangi are commemorated by marginal communities in various parts of Uttar Pradesh. The four bodyguards of revolutionary leader Amar Singh, younger brother of Babu Kunwar Singh of*

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Jagdishpur (1777-1858), Bihar, were his war strategists. They, too, came from marginal communities of the region. It is interesting to note that most of these Dalit icons were also women. These include Jhalkari Bai, Uda Devi, and Mahaviri Devi. *Jhalkari Bai, a brave woman born in the Korean community, was a member of the women's army organised by Rani Lakshmi Bai and the queen's close ally, chief strategist and advisor. When the queen of Jhansi escaped with her son, Jhalkari Bai foxed the British by pretending to be the queen, whom she closely resembled, and put up a valiant fight against the invaders. Uda Devi, another virangana of the 1857 gadar, was a member of the women's battalion of Begum Hazrat Mahal, the queen of what was then Awadh, who led a spirited fight against the British, killing more than half-a-dozen soldiers in the battle of Sikandar Bagh.* These heroes are revered not just within their caste communities but among a larger Dalit community as well. It is interesting to note that till the '60s, there was not much assertion of the marginals in claiming their role in the freedom movement. But there existed a trend of writing popular chapbooks among the Dalits of north India. Through these chapbooks, sold in melas and rallies, on the streets and pavements, they started narrating and circulating their own roles in the freedom movement. The history of Jhalkari Bai was one such example from this time. During the various phases of Gandhian movements such as the Khilafat Movement (1919), Non-Cooperation Movement (1920), Civil Disobedience Movement (1930), we find the emergence of many Dalit leaders and icons who were part of the mainstream narrative. These include stalwarts such as Baba Saheb Ambedkar, Palwankar Baloo of Maharashtra, Babu Masuria Deen of Uttar Pradesh, Karu Paswan, Babu Jagjivan Ram, Sukhari Paswan, Ram Basawan, Nandan Paswan and Yashoda Devi. The subaltern heroes of the national movement need to be remembered and embraced by every citizen and these narratives of Dalit participation in India's freedom struggle need to move from the periphery to the centre. That is when we will become more inclusive of our grassroots and our democracy will deepen.

RETHINKING A PERK FOR PLAYERS

After winning seven medals at the Tokyo Olympics, the Indian contingent was felicitated by the sports federations, the Sports Ministry and even the Prime Minister. They were invited as special guests to the Independence Day function at the Red Fort in New Delhi. They were also given monetary awards by various State governments, sports bodies and others. Neeraj Chopra, a junior commissioned officer in the Army who won a gold medal in javelin, received ₹6 crore from the Haryana government, a Class-I government job, and a plot of land at a concessional rate. He was also offered ₹2 crore by the Punjab government, ₹1 crore by the BCCI, ₹1 crore by the Chennai Super Kings, ₹2 crore by BYJU'S and ₹1 crore by the JSW Group. Ravi Dahiya and Mirabai Chanu, both silver medallists, were also richer by crores after their performance. The bronze winners were awarded in lakhs.

Jobs and promotions

In addition to cash incentives, States also offer government jobs. The Railways is the biggest employer of sportspersons. It provides a secure job for athletes. Chanu was working in the Railways. In a departure from the usual mode of appointment, she was appointed as Additional Superintendent of Police, a rank above that of Deputy Superintendent of Police, after winning the silver medal. Chopra is expected to get a promotion in the Army. The problem begins when sportspersons are appointed to a certain rank after which the floodgates are thrown open for



further promotions. *It may not really be deleterious to an organisation if sportspersons are promoted in non-gazetted ranks. But promotion to gazetted ranks have a malefic impact not just on the organisation but also on the sportspersons. Even after they are promoted to gazetted ranks, they naturally continue to play sports and participate in tournaments up to a certain age and have no exposure whatsoever to their professional requirements. On attaining higher ranks like Superintendent of Police, they come back to their jobs without any training, exposure or experience. They prove to be misfits.* Nobody other than the system stands to be blamed for this sad state of affairs. While others slog to get into government jobs as gazetted officers, these posts are offered to sportspersons on a silver platter. *Going by the monetary incentives offered to eminent sportspersons, there is a definite need to reconsider whether promotions need to be doled out to them irrespective of their professional competence to hold higher posts and ranks.* This is especially the case in the security forces, where competence of a high order is called for.

Contributing to their sport

Alternatively, with crores of rupees in their accounts, such eminent sportspersons can venture into business and employ more sportspersons and do a world of good to their respective sports. They can set up academies to train sportspersons in their field of specialisation and thus promote their sport. The Sports Ministry and the Sports Authority of India could recruit them in various capacities and utilise their experience not only at the Central level but also in the States. *Universities, colleges and schools could better utilise their services. Many of them could turn out to be good coaches. For gazetted posts, the only channel should be competitive examinations.* Recent reports stated that the number of employment offers given through job fairs organised by the Labour and Employment Ministry has fallen but applicants have increased. In these days of acute unemployment, it would be better if the needy got into government service on merit.

NEW DRONE RULES MAKE FLYING THEM EASIER AND CHEAPER

The government on Thursday notified the Drone Rules 2021 with an aim to liberalise the stringent regime for civilian drone operations that it had established 2018, when these drones were allowed for the first time. The regulations notified by the Civil Aviation Ministry have lowered entry barriers — including cutting the number of registration forms to be filled to five from 25, and the number of fees payable to four from 72 — to make it simpler for operators to start using drones. Significantly, however, the restrictions on operations “beyond visual line-of-sight” (BVLOS) — in which there is considerable industry interest and potential for commercial operations — have not been lifted. Draft liberalised drone Rules were put out by the government for consultations last month, weeks after the drone attack on the Indian Air Force station in Jammu. “The new Drone Rules usher in a landmark moment for this sector in India. The rules are based on the premise of trust and self-certification. Approvals, compliance requirements and entry barriers have been significantly reduced,” Prime Minister Narendra Modi said in a tweet. *The aviation safety regulator, Directorate General of Civil Aviation (DGCA) had banned civilian drones in October 2014. More than four years later, the government had issued a set of rules to govern the operations of unmanned aircraft systems. The 2018 Rules categorised drones according to their sizes, with separate sets of requirements. The Rules, which were overseen by the then Minister of State for Civil Aviation Jayant Sinha, asked, for the first time in the world, drone companies to have a “no permission, no take-off” feature built into these aircraft — something that would not allow a drone to take off without prior*



registration and necessary approvals. The government has now said that safety features like 'no permission, no take-off', real-time tracking beacon, and geo-fencing, etc. would be notified in the future with a minimum six-month lead time for compliance. The Rules notified on Thursday have done away with the slew of approvals required under the previous regime — such as having a unique authorisation number, a unique prototype identification number, a certificate of manufacturing and airworthiness, certificates of conformance and maintenance, import clearance, operator permit, etc.

DELHI'S NEW SMOG TOWER: THE TECHNOLOGY, THE IMPACT, THE EVIDENCE

Ahead of its infamous smog season, *Delhi on Monday got a 'smog tower', a technological aid to help combat air pollution.* How does a 'smog tower' like the one inaugurated by Chief Minister Arvind Kejriwal behind Shivaji Stadium Metro station work?

Components of smog tower

The structure is 24 m high, about as much as an 8-storey building — an 18-metre concrete tower, topped by a 6-metre-high canopy. At its base are 40 fans, 10 on each side. Each fan can discharge 25 cubic metres per second of air, adding up to 1,000 cubic metres per second for the tower as a whole. Inside the tower in two layers are 5,000 filters. The filters and fans have been imported from the United States. The tower uses a 'downdraft air cleaning system' developed by the University of Minnesota, said Anwar Ali Khan, senior environmental engineer, Delhi Pollution Control Committee, who was in charge of the project. IIT-Bombay has collaborated with the American university to replicate the technology, which has been implemented by the commercial arm of Tata Projects Limited. *Polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.* When the fans at the bottom of the tower operate, the negative pressure created sucks in air from the top. *The 'macro' layer in the filter traps particles of 10 microns and larger, while the 'micro' layer filters smaller particles of around 0.3 microns.* The downdraft method is different from the system used *in China, where a 60-metre smog tower in Xian city uses an 'updraft' system — air is sucked in from near the ground, and is propelled upwards by heating and convection.* Filtered air is released at the top of the tower.

Likely impact

Computational fluid dynamics modelling by IIT-Bombay suggests *the tower could have an impact on the air quality up to 1 km from the tower.* The actual impact will be assessed by IIT-Bombay and IIT-Delhi in a two-year pilot study that will also determine how the tower functions under different weather conditions, and how levels of PM2.5 vary with the flow of air. An automated Supervisory Control and Data Acquisition (SCADA) system in the tower will monitor air quality. Levels of PM2.5 and PM10, besides temperature and humidity, will be measured constantly, and will be displayed on a board atop the tower. *Monitors will soon be installed at various distances from the tower to determine its impact at these distances.* The project aims to provide purified air in a "localised" area, officials said.

Supreme Court order

In 2019, the Supreme Court directed the Central Pollution Control Board (CPCB) and the Delhi government to come up with a plan to install smog towers to combat air pollution. The court was



hearing a matter related to air pollution in the national capital due to stubble-burning in Punjab, Haryana and Uttar Pradesh. IIT-Bombay then submitted a proposal for the towers to the CPCB. In January 2020, the Supreme Court directed that two towers should be installed by April as a pilot project. *The smog tower at Connaught Place is the first of these towers. The second tower, being constructed at Anand Vihar in east Delhi with CPCB as the nodal agency, is nearing completion.* Since 2009, an increase of 258% to 335% had been observed in the concentration of PM10 in Delhi, a 2016 report by the CPCB noted. But the most prominent pollutant in Delhi and neighbouring areas is PM2.5, the report said.

No evidence so far

This is the first experiment with a large-scale outdoor air-purification system in India. Small smog towers have been raised in Netherlands and South Korea; larger ones have been set up in China. Experts said there isn't enough evidence that smog towers work. "We haven't come across any clear data that has shown that smog towers have helped to improve the outdoor ambient air quality of a city, either in India or other parts of the world. How do you filter air in a dynamic scenario, when it is not a confined area?" Anumita Roychowdhury, executive director of research and advocacy at the Centre for Science and Environment, said. Dipankar Saha, former additional director, CPCB, and former head of the air quality monitoring division in Delhi, too said there were no proven efficiency calculations on such installations. "We would have to control emissions at the ground level, not create emissions and then try to clean it," he said. *Delhi has three smaller air purifiers (about 12 feet tall) installed by the Gautam Gambhir Foundation in Krishna Nagar, Gandhi Nagar, and Lajpat Nagar — essentially big versions of indoor air purifiers.*

TAUKTAE, YAAS AND PLANNING FOR THE NEXT

The severe cyclones, Tauktae and Yaas, which battered India earlier this year, made landfalls on the country's western coast, Gujarat, and the eastern coast, Odisha, on May 17 and May 26, 2021, respectively. Both storms caused massive damage to infrastructure, the agricultural sector, and houses. Government of India reports are that, put together, an estimated 199 people died, 37 million people were affected, and economic losses stood at ₹320 billion (U.S.\$4.3 billion). In addition, crop area of 0.24 million hectares was affected, and around 0.45 million houses were damaged. Moreover, 2.5 million people were evacuated to cyclone shelters and relief camps in these two States. The large-scale uprooting of trees in the urban areas affected already depleting green cover. Thus, during the COVID-19 pandemic, these cyclones caused additional financial responsibility for State governments. The health costs need to be measured too.

More frequent

Increasing sea surface temperatures in the northern Indian Ocean and the geo-climatic conditions in India have led to a rise in the frequency of devastating cyclones in the coastal States accounting for 7% of the global tropical cyclones, according to India Meteorological Department (IMD), 2013 data. Every year, around five to six tropical cyclones are formed in the Bay of Bengal and the Arabian Sea; of these, two to three turn severe. *The Indian coastline is around 7,500 km; there are 96 coastal districts (which touch the coast or are close to it), with 262 million people exposed to cyclones and tsunamis. The World Bank and the United Nations (2010) estimate that around 200 million city residents would be exposed to storms and earthquakes by 2050 in India.* Between 1891



and 2020, out of the 313 cyclones crossing India's eastern and western coasts, 130 were classified as severe cyclonic storms. The west coast experienced 31 cyclones, while 282 cyclones crossed the east coast. The Odisha coast witnessed 97 cyclones, followed by Andhra Pradesh (79), Tamil Nadu (58), West Bengal (48), Gujarat (22), Maharashtra/Goa (7), and Kerala (2).

The economic costs

Among the natural disasters, cyclones constituted the second most frequent phenomena that occurred in 15% of India's total natural disasters over 1999-2020. During the same period, 12,388 people were killed, and the damage was estimated at \$32,615 million. Cyclones are the second most expensive in terms of the costs incurred in damage, accounting for 29% of the total disaster-related damages after floods (62%). In addition, they are the third most lethal disaster in India after earthquakes (42%) and floods (33%). *However, fatalities due to cyclones declined from 10,378 in 1999 to 110 in 2020; the significant drop was on account of improved early warning systems, cyclone forecasting, and better disaster management activities such as timely evacuation, rehabilitation and relief distributions.* But these measures are not adequate to achieve a zero-fatality approach and minimise economic losses from cyclones. *Between 1999 and 2020, cyclones inflicted substantial damage to public and private properties, amounting to an increase in losses from \$2,990 million to \$14,920 million in the absence of long-term mitigation measures. In addition, damages caused due to cyclones increased nine times during the same period.* As stated earlier, cyclones also led to an increase in the fiscal burden of governments through increased spending to implement effective cyclone preparation measures. As a result, direct government expenditure on natural calamities increased 13 times. *The Asian Development Bank's report in 2014 estimated that India would suffer a loss of around 1.8% of GDP annually by 2050 from climate-related events. India lost around 2% of GDP and 15% of total revenue over 1999-2020. According to the Global Climate Risk Index report 2021, India ranks the seventh worst-hit country globally in 2019 due to the frequent occurrence of extreme weather-related events. Moreover, the report showed that India lost around 2,267 human lives, while damages stood at \$68,812 million in Purchasing Power Parity (PPP) terms in 2019. In the same year, India ranked first concerning human deaths and economic losses due to extreme weather-related events (Eckstein et al., 2021).*

Measures in Odisha

In the aftermath of the 1999 super cyclone, the Government of Odisha took up various cyclone mitigation measures which included installing a disaster warning system in the coastal districts, and construction of evacuation shelters in cyclone-prone districts. Other steps were the setting up of the *Odisha State Disaster Management Authority (OSDMA), conducting regular cabinet meetings for disaster preparedness, and building the Odisha Disaster Rapid Action Force (ODRAF).* *All these activities have helped to minimise the toll from cyclonic storms such as Hudhud, Fani, Amphan, and Yaas. Still, Odisha's disaster management model is inadequate to minimise the economic losses that result from cyclones. Therefore, the Government of India should adopt a few measures to minimise disaster damage and fatalities.*

Essential steps

First, it is imperative to improve the cyclone warning system and revamp disaster preparedness measures. Second, the Government must widen the cover under *shelterbelt plantations and help*



regenerate mangroves in coastal regions to lessen the impact of cyclones. In addition, adopting cost-effective, long-term mitigation measures, including building cyclone-resilient infrastructure such as constructing storm surge-resilient embankments, canals and improving river connectivity to prevent waterlogging in low-lying areas are important. Third, installing disaster-resilient power infrastructure in the coastal districts, providing concrete houses to poor and vulnerable households, and creating massive community awareness campaigns are essential. Finally, healthy coordination between the Centre and the States concerned is essential to collectively design disaster mitigation measures. It is only such a collective mitigation effort by the Centre and States that can help reduce the fiscal burden of States and also be effective in minimising disaster deaths.

387 'MOPLAH MARTYRS' TO BE REMOVED FROM DICTIONARY

Malabar Rebellion leaders Variamkunnath Kunhamed Haji, Ali Musaliar and 387 other 'Moplah martyrs' will be removed from the Dictionary of Martyrs of India's Freedom Struggle. A three-member panel, which reviewed the entries in the fifth volume of the dictionary brought out by the Indian Council of Historical Research (ICHR), *is understood to have recommended the deletion as it felt that the 1921 rebellion was never part of the Independence struggle, and was a fundamentalist movement focused on religious conversion.* None of the slogans raised by the rioters were in favour of nationalism and anti-British, it noted. RSS leader Ram Madhav, at a meeting to commemorate the victims of the rebellion, had stated that the movement was one of the first manifestations of the Taliban mindset in India. However, *Speaker M.B. Rajesh described Haji as a warrior who refused to apologise to the British and chose martyrdom over deportation to Mecca.* A film project announced with actor Prithviraj in the role of Haji last year created an uproar with Sangh Parivar outfits opposing it. The review panel is said to have viewed the rebellion as an attempt to establish a Caliphate. Had it succeeded, a Caliphate would have been established in the region and India would have lost part of its territory, sources said. *It concluded that Haji was a rioter who established a Sharia court and beheaded many Hindus.* The rioters did not spare secular Muslims. Those who died at their hands were non-believers. *Many 'Moplah martyrs' facing trial died from disease or natural causes, and could not be treated as martyrs. Only a handful were executed by the government.* Om Jee Upadhyay, Director (Research and Administration), ICHR, said the list would be modified as recommended and the dictionary published by October-end.

Martyrs of the communist movement of Kerala, including the ones killed at the Punnapra-Vayalar, Kayyur, Karivelloor, and Kavumbayi uprisings, will remain as freedom fighters in the annals of India's struggle for Independence. A three-member committee appointed by the Indian Council of Historic Research (ICHR) to review the entries in the fifth volume of the 'Dictionary of Martyrs: India's Freedom Struggle (1857-1947)' is understood to have left the martyrs of the Left movement untouched. The ICHR had recalled the publication and appointed a review panel after a section of the Sangh Parivar historians strongly objected to the inclusion of the martyrs of communist movement and the 1921 Malabar Rebellion in the compendium. The committee is understood to have recommended the deletion of the Malabar Rebellion leaders Variamkunnath Kunhamed Haji, Ali Musaliar, and 387 other 'Moplah martyrs' from the list.

The proposal to remove the names of Malabar Rebellion leaders from the Dictionary of Martyrs of India's Freedom Struggle has evoked sharp response from various quarters. Historian M.G.S. Narayanan felt that the changed political circumstances in the country might have influenced the



decision, which was “not right and not good”. The Indian Union Muslim League said the martyrs would live in the hearts of the people, and not in records. Kerala Muslim Jamat State general secretary Sayed Ibrahim Khaleel Bukhari said patriots would never accept the move.

DEEPAR BEEL BREATHES EASY AFTER ECO-SENSITIVE ZONE NOTIFICATION

On August 25, the Ministry of Environment, Forest and Climate Change notified the eco-sensitive zone of Deepar Beel Wildlife Sanctuary on the southwestern edge of Guwahati. Romila Boro, a sexagenarian resident of Chakardeo, the sanctuary’s “guardian village”, hopes the notification will bail the constricted wetlands out. But she is sad that the “good news” came eight years too late. It was in 2014 that her husband Koliya Boro was run over by a train while trying to stop it to prevent hitting an approaching herd of elephants. He was one of the earliest conservationists of the area. *“The zonation should help, but Deepar Beel’s water has become toxic and lost many of its aquatic plants that elephants would feed on. The wetlands can breathe easier only if the railway track is diverted,”* said Chakardeo’s dairy farmer and green guard Pramod Kalita. *Deepar Beel is one of the largest freshwater lakes in Assam and the State’s only Ramsar Site, besides being an Important Bird Area. The wetlands have for decades been threatened by a railway track — set to be doubled and electrified — on its southern rim, a garbage dump and encroachment for human habitation and commercial units. The wetlands expand up to 30 sq. km in summer and reduces to about 10 sq. km in winter.* The wildlife sanctuary measures 4.1 sq. km within this wetland. The notification specified an area “to an extent varying from 294 metres to 16.32 km” as the eco-sensitive zone with the total area being 148.9767 sq. km. “No new commercial hotels and resorts shall be permitted within 1 km of the boundary of the protected area or up to the extent of the eco-sensitive zone, whichever is nearer, except for small temporary structures for eco-tourism activities,” the notification said. *Among activities prohibited in the eco-sensitive zone are hydroelectric projects, brick kilns, commercial use of firewood and discharge of untreated effluents in natural water bodies or land areas. Deepar Beel has long been used as a sponge for Guwahati’s sewage via a couple of streams.* The wetlands have also suffered from seepage of toxins from a garbage dump at Boragaon adjoining it. *“About 150 species of birds have been recorded in the sanctuary, out of which two are critically endangered, one endangered, five vulnerable and four near-threatened,”* the notification said. *“Elephants regularly visit the wetlands from adjoining Rani and Garhbhanda Reserve Forest and the wetlands are an integral part of the elephant habitat. Besides these, 12 species of reptiles, 50 species of fish, six species of amphibians along with 155 species of aquatic macro-biota have been recorded in the sanctuary,”* it said. But being adjacent to “fast-developing Guwahati”, the sanctuary is “facing immense biotic pressure by way of human settlements and even-increasing development activities”, the notification said. “City waste as well as industrial effluents causing serious problem to the ecological and environmental values of the rich wetlands that create a threat to all life forms and ecosystems in the Deepar Beel,” it added, also noting the railway track along the wetlands’ southern boundary with concern. Wildlife specialist Bibhab Talukdar said if the implementation of the rules is weak, it does not really matter if the eco-sensitive zone extends 10 km or 10 metres beyond a protected area.

THE CLEAN-UP CREW WE NEED

The valour of Jatayu (a demi-god in the form of a vulture) in confronting Ravana is well-described in the Ramayana. The epic also mentions Sampati, Jatayu’s brother, who played an instrumental

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role in guiding Lord Rama towards Lanka. While we read and marvel at these helpful creatures in our epics, we haven't granted them the same importance in reality, however. Vultures are very important scavengers in our ecosystem, yet India lost more than 95% of its vulture population through the 1990s and by the mid-2000s. Today, the country requires urgent conservation efforts to save vultures from becoming extinct.

Myths and facts

Vultures are often misunderstood as a source of diseases. Although they feast on carrion almost exclusively, they are sometimes capable of preying on extremely sick, wounded, or infirm creatures if there is no food around. As a result, they are demonised. Some consider vultures ugly, unlovable and even a bad omen. Given the lack of understanding and knowledge about them, let's first understand what vultures do and why they are important. *Vultures belong to the Accipitridae family whose members include eagles, hawks and kites. They are relatively social birds with an average lifespan of 10-30 years in the wild. Being bulky, they nest on tall trees or rocky cliffs. Vultures are slow breeders and so the survival of every individual is very crucial. With their excellent eyesight and strong sense of smell, vultures can detect the presence of dead animals from great distances. Vultures don't have a voice box and so they cannot sing. They communicate via grunts and hisses. Generally, vultures rely on other carnivores to open carcasses.* Their powerful bills and long slender necks are designed to help them tear off the meat chunks from inside the carcass. Unlike other raptors, vultures have weak legs and claws (talons). *They do not carry food; instead, they regurgitate food and feed their young ones. Vultures have a highly acidic stomach that helps them digest rotting carcass and kill disease-causing bacteria. India has nine species of vultures. Many are critically endangered. The main reason for the decline in the vulture population is the use of the drug, diclofenac. Diclofenac, which relieves cattle of pain, is toxic to vultures even in small doses and causes kidney failure and death.* Myths about the medicinal healing powers of vultures' body parts has led to the hunting of vultures. *Quarrying and blasting of stones where vultures nest have also caused their decline. Interestingly, studies show that while the vulture population has declined, the feral dog population has increased. The health hazards associated with feral dogs are well known. Removing vultures from the ecosystem leads to inefficient clearing of carcasses and contaminates water systems. If dead animals are left to rot for long durations, it may give rise to disease-causing pathogens. The animals that consume such flesh become further carriers of disease. Very few animals/birds can ingest rotting carcasses. Thanks to their acidic stomach, vultures can. Thus, they play a crucial role in maintaining the health of the ecosystem.*

Steps to increase numbers

To tackle this problem, *India banned diclofenac for veterinary use in 2006. Five States are to get vulture breeding centres under the Action Plan for Vulture Conservation for 2020-2025, approved in October 2020.* There are no rescue centres for treating vultures as of now, so this too has been mooted under the Plan. Vulture 'restaurants', which exist in some countries, are also a way of preserving the population. *In these 'restaurants', diclofenac-free carcasses of cattle are dumped in designated areas where vultures gather to feed. These measures have slowly started making a positive impact, but there is still a long way to go. Awareness and action must go hand in hand.* With International Vulture Awareness Day coming up on September 4, it is important for us to spread awareness about the importance of vultures in our ecosystem.



SAMBHAR LAKE NEEDS FASTER RESTORATION

The world famous Sambhar Salt Lake in Rajasthan, which is constantly shrinking with the degradation of soil and water quality and a decline in the population of migratory birds, needs a *faster restoration for conservation of its wetland and salt brine worth \$300 million, an expert study on the lake's ecology* has said. *The lake, situated 80 km south-west of Jaipur, is the country's largest inland saline water body which attracts thousands of migratory birds every year.* The death of more than *20,000 birds belonging to about 10 species which migrate annually to the lake had made international headlines in 2019. The birds foraging in the Sambhar marshlands had died due to avian botulism.* The study, undertaken by a research team of the Central University of Rajasthan's School of Earth Sciences, has recommended an urgent action to restore the lake's ecosystem for protecting the birds and biodiversity as well as the salt production.

'Mining menace'

Laxmi Kant Sharma, associate professor in the Department of Environmental Science, who led the research, told The Hindu on Tuesday that 30% of the *Sambhar Lake's area had been lost to mining and other activities, including the illegal salt pan encroachments. It has also threatened the livelihoods of local people who have always lived in harmony with the lake and its ecology.* The study team conducted geospatial modelling for 96 years, from 1963 to 2059, at a decadal scale with the integration of ground data on birds, soil and water. The satellite images were classified to cover Aravalli hills, barren land, saline soil, salt crust, salt pans, wetland, settlement and vegetation. Dr. Sharma said while the past trends showed a *reduction of wetland from 30.7% to 3.4% at a constant rate with its conversion into saline soil, which increased by 9.3%, the future predictions had depicted a loss of 40% of wetland and 120% of saline soil and net increase of 30% vegetation, 40% settlement, 10% salt pan and 5% barren land.*

DreamIAS



BUSINESS & ECONOMICS

FREER TRADE

After raising questions over the benefits flowing to India from the Free Trade Agreements (FTAs) it had signed, and choosing to opt out of the Regional Comprehensive Economic Partnership (RCEP) trade agreement, the Union commerce minister in his recent comments has suggested that the government is re-orienting its foreign trade policy. Addressing the export promotion councils on Thursday, Piyush Goyal announced that the government was working towards *“early harvest” agreements — precursors to free trade agreements (FTA) in which tariff barriers are lowered on a limited set of goods — with Australia and the UK.* While *a trade agreement with the US is unlikely to materialise in the near term, there is “positive momentum” for signing trade deals with the EU and the GCC (Gulf Cooperation Council) nations,* the minister said. Successful culmination of these deals would indicate an embrace of freer trade, and a shift away from the protectionist impulses that seem to have guided recent government policies. *The series of tariff hikes since 2014 marked an abrupt reversal of the decades-long policy of lowering tariff barriers. Coupled with the advocacy of Atmanirbharta, it seemed to suggest that the country was turning its back on the enormous benefits flowing from free trade.* Seen against this backdrop, the minister’s comments that India also needs to open its markets, and be able to compete, are indeed welcome. After all, *raising tariffs to protect domestic industry only opens up the space for lobbying for further protection, leading to inefficient outcomes.* Considering the current economic environment, a re-evaluation of the trade policy is much needed. With both private consumption and investment likely to remain subdued, and with the ability of the government to support the economy during this period being limited, exports can serve as an important driver of growth, more so when global growth is on the upswing. India is already benefiting from this upswing in global trade. The country’s overall exports (merchandise and services) in the first four months of the current financial year stood at \$204.97 billion, up 47.87 per cent over the same period last year, and 15.35 per cent over the year before that. It should move quickly to seize this opportunity. *The government has recently announced the rates under its Remission of Duties and Taxes on Exported Products (RoDTEP) to reimburse exporters for duties paid across the supply chain, making exports zero-rated.* While some have expressed disappointment over both the rates, and the exclusion of some sectors, the larger policy thrust should be to integrate with global value chains, boost the competitiveness of exports.

THE INDIAN ECONOMY IS STRUGGLING TO RECOVER (BHASKAR DUTTA - PROFESSOR OF ECONOMICS, ASHOKA UNIVERSITY)

The International Monetary Fund (IMF)’s July version of the World Economic Outlook Update emphasises a dangerous divergence in economic prospects between the advanced countries and emerging economies. The global economy is projected to grow at 6% in 2021, a figure which is unchanged from the IMF’s April forecast. However, this is yet another instance where averages are misleading. While the forecast for advanced countries has been revised upwards, prospects for emerging countries and particularly those in Asia are projected to be somewhat worse.



Quick pace of recovery

This divergence in the pace of recovery from the pandemic is attributed mainly to two factors. First, *there has been a huge difference in the pace of vaccine roll-out between the advanced and the emerging and low-income countries*. The advanced economies have allocated large sums in procuring COVID-19 vaccines on a priority basis. Even the Trump administration, not known to be one with a human face, was proactive in transferring large sums to several pharmaceutical companies as soon as the magnitude of the global health crisis became apparent. This enabled the companies to develop and produce vaccines at breakneck speed. Pre-orders have enabled the U.S. to fully vaccinate over half the total population while over 60% have received at least one dose, according to the Centers for Disease Control and Prevention. The U.K. has also done exceedingly well in its vaccination drive. The European Union countries were slow off the block, but have now started vaccinating their population at an impressive pace. Overall, over 40% of the population in advanced economies have been fully vaccinated, according to the IMF. Compare this with just 11% in emerging market economies. The advanced countries now feel that the pandemic situation is under control. At any rate, unless something goes dramatically wrong, the possibility of large-scale lockdowns in these countries has receded. Second, *the advanced economies have been able to use their vastly superior fiscal situation to implement significantly bigger stimulus packages*. Apart from allocations designed to directly support domestic industry and growth, sizeable income support measures have been provided that have both propped up consumer demand and mitigated extreme hardships to thousands of people. This kind of fiscal support promises to continue well into 2021. These measures have ensured that advanced economies do not suffer the kind of damage witnessed elsewhere and have also accelerated the pace of economic recovery. Business confidence is recovering too, partly due to the feeling that COVID-19 has been tamed thanks to the protection provided by the vaccination cover.

A laggard

The Indian economy has been one of the laggards among the emerging market economies. After the first COVID-19 wave, it contracted by over 7% during 2020-21. This earned India the dubious record of being the country with the worst performance among all major world economies. Earlier projections claimed that the economy would grow at over 10% during the current year. However, no one had taken the severity of the second COVID-19 wave into account. The dislocations caused by the pandemic have resulted in lower growth estimates for the Indian economy. *Although growth is muted and recovery is slow, retail inflation has crossed 6%, which is above the Reserve Bank of India (RBI)'s 'safe' level. Food prices too have played their part in contributing to the overall rate of inflation. This is a serious matter since the poor are particularly hard hit if food prices cannot be controlled.* The overall price situation puts the RBI in a quandary. Should it tighten monetary policy in order to contain prices but also slow down the pace of recovery? Or should it try to promote economic growth and let prices find their own level? *Fortunately, crude oil prices have cooled off in international markets and this will naturally have a cooling effect on domestic prices.* Consumer spending has also been extremely sluggish and shows no signs of picking up. For instance, *Google Mobility Index data showed that on July 26, visits to retail establishments including restaurants, cafes and shopping centres were down 20% compared to a pre-COVID-19 baseline. Sales of consumer durables are yet to pick up. Not surprisingly, business confidence is low and so entrepreneurs are wary of making new investments.* This is evident from the fact that bank credit



to the commercial sector has plummeted. The *last component of domestic demand is government spending. But the government too has cut back spending as a proportion of GDP.* Fortunately, Goods and Services Tax collections have been extremely good and this may induce the government to loosen the purse strings during the rest of the financial year. Much will depend upon the progress of the pandemic in the near future. Most experts claim that a third wave of COVID-19 will soon be upon us. The peak level of infection is supposed to be significantly lower than what we experienced a couple of months ago. However, *the different variants of the virus and their differential transmission rates make it difficult to predict the spread of infection and hence the extent of economic disruption*, although the current wisdom seems to be that vaccines are very effective in preventing serious illness.

Source of disquiet

This brings to the fore the very poor spread of vaccination in the country. *India was known as the 'vaccine capital' of the world; yet the spread of vaccines has been abysmal.* There is no doubt that *the Central government was rather complacent in 2020.* Unlike in the U.S., there was no attempt to accelerate production facilities in companies like the Serum Institute of India. *The devastation caused by the second wave seems to have induced a sense of urgency in the Central government, which has now become more proactive.* Nevertheless, it is unlikely that the Central government will be able to achieve its target of vaccinating all adults by the end of the year. An added source of disquiet is that doubts have been expressed about the long-term efficacy of existing vaccines, particularly against mutations. Recently, Pfizer released data showing that there is a slight fall in protection against any symptomatic infection six months after immunisation, though protection against severe COVID-19 remained at nearly 97%. However, it is becoming clear that the virus is clever at evading the defences created by vaccines. In particular, there is now evidence which suggests that the Delta variant can cause breakthrough infections – several people are being infected even after being fully vaccinated. For instance, Israel, which implemented a very successful vaccination campaign, has witnessed an alarming rise in new infections. *This has prompted Israel to offer a third dose of the vaccine to anyone above 60 years who was vaccinated at least five months earlier. Germany too has decided to offer booster doses to the elderly.* Obviously, any need to provide booster doses will aggravate the existing shortage of vaccines in the country. This puts a question mark on whether we will soon witness the resumption of robust sustainable growth.

E-SHRAM PORTAL: A DATABASE FOR UNORGANISED SECTOR WORKERS

The government will launch the e-Shram portal, a database of unorganised sector workers, on August 26. On Tuesday, Union Minister for Labour and Employment Bhupender Yadav launched the logo of the e-Shram portal.

What is the e-Shram portal?

The government aims to register 38 crore unorganised workers, such as construction labourers, migrant workforce, street vendors and domestic workers, among others. The workers will be issued an e-Shram card containing *a 12 digit unique number*, which, going ahead, *will help in including them in social security schemes*, officials said. The government had earlier missed deadlines for creating the database, inviting criticism from the Supreme Court.



How will the registration for workers happen on the portal?

The registration of workers on the portal will be coordinated by the Labour Ministry, state governments, trade unions and CSCs, officials said. Awareness campaigns would be planned across the country to enable nationwide registration of workers. Following the launch of the portal, workers from the unorganised sector can begin their registration from the same day. A national toll free number — 14434 — will also be launched to assist and address the queries of workers seeking registration on the portal. A worker can register on the portal using his/her Aadhaar card number and bank account details, apart from filling other necessary details like date of birth, home town, mobile number and social category.

FALL IN CURRENCY ASSETS, GOLD PULLS FOREX RESERVES OFF RECORD HIGH

The nation's forex reserves decreased by \$2.099 billion to stand at \$619.365 billion for the week ended August 13, as a result of a decline in core currency assets as well as gold reserves, data released by the Reserve Bank showed. In the previous week ended August 6, the foreign exchange — or forex — kitty had seen a rise of \$889 million to reach a lifetime high of \$621.464 billion. The foreign currency assets (FCA), a vital component of the overall reserves, declined by \$1.358 billion to reach \$576.374 billion during the week ended August 13, data by the Reserve Bank of India (RBI) on Friday showed. Expressed in dollar terms, the FCA includes the effect of appreciation or depreciation of non-US currencies such as the euro, pound sterling and Japanese yen held in the foreign exchange reserves. For the second consecutive week, the value of gold reserves saw a fall, dropping \$720 million to \$36.336 billion, data for the reporting week showed. Meanwhile, the special drawing rights (SDRs) with the International Monetary Fund (IMF) saw a reduction of \$7 million to reach \$1.544 billion. The country's reserve position with the IMF also decreased by \$14 million to \$5.111 billion, as per RBI data. An increase in the forex reserves could bring some comfort to the government as well as the Reserve Bank in managing the nation's external and internal financial issues at a time when the economy is facing Covid stress once again and it could have an impact on the gross domestic product (GDP) growth rate for the ongoing fiscal as states are announcing lockdowns. It is a big cushion in the event of any crisis on the economic front and enough to cover India's import bill for a year. A higher forex kitty could also help strengthen the rupee against the dollar. A growth in reserves could bring confidence to markets that a country can meet its external obligations, demonstrate the backing of domestic currency by external assets, assist the government in meeting its foreign exchange needs and external debt obligations, and maintain a reserve for national disasters or emergencies.

UNLOCKING VALUE IN BROWNFIELD PROJECTS VIA PRIVATE SECTOR

The government on Monday unveiled a four-year National Monetisation Pipeline (NMP) worth an estimated Rs 6 lakh crore. It aims to unlock value in brownfield projects by engaging the private sector, transferring to them revenue rights and not ownership in the projects, and using the funds so generated for infrastructure creation across the country. The NMP has been announced to provide a clear framework for monetisation and give potential investors a ready list of assets to generate investment interest. The government has stressed that these are brownfield assets, which have been "de-risked" from execution risks, and therefore should encourage private investment.



Structuring the monetisation transactions, providing a balance risk profile of assets, and effective execution of the NMP will be key challenges.

What is monetisation?

In a monetisation transaction, the government is basically transferring revenue rights to private parties for a specified transaction period in return for upfront money, a revenue share, and commitment of investments in the assets. *Real estate investment trusts (REITs)* and *infrastructure investment trusts (InvITs)*, for instance, are the key structures used to monetise assets in the roads and power sectors. These are also listed on stock exchanges, providing investors liquidity through secondary markets as well. While these are a structured financing vehicle, other monetisation models on PPP (Public Private Partnership) basis include: Operate Maintain Transfer (OMT), Toll Operate Transfer (TOT), and Operations, Maintenance & Development (OMD). OMT and TOT have been used in highways sector while OMD is being deployed in case of airports.

What is the government's plan?

Roads, railways and power sector assets will comprise over 66% of the total estimated value of the assets to be monetised, with the remaining upcoming sectors including telecom, mining, aviation, ports, natural gas and petroleum product pipelines, warehouses and stadiums. In terms of annual phasing by value, 15% of assets with an indicative value of Rs 0.88 lakh crore are envisaged for rollout in the current financial year. The NMP will run co-terminus with the National Infrastructure Pipeline of Rs 100 lakh crore announced in December 2019. The estimated amount to be raised through monetisation is around 14% of the proposed outlay for the Centre of Rs 43 lakh crore under NIP.

What is the list of assets?

The assets on the NMP list include: 26,700 km of roads, railway stations, train operations and tracks, 2,8608 Ckt km worth of power transmission lines, 6 GW of hydroelectric and solar power assets, 2.86 lakh km of fibre assets and 14,917 towers in the telecom sector, 8,154 km of natural gas pipelines and 3,930 km of petroleum product pipelines. In the roads sector, the government has already monetised 1,400 km of national highways worth Rs 17,000 crore. Another five assets have been monetised through a PowerGrid InvIT raising Rs 7,700 crore. Also, 15 railway stations, 25 airports and the stake of central government in existing airports and 160 coal mining projects, 31 projects in 9 major ports, 210 lakh MT of warehousing assets, 2 national stadia and 2 regional centres, will be up for monetisation. Redevelopment of various government colonies and hospitality assets including ITDC hotels is expected to generate Rs 15,000 crore.

What are the challenges?

Among the key challenges that may affect the NMP roadmap are: *lack of identifiable revenues streams in various assets, level of capacity utilisation in gas and petroleum pipeline networks, dispute resolution mechanism, regulated tariffs in power sector assets, and low interest among investors in national highways below four lanes.* While the government has tried to address these challenges in the NMP framework, execution of the plan remains key to its success. Structuring of monetisation transactions is being seen as key. The slow pace of privatisation in government companies including Air India and BPCL, and less-than-encouraging bids in the recently launched PPP



initiative in trains, indicate that attracting private investors interest is not that easy. “Monetisation potential of toll road assets, though being a market-tested asset class with established monetisation models, is limited by the percentage of stretches having fourlane and above configuration. The total length of national highway (NH) stretches with four-lane and above is estimated to be about 23% of the total NH network,” as per the NMP framework. The government has tried to address this with a plan to monetise assets that are four-lane and above. The MNP framework notes that other key impediments to the monetisation process are *asset-specific challenges such as presence of an identifiable revenue stream. This is specifically relevant to the railway sector, which has seen limited PPP success as a mode of project delivery.* Konkan Railway, for instance, has multiple stakeholders, including state governments, which own stake in the entity. Creating an effective monetisation transaction structure could be a bit challenging in this case.

ASSET MONETISATION — EXECUTION IS THE KEY

The Government has announced an ambitious programme of asset monetisation. *It hopes to earn ₹6 trillion in revenues over a four-year period.* At a time when the Government’s finances are in bad shape, that is money the Government can certainly use. Getting asset monetisation right is quite a challenge, though. *In asset monetisation, the Government parts with its assets — such as roads, coal mines — for a specified period of time in exchange for a lump sum payment. At the end of the period, the assets return to the Government. Unlike in privatisation, no sale of government assets is involved.* By monetising assets it has already built, the Government can earn revenues to build more infrastructure. Asset monetisation will happen mainly in three sectors: roads, railways and power. Other assets to be monetised include: airports, ports, telecom, stadiums and power transmission.

First, under-utilised assets

Two important statements have been made about the asset monetisation programme. One, *the focus will be on under-utilised assets.* Two, *monetisation will happen through public-private partnerships (PPP) and Investment Trusts.* Let us examine each of these in turn.

Suppose a port or airport or stadium or even an empty piece of land is not being used adequately because it has not been properly developed or marketed well enough. A private party may judge that it can put the assets to better use. It will pay the Government a price equal to the present value of cash flows at the current level of utilisation. By making the necessary investment, the private player can reap the benefits of a higher level of cash flows. The difference in cash flows under Government and those under private management is a measure of the improvement in efficiency of the assets. This is a win-win situation for the Government and the private player. The Government gets a ‘fair’ value for its assets. The private player gets its return on investment. The economy benefits from an increase in efficiency. Monetising under-utilised assets thus has much to commend it.

Those well utilised

Matters could be very different in monetisation of an asset that is being properly utilised, say, a highway that has good traffic. In this case, the private player has little incentive to invest and improve efficiency. It simply needs to operate the assets as they are. The private player may value the cash flows assuming a normal rate of growth of traffic. It will pay the Government a price that



is the present value of cash flows minus its own return. The Government earns badly needed revenues but these could be less than what it might earn if it continued to operate the assets itself. There is no improvement in efficiency. Suppose the private player does plan to improve efficiency in a well-utilised asset by making the necessary investment and reducing operating costs. *The reduction in operating costs need not translate into a higher price for the asset than under government ownership. The cost of capital for a private player is higher than for a public authority.* A public authority needs less equity capital and can access debt more cheaply than a private player. *The higher cost of capital for the private player could offset the benefit of any reduction in operating costs.* As we have seen, *the benefits to the economy are likely to be greater where under-utilised assets are monetised. However, private players will prefer well-utilised assets to assets that are under-utilised. That is because, in the former, cash flows and returns are more certain. Private incentives in asset monetisation may not accord with the public interest.*

Valuation and issues

There are other complications. *It is very difficult to get the valuation right over a long-term horizon, say, 30 years.* Does anybody know what would be the growth rate of the economy over such a period? For a road or highway, growth in traffic would also depend on factors other than the growth of the economy, such as the level of economic activity in the area, the prices of fuel and vehicles, alternative modes of transport and their relative prices, etc. *If the rate of growth of traffic turns out to be higher than assessed by the Government in valuing the asset, the private operator will reap windfall gains.* Alternatively, *if the winning bidder pays what turns out to be a steep price for the asset, it will raise the toll price steeply. The consumer ends up bearing the cost.* If transporters have to pay more, the economy suffers. *There is also the possibility that roads whose usage is currently free are put up for monetisation.* Again, the consumer and the economy bear the cost. It could be argued that a competitive auction process will address these issues and fetch the Government the right price while yielding efficiency gains. But that assumes, among other things, that there will be a large number of bidders for the many assets that will be monetised. Lastly, *there is no incentive for the private player to invest in the asset towards the end of the tenure of monetisation. The life of the asset, when it is returned to the Government, may not be long. In that event, asset monetisation virtually amounts to sale.* Monetisation through the PPP route is thus fraught with problems.

Another way of going about it

The other form of monetisation the Government has indicated is creating Infrastructure Investment Trusts (InvIT) to which monetisable assets will be transferred. InvITs are mutual fund-like vehicles in which investors can subscribe to *units that give dividends.* The sponsor of the Trust is required to hold a minimum prescribed proportion of the total units issued. InvITs offer a portfolio of assets, so investors get the benefit of diversification. Assets can be transferred at the construction stage or after they have started earning revenues. *In the InvIT route to monetisation, the public authority continues to own the rights to a significant portion of the cash flows and to operate the assets. So, the issues that arise with transfer of assets to a private party — such as incorrect valuation or an increase in price to the consumer — are less of a problem.*



The pathway

What conclusions can we draw from the above? First, *a public authority has inherent advantages on the funding side*. In general, the economy is best served when public authorities develop infrastructure and monetise these. Second, *monetisation through InvITs is likely to prove less of a problem than the PPP route*. Third, *we are better off monetising under-utilised assets than assets that are well utilised*. Fourth, to ensure proper execution, *there is a case for independent monitoring of the process*. The Government may set up an Asset Monetisation Monitoring Authority staffed by competent professionals. The authority must put all aspects of monetisation under the scanner — valuation, the impact on price charged to the consumer, monetisation of under-utilised versus well-utilised assets, the experience across different sectors, etc. — and document the lessons learnt. Asset monetisation is fine if executed properly — and that is always a big ‘if’.

- *An infrastructure investment trust (InvIT) structure has already been used this year by the PowerGrid Corporation to raise funds against its transmission lines network and could be used for highways, gas pipelines and railway tracks, including the Dedicated Freight Corridor. For ports, mining, railway stations, concession agreements laying out the contours for a PPP are proposed.*
- About ₹88,000 crore is expected from the National Monetisation Pipeline (NMP) in this year itself, in addition to the ₹1.75-lakh crore already estimated in the Budget from the sale of public firms such as Air India and BPCL. While this Government is yet to complete a single PSU sale, the risks of adverse audit paras about valuations and processes hang over monetisation deals too. However, post-transaction troubles in outright sales can be of a limited nature. *With proposed concession periods running up to 60 years for some assets, NMP deals, by contrast, could pose a long-term headache if they are not structured with end-user interests in mind, balancing the profit and utility motives*. The sharing of risk and rewards between the public and private partners needs to be weighed carefully for each sector.
- Checks and balances are needed for actual infrastructure usage versus projections at the time of bidding. If the Government had implemented its 2014 Budget promise to set up an apex body to devise new PPP models, learning from past mistakes, India’s institutional capacity for the NMP would have been more mature by now.
- Just like disinvestment deals during a downturn *could crowd out new investments* and risk the tag of ‘fire sales’, revenue projections for PPP assets could be deflated now leading to *lower bids followed by super-normal gains for the operator in the future*. Getting the nitty-gritty right is critical for this grand plan.

CENTRE TO EASE PATH FOR MONETISATION

Union Finance Minister Nirmala Sitharaman will soon chair a meeting of the Financial Stability and Development Council (FSDC) to nudge financial regulators to relax and harmonise investment norms for instruments such as Infrastructure Investment Trusts (InvITs) to be used to monetise public assets such as highways, gas pipelines and railway tracks. The meeting of the council entrusted with enhancing coordination among financial sector regulators — RBI, SEBI, IRDA and PFRDA — assumes significance after the government unveiled the National Monetisation Pipeline (NMP),

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listing assets across sectors that are to be monetised for an estimated ₹5.96 lakh crore over four years. With the economy still not out of the woods from the COVID-19 pandemic, and Ms. Sitharaman urging industry to look beyond banks and tap the markets for their financing needs, steps to ease access and encourage investments in the corporate bond market are also expected to be discussed by the FSDC.

The NITI Aayog, which has steered the NMP, has emphasised the importance of expanding the investor base and scale of monetisation instruments such as InvITs and Real Estate Investment Trusts (REITs), and flagged concerns about regulators taking varying stances on such investments. Measures announced in the Union Budget to enable InvITs and REITs to borrow money from FPIs and issue debt securities are also expected to be reviewed by the FSDC, along with the efficacy of changes implemented by individual regulators. Stock market watchdog SEBI, for instance, has recently reduced the minimum investment amount for InvITs and REITs to ₹10,000-₹15,000 to enable retail investors to participate. The Pension Fund Regulatory and Development Authority (PFRDA) as well as the Employees' Provident Fund Organisation (EPFO) have *permitted investments of up to 5% of their corpus in InvITs*, albeit with onerous conditions. For insurers, the Insurance Regulatory and Development Authority (IRDA) has allowed an exposure to InvITs and REITs up *to 3% of their own funds size or 5% of the units issued by a single trust, whichever is lower. Mutual funds, regulated by SEBI, can invest up to 10% of their assets in a single InvIT/ REIT.* "These need to be streamlined to ensure consistency," the Aayog noted, besides highlighting inconsistencies across categories on the level of exposures. "For example: *IRDA regulations do not permit investment of insurance funds in unlisted InvITs.* Hence, a staggered approach for streamlining of investment guidelines and limits is envisaged to keep pace with the growth in the InvIT market starting with the allocation of insurance and pension funds towards unlisted InvITs," it said. *The IRDA and the PFRDA also mandate a high credit rating for InvITs to be eligible for their long-term investments, and the credit enhancement mechanisms for boosting the usually lower ratings of infrastructure projects may also figure in the FSDC's deliberations. A Credit Enhancement Guarantee Corporation, announced in the Union Budget of 2019, is not yet operational, while a partial credit guarantee enhancement scheme from the Reserve Bank of India has some limitations in its present form. Restrictions pertaining to investments in the overall corporate bond market are also likely to be flagged at the FSDC, with SEBI recently mooting an urgent rethink from the RBI, the IRDA and the PFRDA on norms constricting debt market exposures, in order to enable a quicker economic recovery.*

ROADS TO RAILWAYS, RS 6 LAKH CRORE ASSETS TO BE MONETISED, OWNERSHIP WILL REMAIN WITH GOVT

The government Monday unveiled a four-year National Monetisation Pipeline (NMP) worth Rs 6 lakh crore to unlock value in brownfield projects by engaging the private sector, transferring to them the rights but not the ownership in projects; and using the funds for infrastructure creation across the country. Roads, railways and power sector assets will comprise over 66 per cent of the total estimated value of the assets to be monetised, with the balance coming from sectors including telecom, mining, aviation, ports, natural gas and petroleum product pipelines, warehouses and stadiums. Finance Minister Nirmala Sitharaman said monetisation will create further value for infrastructure creation in the country and explore innovative ways of private participation without transfer of government ownership. "There is no land here, this entire (NMP)

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is talking about brownfield projects where investments have already been made, where there is a completed asset which is either languishing or it is not fully monetised or is under-utilised. So by bringing in private participation in this, you will be able to monetise it better and ensure further investment in infrastructure building,” she said. “The ownership of the assets remain with the Government (and) there should be mandatory handback,” the Finance Minister highlighted. Among the key challenges that may affect the NMP roadmap are lack of identifiable revenue streams in various assets, level of capacity utilisation in gas and petroleum pipeline networks, dispute resolution mechanism, regulated tariffs in power sector assets, and low interest among investors in national highways below four lanes, according to the NMP framework. Analysts also point to issues such as the lack of independent sectoral regulators as potential impediments. Real estate investment trusts (REITs) and infrastructure investment trusts (InvITs), for instance, are structures being used to monetise assets in the roads and power sectors. Sitharaman said the government has been taking decisions for revival of the economy and this initiative will help create sustainable demand. “To make sure the economy gets necessary support from the government, we identified infrastructure as being the central pillar, through which if public expenditure happens, the revival will be clearly predictable and spillover effect itself will create a cycle of demand,” she said. Among the assets on the NMP list include: 26,700 km of roads, railway stations, train operations and tracks, 28,608 CKT km worth of power transmission lines, 6 GW of hydroelectric and solar power assets, 2.86 lakh of km fibre assets and 14,917 towers in the telecom sector, 8,154 km of natural gas pipelines and 3,930 km of petroleum product pipelines. Apart from roads and power projects, 15 railway stadiums, 25 airports and the stake of the Central government in existing airports and 160 coal mining projects, 31 projects in nine major ports, 210 lakh MT of warehousing assets are among those which will be up for monetisation. Government think tank NITI Aayog, in coordination with the Finance ministry, has created the NMP dashboard and the detailed roadmap through a series of discussions with stakeholders, global investors and state governments. “This monetisation pipeline is coming at a time when states are all more keen to move forward (on this),” Sitharaman said, pointing out that the Central government will provide financial support to states pursuing disinvestment and listing of state entities. NITI Aayog CEO Amitabh Kant said the government will closely monitor the NMP progress, with yearly targets and a monthly review by an empowered committee chaired by the Cabinet Secretary. NITI Aayog has a Public Private Partnership Cell and has engaged transaction advisors to handhold any ministry for any support it needs in pursuing the monetisation roadmap, he said. Kant said the government expects this plan to be a success since it comprises only brownfield assets that have been “de-risked” and the Aayog’s discussions with key global investors have revealed that they are keen to participate in projects to be monetised through a transparent/competitive bidding process. Contractual partners will have to adhere to Key Performance Indicators and Performance Standards. The NMP will run co-terminus with the National Infrastructure Pipeline of Rs 100 lakh crore announced in December 2019. The estimated amount to be raised through monetisation is around 14 per cent of the proposed outlay for Centre of Rs 43 lakh crore under NIP. NITI Aayog Vice Chairman Rajiv Kumar said infrastructure growth in India will be private sector-led and “this is the next step in mobilising private capital” without transferring ownership to private corporations or resorting to fire sale of assets. The top five sectors in terms of value capture around 83 per cent of the aggregate pipeline value, with roads covering 27 per cent, followed by railways 25 per cent, power 15 per cent, oil & gas pipelines 8 per cent and telecom 6 per cent. In terms of annual phasing by value, 15 per cent of assets with an indicative value of Rs 88,000 crore are envisaged to be rolled out in the current financial year. “This includes selection of de-risked

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and brownfield assets with stable revenue generation profile with the overall transaction structured around revenue rights. The primary ownership of the assets under these structures, hence, continues to be with the Government with the framework envisaging hand back of assets to the public authority at the end of transaction life,” the government said. To encourage states to pursue monetisation, the Central government has already set aside Rs 5,000 crore as incentive. If a state government divests its stake in a public sector undertaking, the Centre will provide a 100 per cent matching value of the divestment to the state. Similarly, if a state lists a public sector undertaking in the stock markets, the Central government will give it 50 per cent of that amount raised through listing. Finally, if a state monetises an asset, it will receive 33 of the amount raised from monetisation from the Centre. The government has announced plans for NMP in this year’s Budget and earlier in August, Department of Investment and Public Asset Management (DIPAM) Secretary Tuhin Kanta Pandey had said that the government is finalising Rs 6 lakh crore worth infrastructure assets for monetisation.

CENTRE TO EASE PATH FOR MONETISATION

Union Finance Minister Nirmala Sitharaman will soon chair a meeting of the Financial Stability and Development Council (FSDC) to nudge financial regulators to relax and harmonise investment norms for instruments such as Infrastructure Investment Trusts (InvITs) to be used to monetise public assets such as highways, gas pipelines and railway tracks. The meeting of the council entrusted with enhancing coordination among financial sector regulators — RBI, SEBI, IRDA and PFRDA — assumes significance after the government unveiled the National Monetisation Pipeline (NMP), listing assets across sectors that are to be monetised for an estimated ₹5.96 lakh crore over four years. With the economy still not out of the woods from the COVID-19 pandemic, and Ms. Sitharaman urging industry to look beyond banks and tap the markets for their financing needs, steps to ease access and encourage investments in the corporate bond market are also expected to be discussed by the FSDC. “An FSDC meeting has been planned for some time, and it will be convened very soon,” a top Finance Ministry official said. The NITI Aayog, which has steered the NMP, has emphasised the importance of expanding the investor base and scale of monetisation instruments such as InvITs and Real Estate Investment Trusts (REITs), and flagged concerns about regulators taking varying stances on such investments. *Measures announced in the Union Budget to enable InvITs and REITs to borrow money from FPIs and issue debt securities are also expected to be reviewed by the FSDC, along with the efficacy of changes implemented by individual regulators. Stock market watchdog SEBI, for instance, has recently reduced the minimum investment amount for InvITs and REITs to ₹10,000-₹15,000 to enable retail investors to participate. The Pension Fund Regulatory and Development Authority (PFRDA) as well as the Employees’ Provident Fund Organisation (EPFO) have permitted investments of up to 5% of their corpus in InvITs, albeit with onerous conditions. For insurers, the Insurance Regulatory and Development Authority (IRDA) has allowed an exposure to InvITs and REITs up to 3% of their own funds size or 5% of the units issued by a single trust, whichever is lower. Mutual funds, regulated by SEBI, can invest up to 10% of their assets in a single InvIT/ REIT.* “These need to be streamlined to ensure consistency,” the Aayog noted, besides highlighting inconsistencies across categories on the level of exposures. “For example: IRDA regulations do not permit investment of insurance funds in unlisted InvITs. Hence, a staggered approach for streamlining of investment guidelines and limits is envisaged to keep pace with the growth in the InvIT market starting with the allocation of insurance and pension funds towards unlisted InvITs,” it said. *The IRDA and the PFRDA also*

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



mandate a high credit rating for InvITs to be eligible for their long-term investments, and the credit enhancement mechanisms for boosting the usually lower ratings of infrastructure projects may also figure in the FSDC's deliberations. A Credit Enhancement Guarantee Corporation, announced in the Union Budget of 2019, is not yet operational, while a partial credit guarantee enhancement scheme from the Reserve Bank of India has some limitations in its present form. Restrictions pertaining to investments in the overall corporate bond market are also likely to be flagged at the FSDC, with SEBI recently mooted an urgent rethink from the RBI, the IRDA and the PFRDA on norms constricting debt market exposures, in order to enable a quicker economic recovery.

IT'S TIME FOR INDUSTRY 4.0

The term 'Industry 4.0' was coined by the German government in 2011. Additive manufacturing, Internet of Things, Cyber Physical Systems, Augmented Reality/Virtual Reality and data analytics are some of the technologies associated with Industry 4.0. With the help of these technologies, the manufacturing industry will be able to make data-driven decisions. The reduced costs of electronics like sensors, transmitters, and cloud have allowed us to capture the data produced during operational activities. With the availability of advanced algorithms, this captured data can be analysed for decision-making in real time. Thus, Industry 4.0 integrated 'data' with manufacturing and Information Technology. To take advantage of data-driven decision-making, the governments of other countries also coined their own industrial initiatives like Industry 4.0. For example, the U.S. calls it Smart Manufacturing, China calls it Made in China 2025, and India refers to it as Make in India or Digital India.

The potential of MSMEs

Micro, Small and Medium Enterprises (MSMEs) are expected to become the backbone of India as the economy grows larger. MSMEs form more than 95% of the industries in India, produce more than 45% of the total manufacturing output and employ more than 40% of the workforce. According to the Economic Survey 2020-21, over 6 crore MSMEs employ more than 11 crore people and contribute roughly 30% to the GDP and half of the country's export. MSMEs are also ancillaries to larger enterprises, leading to a seamless supply chain integration. As a result, making MSMEs more efficient will be advantageous for the whole economy. However, MSMEs face challenges when it comes to adopting new technologies such as Industry 4.0. First, they lack awareness regarding Industry 4.0 and its benefits. They consider such technologies disruptive and having the potential to demolish their existing system. However, Industry 4.0 believes in improving the existing system. Scientific literature provides evidence of sensors and WiFi networks being integrated with old machines like lathes and mills to improve their performance. Second, MSMEs will need to make major financial investments to adopt Industry 4.0. Investing in the right set of technologies will need experts and consultants as well. Third, for any new technology to be adopted, an organisation requires a positive organisational culture and the support of people. MSMEs need to believe in the advantages that Industry 4.0 technologies can offer. Fourth, the frameworks and steps that can assist MSMEs in adopting Industry 4.0 technologies have been missing. In this regard, MSMEs need to understand the data they are producing from all their operational activities. Based on such data, their readiness can be evaluated. Finally, MSMEs should develop their own vision of Industry 4.0 technologies that they want to adopt and identify the relevant tools and practices they need for such a tailored vision.



Transcending impediments

Though adoption of Industry 4.0 technologies by MSMEs requires transcending a labyrinth of impediments, it will make them more competitive as they will be able to offer world-class quality products to customers. Additionally, delivery timings and the flexibility to meet different needs will improve. As India joined the group of top 50 countries in the global innovation index for the first time in 2020, it is imperative for its MSMEs to embrace Industry 4.0 technologies without any hesitation. Proper sensitisation of the Government of India, higher education institutions, practitioners, entrepreneurs, industrial associations, trade unions, venture capitalists, consultants and research agencies would help to speed up this task. This becomes imperative given the manufacturing challenges abruptly posed by the COVID-19 pandemic when most of the healthcare infrastructure in India is MSME-dependent.

RBI PANEL MOOTS FOUR TIERS FOR UCBS

A Reserve Bank-appointed committee has suggested a four-tier structure for the urban cooperative banks (UCBs). The committee said UCBs could be split into 4 categories — tier-1 with deposits up to ₹100 crore; tier-2 with deposits between ₹100-₹1,000 crore, tier-3 with deposits between ₹1,000 crore-₹10,000 and tier-4 with deposits of over ₹10,000 crore. It suggested the minimum capital to risk-weighted assets ratio could vary from 9% to 15% and for tier-4 UCBs, the Basel III norms. It also prescribed separate ceilings for home, gold and unsecured loans for the different categories.

WHY CRED MINT IS NOTHING NEW FOR INDIA

Fintech platform CRED Friday announced the launch of a peer-to-peer (P2P) lending feature called CRED Mint — a service that will allow the company's users to lend money to other users and make a 9% interest per annum on the amounts they give out as loan.

What is P2P lending?

P2P lending is not a new feature. *In 2017, the Reserve Bank of India had brought this service under its regulatory purview. Even at the time, there were more than 20 P2P lending players in the market but RBI's regulations ensured only the serious ones with watertight business models remained in the sector. In P2P lending, users sitting on idle money provide loans to potential borrowers identified by the service provider.* These lenders then receive payments from the borrowers on a set basis — either one time, or in equated monthly instalments.

Which are the players in the P2P lending segment?

After RBI issued its regulations in 2017, the space saw a spree of fundraising involving some of the existing players in the segment. Some of the major companies operating in this space include RupeeCircle, Finzy, IndiaMoneyMart, etc. For its P2P lending feature, CRED has tied up with RBI-approved non-banking financial company Liquiloans.



What are the risks associated with P2P lending?

One of the biggest risks associated with this kind of lending is the non-repayment of loans. Given that P2P lending is a form of unsecured loan, there is no guarantee put up by the borrower for the lender to redeem in case of a default. However, the unsecured nature of the loan is also the reason behind the high return on investment compared to other debt instruments.

What role will CRED play in this?

Like most technology companies in the lending space, whether P2P or otherwise, *the main role they play is to analyse data of potential borrowers to decide their creditworthiness.* This is the model also followed in the buy-now-pay-later system where technology companies tie up with banks or NBFCs to provide them with a database of creditworthy people that can be targeted for a loan. Fintech companies typically stand to make a commission for this. CRED founder Kunal Shah said in a tweet Friday that CRED cash — the company's lending product for 'high-trust CRED members' — had a loan book of Rs 2,415 crore as of date with less than 1% default rate.

INSURERS CUT EXPOSURE TO GOVT'S FLAGSHIP CROP COVER SCHEME PMFBY

Domestic general insurance companies are gradually reducing their exposure to the crop insurance segment, the Pradhan Mantri Fasal Bima Yojana (PMFBY), in a bid to balance their portfolios and cut down losses on account of high claims, even as the Centre made the scheme optional and slashed its contribution. Gross premium underwritten by general insurers has fallen by 12.37 per cent to Rs 4,221 crore in the four-month period ended July 2021 as against Rs 4,817 crore in the year-ago period. This follows the 16.76 per cent decline in crop insurance premium to Rs 19,071 crore (excluding Agriculture Insurance Corporation) in the fiscal ended March 2021 as against Rs 22,911 crore in the previous year, according to figures available from General Insurance Council (GI Council). Public sector insurance firms — particularly country's largest general insurer, New India Assurance — have almost reduced their exposure to nil in the four months of the current financial year. All the four PSU insurers — New India Assurance, United India Insurance, National Insurance and Oriental Insurance — have a combined exposure of just Rs 3.8 crore in the period. Private sector general insurers like ICICI Lombard General Insurance and Tata AIG had exited the portfolio two years back. ICICI Lombard General Insurance had said it is exiting in the wake of losses and high reinsurance costs. *Launched in February 2016, PMFBY witnessed huge claims of over 100 per cent in the first few years, leading to losses for insurers. Even GIC Re, which was earlier bullish on the portfolio, has cut down its exposure drastically after it was hit with heavy losses in the last two years.* In the June quarter, the reinsurer slashed its crop portfolio by 23 per cent to year-on-year to Rs 5,312 crore but has achieved profitability in the portfolio. *In February 2020, the government revamped PMFBY and the Restructured Weather Based Crop Insurance Scheme (RWBCIS) to address existing challenges in implementation of crop insurance schemes. In a major step, enrolment in the two schemes was made voluntary for all farmers, including those with existing crop loans. When PMFBY was launched, it was made mandatory for all farmers with crop loans to enrol for insurance cover under the scheme.*



HOW NEW SEBI REGULATIONS BENEFIT LISTED COMPANY EMPLOYEES

Earlier this month, the Securities and Exchange Board of India approved the merger of the SEBI (Share Based Employee Benefits) Regulations, 2014 (SBEB Regulations) and the SEBI (Issue of Sweat Equity) Regulations, 2002 (Sweat Equity Regulations) into the SEBI (Share Based Employee Benefits and Sweat Equity) Regulations, 2021. The new regulations have widened the scope of employees who can be offered stock options, and brought in other key changes that will benefit the employees and listed companies issuing these options.

What are the key changes?

Companies will now be allowed to provide share-based employee benefits to employees, who are exclusively working for such a company or any of its group companies including a subsidiary or an associate. Under the earlier regulations, only permanent employees of the company and its holding and subsidiary companies were eligible for share-based benefits; the new regulations broaden this by deleting the word “permanent” and also permitting employees of group/associate companies. Experts say this will not only help companies to better use share-based employee benefits for retaining employees for longer period, but also imbibe a sense of responsibility and ownership in the employee that will push him/her to work for the growth of the company.

Are the new rules applicable to all companies?

No, these will be applicable only to listed companies as these have been framed by SEBI, which only regulates listed companies. For unlisted companies, any change needed will have to be brought into the Companies Act 2013, by the Ministry of Corporate Affairs.

What are the other important changes?

To provide immediate relief to an employee or his/her family in instances of permanent incapacity or death, the regulations have dispensed with the requirement of a minimum vesting period and lock-in period (minimum 1 year) for all share benefit schemes. Experts feel this will allow companies to provide instant relief to bereaved family members who otherwise would have had to wait.

When will sweat equity get issued?

Sweat equity shares will be allowed to be issued for providing the know-how or making available rights in the nature of intellectual property rights or value additions. As per Section 2(88) of the Companies Act, 2013 “sweat equity shares” means such equity shares as are issued by a company to its directors or employees at a discount or for consideration, other than cash, for providing their know-how or making available rights in the nature of intellectual property rights or value additions, by whatever name called. The regulations have aligned the pricing and the lock-in requirements of the sweat equity shares with the preferential issue norms as provided in the SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2018. The maximum yearly limit of sweat equity shares that can be issued by a company listed on the main board has been prescribed at 15% of the existing paid-up equity share capital within the overall limit, not exceeding 25% of the paid-up capital at any time. Further, in case of companies listed on the Innovators Growth Platform (IGP), the yearly limit will be 15% and overall limit will be 50% of the paid-up capital at any time. This enhanced overall



limit for IGP will be applicable for 10 years from the date of the company's incorporation. This proposal will benefit all new start-up companies seeking listing on the IGP platform.

GLITCHES IN TAX PORTAL, AND WHAT IS BEING DONE

After over two-and-a-half months of continuing glitches in the revamped e-filing portal of the Income Tax Department, and its unavailability over the last two days, Finance Ministry officials held two meetings with Infosys MD & CEO Salil Parekh on Monday. Finance Minister Nirmala Sitharaman summoned Parekh — the second meeting in two months — to explain the reasons for the continuing glitches, and has now given Infosys a deadline of September 15 to resolve these.

What is the new income tax portal?

The Income Tax Department in May announced the launch of its new e-filing portal <http://www.incometax.gov.in> on June 7. It said the “new taxpayer-friendly portal” would be integrated with immediate processing of Income Tax Returns to issue quick refunds to taxpayers, with all interactions and uploads or pending actions to be displayed on a single dashboard. The portal was to also have free ITR preparation software available with interactive questions to help taxpayers for some categories, along with a new call centre for prompt response to queries. *Infosys was in 2019 awarded the contract to develop the new system to reduce processing time for returns from 63 days to one day and expedite refunds.*

What are the issues?

Within hours of its June 7 launch, the portal started to face issues such as inability to generate an OTP for Aadhaar validation, password generation glitches, failure to link old data for past returns, and problems in filing returns. The problems have now expanded to include errors in interest calculation, incorrect capturing of details from Form 16, and inability to add details for tax exemption for trusts. Individual taxpayers also complained about their ITR-1 not being accepted even days after submission, inability to e-verify the ITR after filing, Form 26AS details not getting automatically populated, and the portal not having a secure connection and taking time to load properly. The persisting issues have led to calls by chartered accountants and taxpayers for further extension of filing deadlines. The due date for filing ITR by taxpayers not covered under audit was earlier extended to September 30 from July 31, for tax audit cases to November 30, and for transfer pricing cases to December 31. August 15 was the deadline for issuing quarterly TDS certificates for tax deducted for payments (other than salary such as interest income) for the quarter ended June. The last date of making payment under Vivad Se Vishwas (without additional charges) is August 31.

Have other government portals faced similar issues?

Infosys had earlier been appointed by the government and its agencies for a number of IT projects — including the \$50 million contract to implement the Ministry of Corporate Affairs’ MCA21 v2 portal, and a Rs 1,380 crore contract to develop the IT backbone for the GST Network. In all three projects, Infosys’ products saw performance issues. The GSTN project faced glitches with laws and procedures being changed frequently after the rollout. Some of the problems were ironed out after tax officials were appointed to explain the frequent changes to the project vendor. Such projects



including the I-T portal are learnt to have undergone a “user acceptance test”, which is understood to have been cleared by the IT Department, prior to being given a go-ahead for a full-fledged launch. Such testing takes place at the final stage of software development when users test if it is able to perform the tasks in real-world situations.

POWER PLAY

Opposition parties and several organisations have objected to certain features in the draft Electricity (Amendment) Bill, 2021. The Kerala Assembly has unanimously passed a resolution urging the Centre to withdraw the Bill. West Bengal Chief Minister Mamata Banerjee has written to Prime Minister Narendra Modi, reiterating her opposition to the “much-criticised” Bill. In Karnataka, farmers held demonstrations against the draft legislation. The proposed legislation, according to critics, goes against the federal structure of the Constitution as electricity is in the concurrent list. Those opposing the Bill contend that it will lead to more private players in the power sector, making electricity unaffordable for vulnerable sections, but the Centre says it has its reasons for proposing the changes.

What prompted the Centre to propose changes in the Electricity Act?

For years, electricity distribution has remained the sore point in the country’s power network. Thirty years ago, when the Centre opened up the power sector, experts argued that distribution should have been covered initially. The Electricity Act, 2003, led to thermal generation getting delicensed and States unbundling the vertically integrated State Electricity Boards into generation companies and distribution companies (discoms). Though the idea is to promote competition and efficiency, *the discoms have, by and large, remained under the control of the States.* At the end of June 2021, the discoms owed over ₹90,000 crore to power producers. *Thirty-six out of 56 discoms reported aggregate losses of around ₹32,900 crore as on March 31, 2020. With the discoms saddled with structural challenges in governance and regulation, combined with the chronic problems of underinvestment, line losses and issues in billing, metering, and collection, the government has been trying to amend the Electricity Act.* The present version of the draft Bill was drawn up in April 2020. Recently, Union Power Minister R.K. Singh said the revised draft, prepared in consultation with stakeholders, had been sent to the Cabinet Secretary.

What are the contours of the draft Bill?

The broad objectives of the legislation, as articulated by Mr. Singh a year ago, are: *ensure consumer-centricity, promote ease of doing business, enhance sustainability of the power sector and promote green power.* The draft Bill has covered nearly a dozen areas, such as distribution franchise and sub-licence, subsidy, and cost-reflective tariff. *Among the remedies presented by the government through the initiative are direct benefit transfer (DBT) of subsidies, reduction of cross subsidies, role for distribution sub-licensees with regulators’ nod, the adoption of a national renewable energy policy and the establishment of the electricity contract enforcement authority.* On August 10, the Union Minister informed the Rajya Sabha that after the announcement in the 2021 Union Budget on the need for enabling consumers to choose among discoms, the Centre held discussions with a range of stakeholders. As this required an amendment to the law, the “desired procedures are being followed”, he said.



Why have several States opposed the Bill?

The proposed de-licensing of distribution has unnerved many States, from Tamil Nadu to West Bengal and Maharashtra to Punjab. The States feel that *a greater role for private distribution companies and franchisees would only lead to "cherry-picking of remunerative areas" by them, leaving it to the State discoms to serve social sector obligations and rural areas.* This, they feel, will lead to the States incurring massive losses. Ms. Banerjee, in her letter to Mr. Modi, argues that while the Electricity Act, 2003, had struck a "fine balance" between the Centre and the States in the management of the sector, the proposed amendment "strikes at the root of the federal structure". The objective of providing choices to the consumers would "end up in profiteering" by new service providers through tariff hikes. *The draft Bill is also being opposed by many political parties and farmers on the ground that DBT will do away with the heavily subsidised or free power supply to the farm sector.* This is why, it is one among three pieces of legislation against which agitating agriculturists' bodies have been carrying on a campaign. One of the complaints of Tamil Nadu against the draft Bill is that hydro-power purchase obligation cannot be fixed separately as hydro-power generation is seasonal, monsoon-dependent and not in the control of its discom.

What is the way forward?

If the Centre and the States can arrive at a broad consensus, at least on two crucial areas of DBT and giving space for private distribution companies and franchisees, the proposed amendment can be a game-changer for the power sector, according to experts.

ARE OIL BONDS TO BLAME FOR HIGH FUEL PRICES?

Union Finance Minister Nirmala Sitharaman recently repeated a refrain that the Centre had been unduly burdened by the cost of having to service 'oil bonds' issued by the UPA government, and it was this financial commitment which had mainly constrained the government's ability to reduce excise duty and other Central levies on petroleum products so as to lessen the burden on consumers. Interacting with the media on August 16, Ms. Sitharaman termed the actions taken by the then Prime Minister Manmohan Singh's government as "trickery" and said: "Oil bonds worth ₹1.44 lakh crore were issued by the UPA to show reduced oil prices in 2013. Who is paying for it, the Modi 2.0 government." She added, "Today, you are asking me why we are not reducing the prices. I am subsidising the reduction they had offered. So far, ₹70,195.72 crore has been paid as interest on outstanding bonds worth around ₹1.31 lakh crore. Another ₹37,000 crore more is payable as interest till 2025-26, taking the interest alone close to ₹1 lakh crore."

What are these oil bonds?

Between 2005 and 2010, the government issued long-dated Special Securities, totalling about ₹1.4 lakh crore, to oil marketing companies (OMCs), including Indian Oil Corporation, Hindustan Petroleum Corporation and Bharat Petroleum Corporation. *These debt securities or bonds, which carry coupons ranging from 6.35% to 8.4%, were issued in lieu of cash subsidy to cover the under-recovery that OMCs sustained on account of selling petroleum products below cost.* The bonds paid an annual interest to OMCs and on maturity, the face value of the bonds, too, would accrue to them. The then government opted to issue these bonds so as to reduce the annual fiscal burden and stagger the liability over an extended period of time.



Why were they issued only up to 2010?

The UPA government deregulated petrol pricing in June 2010, ending under-recovery on the fuel, and OMCs stopped suffering losses on every litre of diesel they sold from October 2014. During the five-year period that the oil bonds were issued, the price of a barrel of the Indian basket of crude oil averaged \$70.15, according to the data on the website of the Petroleum Planning & Analysis Cell (PPAC). The retail selling price of petrol ranged from a low of ₹37.99 to a peak of ₹50.62 (in July 2008) over the same period.

What is the link between oil cost and retail fuel prices?

Besides the price of crude oil that is processed into the respective fuels, there are Central and State levies and dealer commissions that get added on to finally feed into the pump price of the petroleum products. The price of the Indian basket of crude oil kept rising during the UPA years, starting at an annual average of \$39.21 in 2004-05 and climbing to a high of \$111.89 in 2011-12. Prices eased slightly thereafter to an annual average of \$105.52 in 2013-14, before the government headed by Prime Minister Narendra Modi assumed office in May 2014. Since 2014-15, when a barrel on average cost \$84.16, crude prices have been on a downtrend and fell to \$44.82 in 2020-21. Excise duty and related Central levies have, however, risen sharply and constituted 32% or almost a third of the pump price of petrol sold in Delhi as on August 16 this year, compared with just 14% in May 2014. State taxes have increased at a more gradual pace and risen in Delhi to 23% of the pump price, from 17% in May 2014.

How relevant is the Minister's contention?

The Centre has consistently derived far higher returns from excise duty and other levies than the expenditure it has so far incurred in relation to the bonds. Its receipts by way of excise duty alone almost doubled from ₹99,068 crore in 2014-15 to ₹1,78,477 crore in 2015-16, and was provisionally estimated at ₹3,71,726 crore in 2020-21, according to PPAC data. In contrast, while the principal outstanding for the bonds has barely changed over the last seven years — marginally declining from ₹1.34 lakh crore as of March 2014 to ₹1.31 lakh crore as of March 2021 — the interest outgo, by the Minister's own account at a little over ₹70,000 crore, averages to just about ₹10,000 crore a year.

WHY ARE OIL & GAS COMPANIES EXPLORING GREEN ENERGY OPTIONS?

State-owned Oil and Natural Gas Corporation is considering inorganic investments to reach a target of 10 GW of installed renewable energy capacity by 2040. Other oil and gas PSUs are also investing in renewable energy.

Why are oil and gas companies investing in renewable energy?

Global moves to reduce carbon emissions to slow down climate change have led to oil and gas companies around the world investing in renewable energy to reduce their carbon footprint and diversify offerings. State-owned *upstream and downstream* oil and gas companies are also taking part in energy investments to help achieve the government's ambitious renewable energy targets. *India is targeting 450 GW of installed renewable energy capacity by 2030 up from about 100 GW currently.*



What are some of the renewable energy investments by Indian companies?

India's largest upstream oil and gas company, ONGC, is targeting 10 GW of renewable energy capacity by 2040, up from 178MW of renewable energy capacity at the end of FY20. ONGC Chairman Subhash Kumar recently said the company was looking at acquisitions to help achieve its renewable energy targets. India's top natural gas company, GAIL, is also looking at acquisitions to augment its 130 MW renewable energy portfolio. The company is aiming at reaching 1 GW of renewable capacity within 3-4 years. *Downstream players have also started investing in renewable energy and electric charging infrastructure, with an eye on a potential shift towards electric mobility.* Indian Oil Corporation Ltd, India's largest refiner, had a total installed renewable energy capacity of about 233 MW at the end of FY21. It has also set up 257 electric charging and battery swapping stations at 29 retail fuel outlets. Sources at IOCL said the results of its *battery swapping stations* were positive and that the company was looking at a potential joint venture (JV) with Sun Mobility to provide battery swapping on a larger scale in the future. *IOC is also setting up the first green hydrogen plant in India in Mathura.* IndianOil also has a JV with Israel-based battery technology startup Phinergy to develop aluminium-air technology based battery systems for electric vehicles and stationary storage. Hindustan Petroleum Corporation Ltd has tied up with Tata Power to set up electric vehicle charging at various retail points around the country. It has also set up about 133 MW of renewable energy capacity, including about 100 MW of wind energy capacity. Bharat Petroleum Corporation Ltd had installed renewable energy capacity of 43 MW at the end of FY20.

GOVT'S CLARIFICATIONS ON CSR EXPENDITURE; WHAT IMPACT WILL THESE HAVE?

The Ministry of Corporate Affairs has clarified that excess Corporate Social Responsibility (CSR) expenditure prior to FY21 cannot be set off against future CSR expenditure requirements and that corporate donations to government schemes cannot be counted as CSR. We examine these and other clarifications by the government in a circular answering frequently asked questions on CSR.

What is the clarification on setting off of excess CSR expenditure?

Companies with a minimum net worth of Rs 500 crore, turnover of Rs 1,000 crore, or net profit of Rs 5 crore are required to spend at least 2 per cent of their average profit for the previous three years on CSR activities every year. The ministry has clarified that any CSR expenditure in excess of the mandated 2 per cent expenditure can be set off against mandatory CSR expenditure in the three subsequent fiscals. Notably however, excess expenditure prior to FY21 is not eligible to be set off against future CSR requirements. The government had in May notified that donations made to the PM CARES fund on March 31, 2020 in excess of CSR requirements could be set off against CSR expenditure requirements for FY21.

What are other key clarifications?

The ministry has also clarified that companies have to ensure that funds transferred to implementing agencies are actually utilised for them to be counted towards mandatory CSR expenditure. Madhu Sudan Kankani, partner at Deloitte India, said "simply transferring money to NGOs may not be enough to meet the requirement," noting that the amount transferred to such implementing agencies had to be utilised to meet CSR expenditure requirements.



WILL CHANGES IN AERA ACT HELP SMALLER AIRPORTS?

In the monsoon session, *Parliament passed the Airports Economic Regulatory Authority of India (Amendment) Bill, 2021. The Bill*, tabled in March this year and sent to a standing committee, *seeks to broaden the category of airports for which the Airports Economic Regulatory Authority (AERA) of India can determine tariff by amending the definition of major airports.*

Why has the definition of a major airport been amended?

The AERA regulates tariffs and other charges for aeronautical services rendered at 'major' airports. Under the AERA Act, 2008, a major airport is one which "has, or is designated to have, annual passenger throughput in excess of three-and-a-half million or any other airport as the Central Government may, by notification, specify". However, it does not provide for determination of tariff for a group of airports. The Amendment Bill has amended the definition of a major airport to include "a group of airports" after the words "any other airport". The government hopes the move will encourage development of smaller airports and make bidding for airports with less passenger traffic attractive. *It plans to club profitable airports with non-profitable ones and offer them as a package for development in public-private partnership mode to expand connectivity.*

Was there a need to amend the AERA Act?

The Airports Authority of India (AAI) awarded six airports — Lucknow, Ahmedabad, Jaipur, Mangaluru, Thiruvananthapuram and Guwahati — for operations, management and development in public-private partnership mode in February 2019. Later that year, the AAI Board, in its 190th meeting held on September 5, approved leasing of another six airports — Bhubaneswar, Varanasi, Amritsar, Raipur, Indore and Tiruchi — for undertaking operations, management and development in public-private partnership mode. The Ministry of Civil Aviation plans to club each of these airports with nearby smaller airports for joint development. The move follows Finance Minister Nirmala Sitharaman's Budget Speech this year, in which she said the government planned to monetise airports in tier-2 and tier-3 cities.

How did AERA come into existence? What tariffs does it determine?

The AERA Act was enacted in 2008 and an independent economic regulator, i.e., the AERA, was established in 2009 for determining the tariff for aeronautical services rendered at major airports. The initial benchmark passenger throughput to qualify as a major airport was 1.5 million passenger per annum (mppa), which was amended in 2019 to 3.5 mppa. *According to the AERA website, there are 25 major airports. For the remaining non-major airports owned by AAI, the Ministry of Civil Aviation approves the charges for aeronautical services.* There are a total of 154 airports in the country. Among these, AAI owns 136 airports and provides air traffic services over the entire Indian airspace and adjoining oceanic areas.

What are the apprehensions?

"Though this Bill proposes to make changes which appear to be lucrative for the aviation sector, there is a lack of clarity regarding what will be the criterion for deciding which airports get clubbed together. Will it be passenger traffic of more than 3.5 million or some other factors too? This clarity needs to be brought in to achieve the objective of the Bill," says Poonam Verma,

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Partner, J Sagar Associates, adding that the government will also have to ensure that a monopoly situation is not created in the airport operating business while awarding a group of airports to the same entity. “Balancing the interests of the private sector and the government’s objective of privatising smaller airports will be a tightrope walk,” says Jagannarayan Padmanabhan, Practice leader and Director, Transport and Logistics, CRISIL Limited. “Whether the government succeeds will also depend on how the airports are packaged and if there are enough growth prospects, economic activity or tourist attractions near the non-profitable airports that will be clubbed.”

THE GROUNDING AND RETURN OF BOEING 737 MAX

Indian aviation safety regulator DGCA has permitted the commercial operations of Boeing 737 Max planes in the country after it was banned in March 2019 following two deadly crashes of the aircraft model that together killed 346 people.

Why was the aircraft banned from flying?

In October 2018, the 737 Max — the newest member of Boeing’s 737 narrow-body family — crashed in the Java Sea shortly after take-off from Jakarta. Later, in March 2019, another aircraft of the same model crashed in Ethiopia. Both these accidents killed a total of 346 people. Following the second crash, aviation authorities globally decided to ground the plane pending an investigation into the cause behind the crashes. At the time, several airlines including large carriers like United, American, Southwest, Air Canada, in addition to Indian carrier SpiceJet, were operating the 737 Max planes in their fleets. China was the first country to ground the plane and others soon followed suit. *After India’s clearance to fly, China now remains the only major market to have still not allowed the plane to fly.*

What happened after the grounding?

During the investigation, it was discovered that the main cause of the accidents was a design flaw in the most modern jetliner. The latest Boeing 737 model is equipped with a *manoeuvring characteristics augmentation system (MCAS)*, which is *responsible for pushing the aircraft’s nose down when it senses a high angle of attack* that may lead to an aircraft stall. *If an aircraft’s nose is too high, the plane loses speed and is likely to enter a stall — a state in which it loses flight and can fall from the sky like a stone.* The MCAS was designed to prevent such an eventuality. In case of the two crashes, *the MCAS falsely misread the plane’s angle of attack during the ascent and forced the nose down leading to the crash.* However, it was not just a technical flaw that caused the accidents. During the course of the investigation, several shortcomings were also found out with the processes laid down by Boeing as well as the US Federal Aviation Administration (FAA).

How has the un-grounding taken place?

Once the investigation pointed out all the deficiencies, corrective measures were introduced, including rectifying the MCAS by Boeing and setting up of simulators and training centres to train pilots about the MCAS. In November 2020, the FAA lifted the restrictions on Boeing 737 Max, and several other jurisdictions including Japan, Europe, the UK, Canada, Brazil, the UAE, Australia approved the aircraft’s return to flight following *technical modifications and additional pilot training.*



In India, SpiceJet is the only airline as of date with the aircraft model in the fleet. Jet Airways, which has been grounded due to financial crunch, also operated this plane. In addition, the upcoming domestic airline, Akasa, is expected to launch with a fleet of Boeing 737 Max. In the international space, airlines such as Oman Air and FlyDubai used to operate the aircraft on the Indian routes prior to the ban.

CCI PENALTY: WHAT IS MARUTI'S DEALER 'DISCOUNT CONTROL POLICY'?

India's largest car maker, Maruti Suzuki India Ltd. (MSIL) has been fined Rs 200 crore by the competition regulator for a policy under which the company penalised its dealerships and its employees for offering additional discounts.

How did Maruti Suzuki restrict dealers from offering additional discounts to customers?

MSIL entered into agreements with dealers across the country to set maximum discounts under a discount control policy and enforced adherence to the policy through steep penalties. MSIL used mystery shopping agencies to visit its dealership to check if additional discounts were being offered. If a dealership was found to have offered discounts higher than those authorised by MSIL, the company sought fines from the dealership, manager, team leader and direct sales executive involved in the offer. In one case, a sales executive was fined Rs 5,000 while the dealership faced a penalty of Rs 50,000 for offering an additional discount of Rs 1,850 on accessories. In another example, Maruti fined a Thiruvananthapuram-based dealership Rs 1 lakh for offering additional discounts on a Rs 4,500 basic kit. Maruti Suzuki e-mailed dealers a schedule of penalties for violations of its discount policy, which escalated with every offence from Rs 50,000 for a first violation, Rs 1 lakh for the second, and Rs 2 lakh for the third and every subsequent violation. Key evidence of Maruti's enforcement of this policy was found in e-mails by Maruti to its dealers. In one e-mail to dealerships in the national capital region, the commercial head of MSIL-NCR said the company would "mercilessly initiate multiple penal action, if required, to stop this menace (additional discounting) at any cost."

Why is price maintenance considered anti-competitive?

Discount control mechanisms can be considered anti-competitive if they restrict inter-brand or intra-brand competition, and could lead to consumers not getting the best price for products. The CCI found that MSIL had the largest market share in the passenger vehicle segment and that Resale Price Management (RPM) by MSIL negatively impacted competition not only among its dealers but also competition with other brands.

MSIL is one of the 14 automobile manufacturers that were fined Rs 2,544 crore by the CCI for not making spare parts for their automobiles available in the open market in 2014. The CCI has also ordered a similar investigation into Honda Motorcycle and Scooter India for restricting discounts offered by dealers. The CCI rejected contentions by MSIL that the company acted only as a third-party adjudicator for agreements among dealers, saying the company directed dealers to pay penalties and how such funds would be used, such as for advertisements. The company also threatened certain dealers with stoppage of supply for offering additional discounts according to the CCI. "Such a practice of RPM by MSIL caused an appreciable adverse effect on competition



within India. It lowered inter-brand and intra-brand competition and led to products not being offered to the consumers at best prices,” the CCI concluded in its order.

CRUDE FACT

India produced 93.18 lakh tonnes (lt) of vegetable oils in 2020-21 (November-October), as against 85.38 lt and 76.87 lt in the previous two years. But despite this record output, as estimated by the Solvent Extractors’ Association of India, the country will end up importing some 133 lt, from the 155.49 lt of the 2018-19 oil year. Simply put, *India imports anywhere from nearly 60 per cent to over two-thirds of its vegetable oil requirement, depending on how good the rains are, entailing an annual foreign exchange outgo of \$10-11 billion.* It is in this context that one must view the Narendra Modi government’s new National Mission on Edible Oils-Oil Palm. The scheme aims at increasing the total area under oil palm from the current 3.5 lakh hectares (lh) to 10 lh by 2025-26. *Growers would be entitled to a minimum “viability price” for their fresh fruit bunches (FFB) production, which is 14.3 per cent of the last five-year-average crude palm oil (CPO) price adjusted for wholesale inflation.* The focus on oil palm is not misplaced as it is a crop that can yield 20-25 tonnes of FFBs per hectare, translating into 4-5 tonnes of CPO. No other oilseed can give so much: Mustard and groundnut yields aren’t more than 2-3 tonne per hectare and the oil recovery from that only at 35-40 per cent. No realistic plan of reducing import dependence in edible oils — to, say, 30-40 per cent from the existing 60-70 per cent — is possible without recognising the role of oil palm. *Out of India’s annual 130-150 lt vegetable oil imports, 80-90 mt is accounted for by palm oil alone.* That said, there are valid concerns over introducing oil palm in tropical rainforests or biodiversity-rich areas such as the Andaman & Nicobar Islands and the Northeast. *The crop is probably better suited for states such as Andhra Pradesh, Tamil Nadu, Karnataka and Odisha, where it can replace paddy and be grown using drip irrigation, mulching and other water-saving practices. India is anyway producing too much rice and any diversification must be welcomed.* But the focus should, for now, be on states already cultivating oil palm. Farmers there have had a mixed experience with the crop that takes at least five years to grow and start yielding 20-25 tonnes of FFB/hectare. An assured “viability price”, protecting against fluctuations in global edible oil markets, should instil confidence among farmers in these states. Let them expand acreages first before others in more ecologically fragile regions.

OIL PALM MISSION: GOVT CLEARED DESPITE RED FLAGS BY TOP FORESTRY INSTITUTE

LAST week, to cut the import bill, the Union Cabinet cleared the Rs 11,040-crore National Mission on Edible Oils-Oil Palm (NMEO-OP) with a focus on growing the crop in the North-east and Andaman and Nicobar Islands due to their favourable rainfall and temperature. That clearance, however, *came in the face of objections raised by India’s top forestry research institute against introducing oil palm in biodiversity rich areas — and in the absence of a detailed study it had proposed.* Approached by the Andaman and Nicobar administration *for relaxing its 2002 ban on plantations of exotic oil palm in the archipelago, the Supreme Court, in November 2019, had asked the Indian Council of Forestry Research & Education (ICFRE), an autonomous institute under the Environment Ministry, for its opinion. In January 2020, ICFRE submitted its report recommending that introduction of oil palm “should be avoided” in biodiversity rich areas, including grasslands, without detailed studies on its ecological impact.* Accordingly, *the Environment Ministry in August 2020 asked ICFRE to undertake a study on oil palm’s invasiveness and ecological impact and develop*

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models for substituting existing plantations and intercropping with indigenous trees and plants. By November 2020, ICFRE scientists made field visits, consulted stakeholders and submitted a study proposal. Records show that on January 6, 2021, at a webinar attended by the Secretaries of the Environment and the Agriculture Ministries, it was decided that the studies suggested by “ICFRE have already been taken up by ICAR” (Indian Council of Agricultural Research) and the two would “work together to prepare a joint report enabling Director General, ICFRE to file the affidavit” in the SC. Under the aegis of ICAR, Indian Institute of Oil Palm Research (IIOPR) was to provide the required inputs to ICFRE. The objective was made clear: this was being done given that “the government of India wishes to initiate Oil Palm Mission... and a quick decision in this context is required.” Submitted to the SC on June 19, 2021, the “joint report” noted that there was no data from India to support several inputs received from ICAR-IIOPR. In his affidavit submitted along with the report, ICFRE director general Arun Singh Rawat recommended, yet again, “comprehensive” and “detailed” studies to assess the invasiveness of oil palm in Little Andaman, its impact on native fauna and the overall qualitative changes in native flora and biodiversity. Contacted by The Indian Express, Rawat said: “The reports concerned have been submitted to the SC and are not public documents to discuss. The matter has not come up since (the submission).” A senior official who attended the January 6, 2021 webinar defended the decision to rope in ICAR-IIOPR. “In (December) 2018, IIOPR had prepared a feasibility report and if they said they have the data, there is no need for wasting time. Let the SC decide,” he said. Incidentally, the IIOPR report, part of the Andaman and Nicobar administration’s submission in the SC, has nothing on the potential impact of exotic, monoculture plantations on the archipelago’s ecology, flora and fauna. Between 1976 and 1985, nearly 16 sq km of forest land gave way to oil palm plantations in Little Andaman. *In 1995, three NGOs moved the SC seeking to defend the island’s tropical rainforests and indigenous communities. The apex court formed a committee in 2001 and, based on its report, stopped monoculture or commercial plantations on the archipelago’s forest land in 2002. It also banned the introduction of exotic species. The push for replanting oil palm in Little Andaman came in July 2018 when Niti Aayog member Ramesh Chand visited the archipelago following a policy meeting. He recommended that the administration “should seek a review of the ban on plantation of exotic species” and commission a feasibility report for oil palm.*

DreamIAS



LIFE & SCIENCE

INDIA ADDED 557 NEW SPECIES TO FAUNAL WEALTH IN 2020

India has added 557 new species to its fauna, which includes 407 new species and 150 new records, reveals Animal Discoveries 2020, a document published recently by the Zoological Survey of India (ZSI). The number of faunal species in India has climbed to 1,02,718 species with the discovery of the new species. Among the new species, some interesting species discovered in 2020 are Trimeresurus salazar, a green pit viper discovered in Arunachal Pradesh; Lycodon deccanensis, the Deccan wolf snake discovered in Karnataka; and Sphaerotheca Bengaluru, a burrowing frog named after the city of Bengaluru. The list also includes Xyrias anjaalai, a deep water species of snake eel from Kerala; Glyptothorax giudikyensis, a species of catfish from Manipur; and Clyster galateansis, a species of scarab beetle from the Great Nicobar Biosphere. Dhriti Banerjee, Director, Zoological Survey of India, said that the discovery and description of a species is a long-drawn process and can take years, from the collection of a specimen to identifying and matching the specimen with other records in repositories, and finally publishing the details in a journal.

INDIAN ASTROPHYSICISTS SPOT RARE MERGER OF THREE JUMBO BLACK HOLES

A rare merging of three supermassive black holes has been spotted by a team of astrophysicists from the Indian Institute of Astrophysics (IIA), working with Professor Francoise Combes from the Paris Observatory. This is only the third time such an event has been observed and the findings were published as a letter in the journal Astronomy and Astrophysics in June. The team were observing the merging of two galaxies — NGC7733 and NGC7734 — in the earth's celestial neighbourhood when they detected unusual emissions from the centre of the latter and a curious movement of a large bright clump within it, having a different velocity than that of NGC7733. Inferring that this was a separate galaxy, the scientists named it NGC7733N. All three merging black holes were part of galaxies in the Toucan constellation. They are quite far away given that the earth's nearest galactic neighbour — the Andromeda galaxy — is 2.5 million light years away. Yet the paper describes these as nearby galaxies. "In astronomy everything is relative. When we study the solar system, we say Mercury is closer and Jupiter is far... Compared to our nearest neighbour Andromeda galaxy, the galaxies NGC7733, 7734 and 7733 N are quite far away, but compared to the size of universe, they are nearby galaxies," explains Jyoti Yadav, a Ph.D. student at the IIA and the first author of the paper. In an email to The Hindu, Mousumi Das, also from the IIA and another author of the paper along with Sudhanshu Barway, says the team were studying the active galactic nuclei in the two massive barred spiral galaxies NGC7733 and NGC7734 and that the detection of the third was surprising. "It was a bit like buy two and get one free," says Dr. Das. "The PI of the project confirmed our suspicions using spectroscopic data from a European telescope called MUSE in Chile." The group observed these galaxies with a near infrared telescope in South Africa. "Then, later on, because they appeared interesting, we also observed them with the UVIT [onboard the first Indian space observatory ASTROSAT]," says Dr. Das. "We also found optical data in the MUSE archive. So, we did not have to do the optical spectroscopy."



Final parsec

In a press release, the team explains that if two galaxies collide, their black holes will also come closer by transferring the kinetic energy to the surrounding gas. *The distance between the black holes decreases with time until the separation is around one parsec (3.26 light-years). The two black holes, however, are then unable to lose any further kinetic energy to get even closer and merge. This is known as the final parsec problem.* But the presence of a third black hole can solve this problem. "The two can come closer when another black hole or a star passes by and takes away some of their combined angular momentum," explains Dr. Das. Thus, the dual merging black holes merge with each other in the presence of a third. Many Active Galactic Nuclei (AGN), or supermassive black hole at the centre of a galaxy, pairs have been detected in the past, but triple AGN are extremely rare, and only a handful have been detected before using X-ray observations. "Multiple accreting black holes [AGN] may be more common in our universe and especially common in galaxy groups. So the growth of black holes may be driven by such mergers in groups," says Dr. Das. The study used data from the Ultraviolet Imaging Telescope (UVIT) on board the first Indian space observatory ASTROSAT, the European integral field optical telescope called MUSE mounted on the Very Large Telescope (VLT) in Chile and infrared images from the optical telescope (IRSF) in South Africa.

HOW WILL HUMAN TRIALS FOR NEW HIV VACCINE WORK?

Moderna, the Massachusetts-based American biotechnology company, has indicated that it may begin human trials for a vaccine for HIV (human immunodeficiency virus) in September, according to the ClinicalTrials.gov website, employing the same m-RNA platform that it has used in its COVID-19 vaccine.

How is the candidate vaccine expected to work?

Formally known as mRNA-1644, it is made in a way to stimulate the B cells of the immune system. These are a class of white blood cells that produce antibodies which can bind to invading bacteria and viruses. *The larger purpose of stimulating the B cells is to generate what are called broadly neutralising antibodies (bnAbs), which are specialised blood proteins that attach to the surface proteins of HIV and disable them by accessing key but hard-to-reach regions on the virus.* Over the last decade, there have been advances in identifying new bnAbs from HIV-infected individuals that were seen to target very specific sites in the outer envelope of the HIV. Lab-based analysis and tests on animals have improved the understanding of how *the knowledge of these sites can be used to make immunogens (or parts of a virus or bacteria that elicit an antibody response from the immune system.* In the case of a coronavirus, for instance, the spike protein is an immunogen against which different vaccines elicit antibodies.) *One such immunogen that has been designed in the lab is eOD-GT8 60mer, developed by the International AIDS Vaccine Initiative (IAVI) and its partners.* In a Phase I trial, scientists tested whether this approach would stimulate the human immune system to initiate the generation of bnAbs. *This February, IAVI announced that their trial produced promising results and their vaccine had succeeded in stimulating the production of the bnAbs needed to stimulate antibodies. The targeted response was detected in 97% of the participants. There were 48 healthy adults who had volunteered in the trial, some of whom got the vaccine and some did not. The Moderna trial is designed to investigate a way to effectively deliver the eOD-GT8 60mer immunogen using the m-RNA technology that will direct cells to make the BnAbs*

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which will elicit immune responses against HIV. For this trial, Moderna will recruit 56 healthy adults without HIV to test the safety of the vaccine mRNA-1644 and basic immune response. The vaccine's development involves funding from the Bill & Melinda Gates Foundation.

Why is this approach promising?

The quest to develop an HIV vaccine is considered among the holy grails of scientific research. While treatment with Anti-Retroviral Therapy has significantly improved the longevity of those with AIDS, this is a lifelong treatment. According to the World Health Organization, there are around 37.7 million living with HIV as of 2020. Traditional vaccine approaches have not worked for HIV, and in fact, some of them have gone on to worsen infection. *RNA-based immunogens are believed to be a promising alternative because they do not involve the use of a live virus, can be made relatively easily, can be quickly deployed and safely administered. A drawback of m-RNA vaccines used to be their instability. However, the experience with the coronavirus vaccine has come as a shot in the arm. The success of m-RNA vaccines — Pfizer -BioNTech and Moderna — in reducing hospitalisation and mortality has led to confidence in the underlying platform and, therefore, fresh investments to improve it.*

What are the challenges ahead?

Of the people living with HIV, over two-thirds are in Africa. Any success in containing the HIV pandemic would mean drastically cutting the rates of transmission there. However, as the experience with the Moderna and Pfizer vaccines shows, getting essential jabs to the regions where they are most needed is the biggest stumbling block. *Another challenge with m-RNA vaccines is that they are sensitive to temperature in storage, and is a challenge for developing countries. HIV has mutated into several variants and is an insidious virus, and it will be many years before definitive proof of the success of the m-RNA approach can be established.*

CANINES AND COLOUR

Researchers have successfully uncovered the secret behind the inheritance of coat colour patterns in dogs. A genetic variant responsible for a very light coat in dogs and wolves originated more than two million years ago in a now extinct relative of the modern wolf (Nature Ecology and Evolution). Wolves and dogs can make two different types of pigment, black (eumelanin) and yellow (pheomelanin). Regulated production of these two gives rise to very different coat colour patterns. The so-called agouti signalling protein represents the body's main switch for the production of yellow pheomelanin. If the agouti signalling protein is present, the pigment-producing cells will synthesise yellow pheomelanin. If not, black eumelanin will be formed. According to the University of Bern release, dogs have a ventral promoter, which is responsible for the production of agouti signalling protein at the belly. An additional hair cycle-specific promoter mediates the production of agouti signalling protein during specific stages of hair growth and enables the formation of banded hair. They also discovered two variants of the ventral promoter. While one of the variants conveys the production of normal amounts of agouti signalling protein, the other causes increased production of the protein. They also identified three different variants of the hair cycle-specific promoter. Thus dogs have a total of five different combinations, which cause different coat colour patterns.



THE COLOURFUL MOLECULES OF TURMERIC

Every kitchen in India makes use of turmeric in its meal, in one form or another. The actual turmeric slices or turmeric powder that we use every day in preparing our meals (as Haldi, Manjal, Pasupu, Arishina, Halud) has *about 3% of the active component molecule called curcumin, a polyphenol diketone (and not a steroid)*. Researchers point out that there is another molecule in turmeric called piperine, which is an alkaloid, responsible for the pungency of pepper that we use every day in our cooking, along with turmeric. Piperine enhances curcumin absorption in the body. It gives turmeric its multivariate healing and protective power.

Curry powder

Turmeric has been known for over 4,000 years in the Indian subcontinent, West Asia, Burma, Indonesia and China, and used as an essential part of our daily food – what the colonials called curry powder. It has also been known as a *medicine for ages, and to have anti-bacterial, anti-oxidant and anti-inflammatory properties*. Herbal medicine experts have used turmeric to treat painful symptoms of *arthritis, joint stiffness and joint pain*. They have also claimed that turmeric helps *cure acute kidney injuries*. Some of these claims need to be checked using controlled trials. The site: <https://www.healthline.com> lists the following evidence-based benefits that turmeric and its products offer the body. Besides what has been mentioned, *Curcumin, which is the active molecule in turmeric, is a substance with powerful anti-inflammatory and anti-oxidant properties; it is a natural anti-inflammatory compound; chronic low-level inflammation affects your health, including heart diseases and metabolic syndromes. Thanks to its ability to cross the blood-brain barrier, Curcumin reduces or stops the build-up of insoluble protein tangles called amyloid plaques, which are responsible for Alzheimer's disease.* (However, we need further placebo-based studies, suitable animal models and humans). *Curcumin boosts Brain-Derived Neurotrophic Factor (BDNF), a gene which promotes neurons (nerve cells), thus helping in memory and learning.* It may help prevent cancer, as some herbal medicine experts have held. *As cancer cells die, the spread of cancer is reduced, and new tumour cells are stopped. In arthritis and joint inflammation, Curcumin has been shown to be very effective.* Herbal medicine practitioners have also suggested this. It is useful for treating depression in people. Controlled trials on 60 people for 6 weeks show that conventional drugs (for example, Prozac) act even better when supplemented with Curcumin. *It is here that a paper from Gary Small and colleagues from the University of California, the U.S., titled: 'Memory and Brain Amyloid and Tau effects of a bioavailable form of curcumin in non-demented adults: A double-blind, placebo-controlled 18-month trial', in the journal American Journal of Geriatric Psychiatry (doi: 10.1016/j.jagp.2017.10.010). Here they studied 40 adults between the age of 50 and 90 years, who had mild memory complaints, and gave one group placebo and the other group 90 mg of Curcumin, twice daily for 18 months. All 40 received standardised assessment tests and the curcumin levels in their blood at start and at 18 months. All 40 were also tested with PET Scans to determine the levels of insoluble amyloid plaques, at start and after 18 months. They could conclude that daily Curcumin intake could lead to improved memory and attention in non-demented adults.*

Against COVID-19

Most recently, an exciting study has recently been published from a group in Mumbai which shows that turmeric aids in the treatment of COVID-19 patients. The researchers did a trial of about 40 COVID-19 patients and found that turmeric could substantially reduce the morbidity and

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mortality. The paper by K. S. Pawar et al appears in the journal *Frontiers in Pharmacology*, titled: *'Oral curcumin with piperine as adjuvant therapy for COVID- 19: A randomized clinical trial'. The paper is freely accessible (doi.10.3389/fphar.2021.669362.eCollection 2021). What K. S. Pawar and colleagues had done was to conduct a double-blind, randomised, control trial in a 30-bed dedicated COVID-19 Health Centre in Maharashtra. Administration of oral curcumin with piperine as an adjuvant symptomatic therapy in COVID-19 treatment could substantially reduce morbidity and mortality, and ease the logistical and supply-related burdens on the health system. (Incidentally, that curcumin is an excellent immunoadjuvant has been known, thanks to the detailed studies of G. Padmanaban of IISc, Bengaluru).* This is a truly remarkable advance, and is well worth trying out in several other centres across India, where the pandemic is still prevalent, not only to confirm the findings, but also where no clear signs of herd immunity have come about.

SMELLS LIKE HERITAGE

Strong smells don't always deserve the bad rap they get. Take Vegemite, Australia's favourite spread with a punchy, unmistakable aroma that brings tears to some eyes. So deep is the Australian love for Vegemite that Melbourne has decided to list the smell emanating from the factory where it's made as part of the city's heritage. The rest of the world, including India, should take note. The Melbourne City Council's decision is remarkable not only because a smell has been recognised as having heritage value, but because it is not one that is universally-loved, in fact far from it. Those who've grown up with a pot of Vegemite sitting on the breakfast table may adore its savoury fragrance — a gift of the brewer's yeast that is used to make the spread — but those who haven't grown up with it usually can't stand it. This puts the recognition in quite a different league from, say, the 2018 Unesco "intangible heritage" label granted to the art of perfumery in Grasse, the French region known as the Perfume Capital of the World. It assigns value to a unique aroma, instantly recognisable to a certain culture and loved by it, even if described as "stinky" by the rest of the world. India must note the potential in this idea. We could celebrate the sharp, unmistakable aroma of drying bombil as an inalienable part of Mumbai's cultural landscape. What about the smell of ripe jackfruit in a Kerala backyard? Cowdung cakes being dried on the walls of a village home in Gujarat? Asafoetida may have been described by non-comprehending Europeans as "Devil's dung", but we know how appetising a dal smells when freshly tempered with this aromatic. And how about the muscular smell of axone, the fermented soybean paste used in Naga cuisine? If anything, this country has an embarrassment of olfactory riches to choose from.

U.S. LAB MAKES HEADWAY IN NUCLEAR FUSION ENERGY

Nuclear fusion is a clean and green route to producing energy, as it does not involve any remnant radioactive waste products. *Fusion reactions power hydrogen bombs. However, so far, fusion devices that show a net energy gain have not been demonstrated in labs.* An experiment at the U.S. National Ignition Facility (NIF), within the Lawrence Livermore National Laboratory, Livermore, California, comes close to demonstrating this. *In this lab, using laser beams, tiny pellets of deuterium and tritium (heavier isotopes of hydrogen) have been fused to form helium and release energy that very nearly matches the amount of energy input using the lasers. The NIF has been trying to achieve this for nearly a decade.* Now, the experiment has produced a yield that almost equals the laser energy input. To be functional, a reactor has to produce an output that is at least tens of times the input energy. *A tiny pellet of the fuel (deuterium and tritium) is placed in a cylindrical thumbnail-sized*

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vessel, known as a hohlraum that has holes on both faces. A total of 192 laser beams are directed through the holes to strike the walls of the hohlraum. This causes the hohlraum to emit x-rays which, in turn, impinge on the pellet and compress it. The heated core of the pellet reaches **100 million degrees temperature which starts the fusion reactions. Further, the pellet has to “ignite” and only then can it reach the stage of becoming a microbomb – a deuterium-tritium fusion reactor – and release energy that can be tapped.**

Laser facility

The laser facility itself occupies a large area, equal to nearly three cricket fields, and the lasers can deliver up to 500 terawatts of power using its 192 individual laser beams. This is focused into the openings in the hohlraum which contains the pellet measuring some 2-3 mm. “The amount of laser energy used in these experiments is quite modest, 1.9 megajoule (MJ). This is approximately equal to the energy it takes to heat a large pot (8 litres) of water by 100 degrees Celsius. The amount of fusion energy produced in these experiments was approximately 1.3 MJ which is now for the first time comparable to amount of laser energy input,” says Arthur Kazdan Pak, Stagnation Science Team lead, Lawrence Livermore National Laboratory, in an email to The Hindu. ***This is the first time, in a controlled laboratory setting, that an inertial fusion system (another name for a laser driven fusion system) has produced nearly as much energy was supplied to initiate the reaction. Dr Kazdan Pak further explains: “If we do the energy accounting we estimate that the fusion energy production is approximately 5 times the amount of energy coupled from the laser to target.”***

Tremendous progress

“To make a fusion reactor, hundreds of pellet implosions have to happen per second and means have to be found to extract the neutron energy as heat and produce electricity. This [experiment] is far from that stage, but the researchers have made tremendous progress in the last decade,” says P. I John, Former Meghnad Saha Chair Professor, Institute for Plasma Research, Gandhinagar, and an expert in thermonuclear fusion. Several steps remain before a viable nuclear fusion reactor can be realised. Ignition, or energy break-even must be achieved. ***Many laser pulses must be made to act per second to increase the net yield to a sufficiently high value. Then the technology to convert the neutron energy into electricity has to be developed.*** Meanwhile, Dr Kazdan Pak makes a mind-blowing comparison: ***“The fusion energy produced is released in an incredibly short amount of time, approximately, 90 picoseconds producing close to 15 petawatts of power. This is approximately equivalent to some recent estimates of the total world power consumption, however the experiment only produces this power for an incredibly short period of time, whereas power is consumed continuously across the world.”***

FUKUSHIMA NUCLEAR WATER TO BE RELEASED VIA UNDERSEA TUNNEL

The operator of the wrecked Fukushima nuclear power plant said on Wednesday it plans to build an undersea tunnel so that massive amounts of treated but still radioactive water can be released into the ocean about 1 km away from the plant to avoid interference with local fishing. The operator, Tokyo Electric Power Company Holdings, said it hopes to start releasing the water in spring 2023. TEPCO says hundreds of storage tanks at the plant need to be removed to make room for facilities necessary for the plant’s decommissioning. An official, Junichi Matsumoto, said TEPCO will construct the undersea tunnel by drilling through bedrock in the seabed near its No. 5 reactor,

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which survived the meltdowns at the plant, to minimise possible underground contamination or leakage of radioactive ground water into the tunnel. Radioactive water has been stored in about 1,000 tanks at the Fukushima Daiichi plant since 2011, when a massive earthquake and tsunami damaged three reactors and their cooling water became contaminated and began leaking. The government decided in April to start discharging the water, after further treatment and dilution, into the Pacific Ocean in spring 2023 under safety standards set by regulators, a move opposed by fishermen and neighbouring countries. Under the new plan, the water will be released at a depth of about 12 m below the ocean's surface, said Mr. Matsumoto.

CLIMATE CHANGE, A CATALYST FOR ARCTIC COOPERATION

It is tempting to view the current geopolitics of the Arctic through the lenses of the 'great power competition' and inevitable conflict of interests. Interestingly, the *current geopolitical scenario is, to a certain extent, mirrored in the Arctic region as well. This is mainly about the growing tensions between North Atlantic Treaty Organization (NATO) allies and Russia. There are eight countries that have direct access to the Arctic resources, i.e., Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. In 2013, six Observers joined the Council, including China, Japan, India, Italy, South Korea, and Singapore, bringing their total number to 13.*

Security concerns

By the end of the Cold War, the geopolitical tensions and security concerns in the Arctic were almost forgotten. In October 1987, during a visit to the Kola Peninsula, Mikhail Gorbachev, then Secretary-General of the Soviet Communist Party, acknowledged the end of the Cold War era and promoted a 'zone of peace' in the Arctic. *The perceived 'harmony' was broken in 2007, when the Russian explorers planted their flag on the seabed 4,200m (13,779ft) below the North Pole to articulate Moscow's claims in the Arctic. This move was certainly viewed as provocative by other Arctic States, and the Canadian Foreign Minister, Peter MacKay, said "this is not the 15th century", and "countries cannot just go around, plant their flags, and claim the territories".* The regional tension increased after the Russia-Ukraine conflict in 2014. Consequently, relations between the U.S. and Russia reached their lowest point again. The rhetoric of the bilateral mistrust was transferred 'up to the North' and created anxiety among other stakeholders in the Arctic. After the events in Ukraine in 2014, Russia has been increasingly viewed as a *'rule-breaker', 'revisionist power' and an 'untrustworthy player'*. Besides, Russia's intention to re-establish the military might of its Northern Fleet also creates the security concerns and features prominently in the Norwegian foreign policy. On the other hand, some *Russian military experts believe that the Barents Sea can serve as the launching area for a western seaborne attack; therefore, the Russian Navy should ensure the readiness of its anti-submarine forces in the Arctic Ocean.*

The eco-dimension

In the last decades, we have been confronted with the multiple 'wake-up calls' that are related to climate change; and these calls are getting louder. *The summer of 2021 would be recorded in history as one of the most devastating seasons of our times, when ferocious floods and wildfires were destroying communities in many parts of the world.* Due to the environmental transformations, natural catastrophes occur unexpectedly — on an unprecedented scale, and in unusual geographic locations. For example, *the extreme heat in North America or wildfires in Russian Siberia (Yakutia),*



where the winter temperature can be below minus 40°. The Arctic region also bears the brunt of climate change. At the same time, it provides a platform for scientific research that can help to get to the bottom of natural calamities around the world. Keeping in mind the existential threats, the environmental challenges should be an absolute priority for all players in the Arctic region. These considerations should outweigh military and economic issues and unite countries for the sake of eliminating the potential (and real) dangers attributed to climate change. According to The World Climate and Security Report 2020 (<https://bit.ly/3mrTmo5>; the first report of the Expert Group of the *International Military Council on Climate and Security, or the IMCCS*), *'the Arctic is warming nearly twice as fast as the rest of the planet with consecutive record-breaking warm years since 2014... The Arctic is likely to begin experiencing ice-free summers within the next decade, with summers likely to be completely free of sea ice by mid-century'*. There should be concerted efforts to minimise the adverse effects on the fragile Arctic ecosystem. A good example to be highlighted is the recent case of a Norwegian drilling project; it was taken to the European court by the group of environmentalists. *Their main argument is that the negative impact of mining activities can spread beyond the continental shelf of Norway.*

The geopolitical vs strategic

The environmental transformation and rapid ice melting have also opened up new opportunities in the region, which includes trans-Arctic shipping routes. These opportunities have inevitably attracted all stakeholders in the region, both the Arctic and non-Arctic states. China, for example, with its self-proclaimed status of a 'near Arctic state', has been actively engaged in various projects across the region. The importance of the Arctic region for China mostly stems from its energy security issues and the need to diversify shipping lanes. *Transport routes from China to Europe through the Arctic are not only much shorter but also free from the challenges associated with the Malacca Strait and South China Sea. In the latter case, China will continue facing a backlash from many Association of Southeast Asian Nations (ASEAN) members, supported by U.S. forces. Given the significance of the region, the Arctic will continue to draw increased attention.* Apart from pursuing national interests, participating nations should also be concerned about the future developments in the region and their larger implications for humanity. Hence, they should refrain from mutual provocations, excessive militarisation, and quid pro quo tactics. All the Arctic actors should have a long-term vision and strategic goals as compared to immediate short-term gains. Instead of creating a potential battleground that is reminiscent of the Cold War, the parties concerned should utilise their expertise and create the required synergy to achieve shared goals. Climate change and its dramatic consequences must be a catalyst for Arctic cooperation.

RAINFALL AT GREENLAND ICE SUMMIT FOR FIRST TIME

Rain fell at the highest point on the Greenland ice sheet last week for the first time on record, another worrying sign of warming for the ice sheet already melting at an increasing rate, scientists said on Friday, August 20. "That's not a healthy sign for an ice sheet," said Indrani Das, a glaciologist with Columbia University's Lamont-Doherty Earth Observatory. "Water on ice is bad... It makes the ice sheet more prone to surface melt." Not only is water warmer than the usual snow, it is also darker – so it absorbs more sunlight.



Unprecedented rise

This meltwater is streaming into the ocean, causing sea levels to rise. Already, melting from Greenland's ice sheet – the world's second-largest after Antarctica's – has caused around 25% of global sea level rise seen over the last few decades, scientists estimate. That share is expected to grow, as global temperatures increase. The rain fell for several hours at the ice sheet's 3,216-metre summit on August 14, where temperatures remained above freezing for around nine hours, scientists at the U.S. National Snow and Ice Data Center said. Temperatures at the ice cap almost never lift above freezing, but have now done so three times in less than a decade. In total, 7 billion tonnes of rain fell across Greenland over three days, from August 14 through August 16 – the largest amount since records began in 1950. The record-breaking rain is the latest in a string of warning signs. "This alarming rain at the summit of Greenland is not an isolated event," said Twila Moon, deputy lead scientist with the U.S. National Snow and Ice Data Center. Along with rising floods, fires, and other extremes, it is one of many "alarm bells" signalling the need to reduce greenhouse gas emissions, she said.

A BATTERY POWERED BY HUMAN SWEAT

In a first, scientists from the Nanyang Technological University (NTU), Singapore, have introduced a stretchable battery that is powered by human perspiration. Gurunathan Thangavel, a native of Archampatti in Karur district, Tamil Nadu, is among the three scientists who designed and developed the battery that can discharge about 20 hours of electricity derived from just 2 ml of sweat. *The soft stretchable battery comprises printed silver flake electrodes that generate electricity in the presence of sweat. The battery looks like a paper bandage that can be affixed to a flexible sweat-absorbent textile which draws power from sweat and transfers it to wearable devices, including smart watches and arm straps, via Bluetooth.* To demonstrate its potential use when it becomes incorporated in wearable biosensors and other electronic devices, the scientists tested their device with artificial human sweat. *"The battery does not contain heavy metals or toxic chemicals unlike conventional batteries, which are often built using unsustainable materials that are harmful to the environment and at times pose a threat of explosion. We have applied to patent this technology,"* says Dr. Thangavel, a Senior Research Fellow in NTU's School of Material Science and Engineering. *"Conventional batteries use organic electrolyte, thereby limiting their application in skin-interfering electronics. Our battery conforms to the skin of users by our well-synthesised hydrophilic elastomeric binder.* This device will help to do away with toxic materials used in batteries," he said. In a separate trial, the team reported that an individual wearing the *sweat-powered battery around the wrist and cycling on a stationary bicycle for 30 minutes was able to generate a voltage of 4.2 V and output power of 3.9 mW that was sufficient to power a commercial temperature sensor device and send the data to a smartphone via Bluetooth.* *"By capitalising on perspiration, we could be looking at a more environmentally friendly way of powering wearable devices that does not rely on conventional batteries.* It is a near-guaranteed source of energy produced by our bodies," he quoted Lee Pooi See, Dean of NTU Graduate College, who led the study, as saying. Adding that the third member of the team is Lyu Jian, Research Fellow, Materials Science and Engineering, NTU, Dr. Thangavel said the stretchable textile retained a lot of sweat.



MACHINE LAW

If you prick them, they do not bleed; if you tickle them, they do not laugh and for now, they do not revenge. *But Artificial Intelligence, in more and more jurisdictions, can now invent, create — and file patents. DABUS, a “creativity” machine, has been recognised as an inventor for a type of food container that improves grip and heat transfer.* It might be easy to dismiss this development as another way for corporations to protect profits or fear it as yet another step towards the AI apocalypse. But the problem — and the subsequent need for patent protection — is not merely one of technology. *Ryan Abbott, a law professor at the University of Surrey, has been campaigning for the better part of a decade to grant AIs near-person status in international patent law. While the EU and US patent laws still do not allow AI to be regarded as an owner, there is increasing pressure on these countries to do so.* And there is some merit to the argument that Abbott and his colleagues are making. AI can perform calculations, analyse data and even generate novel ideas and systems at a far faster pace, and in greater volume, than human minds. In practice, this could mean, for example, that the vaccine for the next pandemic is discovered by a thinking machine. For the West, particularly the US, development and deployment of AI is something that will have to be undertaken on a much larger scale to compete with China both strategically and economically. However, without adequate patent law, where and how AIs are deployed by corporations and individuals could be limited. *That’s really the rub of it: While the inventor may be artificial, the owner is still human — often greedily so. The law is yet to catch up, in most places, with the reality of how much thinking and innovating machines now undertake. And without legal clarity on IP and patents, there will always be someone who gets an undue advantage.*

FACEBOOK SAID TO CONSIDER FORMING AN ELECTION COMMISSION

Facebook has approached academics and policy experts about forming a commission to advise it on global election-related matters, said five people with knowledge of the discussions, a move that would allow the social network to shift some of its political decision-making to an advisory body. *The proposed commission could decide on matters such as the viability of political ads and what to do about election-related misinformation,* said the people, who spoke on the condition of anonymity because the discussions were confidential. Facebook is expected to announce the commission this fall in preparation for the 2022 midterm elections, they said, though the effort is preliminary and could still fall apart. *Outsourcing election matters to a panel of experts could help Facebook side step criticism of bias by political groups,* two of the people said. The company has been blasted in recent years by conservatives, who have accused Facebook of suppressing their voices, as well as by civil rights groups and Democrats for allowing political misinformation to fester and spread online. Mark Zuckerberg, Facebook’s CEO, does not want to be seen as the sole decision maker on political content, two of the people said. Facebook declined to comment. *If an election commission is formed, it would emulate the step Facebook took in 2018 when it created an Oversight Board, a collection of experts who adjudicate whether the company was correct to remove certain posts from its platforms.*

SEARCH FOR COVID-19 ORIGINS STALLED

The international scientists dispatched to China by the World Health Organization to find out where the coronavirus came from said on Wednesday the search has stalled and warned that the window

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of opportunity for solving the mystery is “closing fast.” Meanwhile, a U.S. intelligence review ordered up by President Joe Biden proved inconclusive about the virus’s origin, including whether it jumped from an animal to a human or escaped from a Chinese lab, The Washington Post reported on Wednesday.

Chinese reluctance

In a commentary published in the journal Nature, the WHO-recruited experts said the origins investigation is at “a critical juncture” requiring urgent collaboration but has instead come to a standstill. They noted among other things that Chinese officials are still reluctant to share some raw data, citing concerns over patient confidentiality. Earlier this year, *WHO sent a team of experts to Wuhan, where the first human COVID-19 cases were detected in December 2019, to probe what might have triggered the pandemic now blamed for nearly 4.5 million deaths worldwide, with more than 10,000 people a day succumbing despite more than 5 billion doses of vaccine administered.* In their analysis, published in March, the WHO team concluded the virus probably jumped to humans from animals, and they described the possibility of a laboratory leak as “extremely unlikely.” But the WHO experts said their report was intended only as a first step and added, *“The window of opportunity for conducting this crucial inquiry is closing fast: any delay will render some of the studies biologically impossible.”* For example, they said, *“Antibodies wane, so collecting further samples and testing people who might have been exposed before December 2019 will yield diminishing returns.”* China said on Wednesday that officials should “concentrate on other possible avenues that may help trace the origin” of COVID-19 and suggested studies should be pursued in other countries.

WOMAN WHO DOCUMENTED WUHAN OUTBREAK FALLS ILL IN PRISON HUNGERSTRIKE

A Chinese citizen journalist who was imprisoned for exposing the failures of the government’s initial response to the coronavirus outbreak in Wuhan is seriously ill from a hunger strike, according to messages from her family shared by her former lawyer and a friend. The journalist, *Zhang Zhan, 37, had traveled to Wuhan from her home in Shanghai and spent the early days of the outbreak documenting the city’s strict lockdown and the severe impact it had on residents’ livelihoods and freedoms.* Zhang’s reports challenged the government’s efforts to portray its response as competent and caring. She was convicted last year of “picking quarrels and provoking trouble,” a vague charge often used to target dissent, and sentenced to four years in prison after a three-hour, closed-door trial. Zhang began a hunger strike after her arrest in May of last year. Her lawyers previously said that authorities had used a feeding tube to feed her and restrained her hands. Her mother, Shao Wenxia, described it as a “partial hunger strike,” with Zhang eating fruit and cookies but not meat, rice or vegetables. The journalist appeared at her trial in December in a wheelchair, and one of her lawyers said then that she had already lost significant weight and that her appearance had vastly changed from just a few weeks earlier. Zhang, who is 5 feet 10 inches tall and weighed about 165 pounds before her arrest, now weighs less than 90 pounds, according to a message Shao sent to her former lawyer, Zhang Keke. Zhang was suffering from a gastric ulcer and was so weak that she needed help getting up, her mother said.



VACCINATING CHILDREN

The Indian drug regulator's emergency-use authorisation (EUA) to Zydus Cadila's Covid-19 vaccine, ZyCoV-D, is a welcome development. The second homegrown vaccine to receive an EUA can be administered to children above 12 years, raising the possibility of extending the vaccination project to the country's adolescent population. For children waiting for classrooms to be unlocked, the company's announcement that it can provide the jabs to schools by mid-September is heartening news. Union Health Minister Mansukh Mandaviya has spoken of the Centre's eagerness to begin vaccination for children at the earliest. The Centre's talks with the Ahmedabad-based company slated for later this week will, therefore, be keenly watched. They are likely to be centred on vaccine pricing and supplies. The decision to extend the inoculation project beyond the adult population must, however, factor in other imperatives, especially logistical challenges. According to the government's projections, the country's vaccination drive is set to undergo a massive ramp-up from September onwards. More than 120-crore shots must be administered in the last four months of the year to attain the target of inoculating the country's adult population by December. Independent studies — including the Fitch Group's India Rating last week — have expressed doubts about the feasibility of this target. The government, however, maintains that vaccine supply will be increased from next month. If its claim is to hold up, an average of one crore shots will be administered every day till the end of the year — currently, the country averages less than 50-lakh shots daily. The spurt in inoculation could tax the energies of vaccinators and will require state governments to increase the number of vaccination centres. It is not yet known if the plan to increase vaccine supplies has a chapter on augmenting the teams of vaccinators. Inoculating children will, in any case, demand a further upscaling in the logistics of vaccine delivery. The government will, therefore, do well to conduct a thorough audit of the resources at its disposal before deciding to use the three-dose ZyCov-D to expand its inoculation drive. Trial results show the new vaccine's efficacy against the variants driving the pandemic currently. *The DNA-based jab does not require ultra-cold storage facilities and is reported to be cost-effective. A spring-powered device delivers the shot as a narrow streak of liquid that penetrates the skin — a big positive given that the fear of needles is known to be a major cause of vaccine hesitancy.* But is the government better off, for now, harnessing these advantages for the adult vaccination project? Or does it have the wherewithal to do more? Its decision should be a carefully calibrated one.

DreamIAS