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INTERNATIONAL

CHINA'S CENTRAL BANK RULES ALL CRYPTO TRANSACTIONS TO BE ILLEGAL

China's central bank on Friday said all financial transactions involving cryptocurrencies are illegal, sounding the death knell for the digital trade in China after a crackdown on the volatile currencies. The global values of cryptocurrencies including Bitcoin have massively fluctuated over the past year partly due to Chinese regulations, which have sought to prevent speculation and money laundering. "Virtual currency-related business activities are illegal financial activities," the People's Bank of China (PBOC) said in an online statement on Friday, adding that offenders would be "investigated for criminal liability in accordance with the law". The notice bans all related financial activities involving cryptocurrencies, such as trading crypto, selling tokens, transactions involving virtual currency derivatives and "illegal fundraising".

Widespread fraud

The People's Bank of China said that in recent years, trading of Bitcoin and other virtual currencies had become "widespread, disrupting economic and financial order, giving rise to money laundering, illegal fund-raising, fraud, pyramid schemes and other illegal and criminal activities". This was "seriously endangering the safety of people's assets," the PBOC said. While crypto creation and trading have been illegal in China since 2019, further crackdowns this year by Beijing warned banks to halt related transactions and closed much of the country's vast network of bitcoin miners. The crypto crackdown also opens the gates for China to introduce its own digital currency, already in the pipeline, allowing the central government to monitor transactions.

EVERGRANDE CRISIS POSES A DILEMMA FOR CHINA'S REGULATORS

A growing crisis at troubled Chinese real estate giant Evergrande, which appears likely to default on interest payments this week, has posed a hard choice for regulators of China's ruling Communist Party, as they look to contain the fallout while pushing ahead with leader Xi Jinping's ongoing crackdown on debt. China's second-largest property developer — and the world's most indebted real estate firm with \$300 billion of liabilities — faces interest payments this week that it is struggling to make, sparking broader concerns on the impact on China's real estate market, a key driver of growth in the world's second-largest economy. While China's authorities had many levers at their disposal to manage the debt crisis and avoid a "hard landing", they still face a challenge, the Asian Development Bank's Director of Macroeconomic Research, Abdul Abiad, said on Tuesday. The Evergrande situation "warrants careful monitoring", he said, "because housing is an important component of the Chinese economy and makes up a substantial portion of household wealth" and property sector troubles would have "knock-on effects on the broader economy". At the same time, he said, the Chinese banking system is adequately capitalised to absorb the Evergrande shock if it materialises. The People's Bank of China, the central bank, last week injected \$14 billion into the system to address liquidity concerns. Indeed, the background to the crisis at already debt-heavy Evergrande lies in a concerted push by the Communist Party regulators, starting last August, to enforce "three red lines" to regulate the borrowings of real estate firms "by defining thresholds on liability-to-asset ratio at 70%, net debt-to-equity ratio of 100%, and cash-to-short-term debt multiple of more than one time", the Hong Kong-based South

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China Morning Post reported. Failure to meet these targets would restrict access to loans, pushing many real estate developers to restructure starting last year as well as halt many projects.

CHINA SENDS FIGHTER JETS TOWARDS TAIWAN

China sent 19 aircraft towards Taiwan on Thursday amid rising tensions across the straits, in the latest messaging from Beijing to both Taipei and Washington on its posture on the Taiwan issue. Beijing has in the past used its air force as a form of signalling, for instance recently dispatching fighters to coincide with visits of U.S. diplomats to Taiwan. The latest show of force came as Taiwan said it had submitted an application to join the 11-nation CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership) trade deal, days after China said it had formally applied to join the Pacific pact.

Air patrol forces

Taiwan's Ministry of Defence said on Thursday it had deployed air patrol forces in response to the 19 PLA aircraft that had entered the Air Defence Identification Zone. The PLA aircraft included 12 J-16s, two J-11s, bombers and anti-submarine aircraft, a statement said. China views Taiwan as its province, although both have been ruled separately since the end of the Chinese Civil War in 1949 when the Kuomintang (KMT) and Chiang Kai-shek fled to the island. Cross-straits ties have been strained in recent years with Beijing accusing the ruling Democratic Progressive Party (DPP) and President Tsai Ing-wen, who was re-elected for a second term last year, of pursuing "independence". Prior to the DPP coming to power in 2016, ties had somewhat warmed under the KMT's Ma Ying-jeou, who held a landmark meeting with Chinese President Xi Jinping in 2015 and backed an economic cooperation agreement that was signed in 2010. Beijing has increasingly sought to push back against Taiwan seeking a presence in international bodies, wean away the few remaining countries that still maintain diplomatic ties with Taiwan, and deploy its aircraft and vessels with growing frequency, particularly in response to the presence of U.S. vessels in the straits.

'Unofficial delegation'

Taiwan is among the many issues that Beijing and Washington have recently clashed over, with the Biden administration, three months after taking office, sending an "unofficial" delegation to Taiwan in April this year as a show of support. The Chinese Foreign Ministry on Thursday hit out at the application to join the CPTPP. "There is only one China in the world, and Taiwan is an inalienable part of China's territory," spokesperson Zhao Lijian said. "The one-China principle is a universally recognised norm governing international relations and the consensus of the international community. China firmly opposes all official interactions with Taiwan, firmly rejects Taiwan's accession to any agreement or organisation of official nature. China's position on this issue is clear." Meanwhile, the PLA's Eastern Theater Command said on Saturday it "dispatched naval and air forces to conduct joint patrols and combat exercises in the waters and airspace southwest of Taiwan after a U.S. warship transited the Taiwan Straits to provoke China concerning its sovereignty". This followed the U.S. 7th fleet staying a missile destroyer had sailed through the Taiwan Straits on Friday. Senior Colonel Shi Yi said the PLA "organised troops to follow, supervise and monitor the U.S. ship throughout its passage in the Taiwan Straits". He added that "the frequent provocations fully prove that the U.S. is undermining the peace and stability of the Taiwan Straits and creating risks in the region".

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INDIA IS NOT A BYSTANDER IN THE AUKUS SAGA

The announcement last week of AUKUS — a new security pact between the United States, the United Kingdom and Australia — is making waves around the world. The announcement is significant not only because it involves the transfer of nuclear submarine technology to Australia but also since it implies the cancellation of an ongoing U.S.\$90 billion project by France to manufacture conventional submarines for Australia. Understandably, France is indignant. Paris has recalled its Ambassador to Australia, accusing Canberra of “backstabbing” and betrayal. When Australian and French Ministers met less than a month ago, French officials said there had been no talk of cancelling the deal. The two sides had even issued a joint statement indicating the continuation of the submarine programme. But Australia, it seems, had been secretly negotiating a deal with the U.K. and the U.S. Beyond Canberra’s unceremonious termination of the submarine contract, France is angry because it was kept in the dark about the discussions surrounding the new pact. For observers in India, the AUKUS saga evokes mixed feelings. Many are happy for Australia — a partner in the Quad (of India, the U.S., Japan and Australia) — to receive top quality nuclear submarine technology from the U.S. and the U.K., strengthening China deterrence in the Indo-Pacific. But there is no mistaking a sense of commiseration with France, India’s foremost partner in the Indian Ocean. *“Why couldn’t France have been taken into confidence,” many ask. “It would have prevented an unseemly spat between friends, all big players in the Indo-Pacific region.” Some Quad-sceptics see this as a sign of what the future might hold for India. If Australia and the U.S. could deceive France, a North Atlantic Treaty Organization (NATO) partner, they ask, what is to prevent them from doing the same with lesser allies?*

New Delhi is uncomfortable

There is another reason why Indian officials are seeing this differently. *There is apprehension that the deal could eventually lead to a crowding of nuclear attack submarines (SSNs/submersible ship nuclear) in the Eastern Indian Ocean, eroding India’s regional pre-eminence. The Indian Navy presently dominates the space, but its conventional underwater capability has been shrinking.* An Indian plan to develop a fleet of nuclear attack submarines has elicited no offer of help from the U.S. that does not share its prized nuclear submarine technology with even its closest allies; all except Australia, evidently. Washington’s willingness to help Canberra build SSNs raises the possibility that Australia could deploy nuclear submarines in the Eastern Indian Ocean well before India positions its own. This is not merely hypothetical. The Indian Navy, the principal security provider in the Eastern Indian Ocean, is not building submarines at a pace commensurate with needs. Notwithstanding shared concerns over China’s growing submarine presence in the region, however, Indian officials are not comfortable with the prospect of friendly SSNs in India’s backyard.

AUKUS versus the Quad

It does not help that AUKUS has taken the focus away from the Quad. Regardless of how the Joe Biden administration frames the argument, there is no denying a sense of wariness in New Delhi. There is for one thing more than a subtle hint of U.S. favouritism for Australia in the new deal. The agreement suggests preferential treatment on the part of Washington for a close Anglo-alliance partner. A senior American official who briefed the media about the AUKUS deal last week underscored the “very rare” nature of the arrangement and the “extremely sensitive” technology

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that will be shared with Australia. “This is an exception to our policy in many respects,” he observed. “I do not anticipate that this will be undertaken in any other circumstances going forward; we view this as a one-off.” That leads some in Delhi to wonder why the U.S. should make an allowance for one Quad partner and not another.

The technology pursuit

While it has rarely received any submarine technology from the U.S., New Delhi has been accepting of American discretion on the matter. India has instead relied on Russia for nuclear submarine technology, including in the construction of the reactor of India’s first SSBN/submersible ship ballistic missile nuclear (Arihant) and in the acquisition (on lease) of a nuclear attack submarine. The Indian Navy’s indigenous SSN programme, however, requires a nuclear reactor more powerful than the one installed in the Arihant (a non war-fighting platform). Following the deepening of Quad ties, some in India were hopeful that the U.S. would consider providing the Indian Navy with nuclear submarine propulsion technology. The clarification by Washington that the deal with Australia is a “one-off” puts paid to Indian expectations. There is now speculation that Delhi might consider seeking French help with nuclear submarines. *There is a view that New Delhi must seize the opportunity to push France to transfer its nuclear propulsion technology. Despite the less than satisfactory experience with the Project 75 ‘Scorpene’ class submarine programme, India, some say, should accept French assistance with building an SSN reactor. For the moment, however, India is being careful in its official response to AUKUS. The bottom line for New Delhi is that it cannot be seen to be taking sides in a feud among friends. France, the U.S., the U.K. and Australia are some of India’s closest partners, and Indian officials would like to be spared the awkwardness of having to support one ally over the other.* Despite worries over the prospect that Australia’s nuclear submarine capability could overtake India’s own in coming years, Indian officials recognise Canberra’s need to reappraise its strategic environment and reinforce deterrence against China. Likewise, many in New Delhi feel France’s anguish. The deal Australia just cancelled was a critical part of France’s struggle to maintain an indigenous naval industry, and a key component of its Indo-Pacific vision. India, by some accounts, would like to deepen bilateral strategic ties, and play a part in restoring French confidence and pride.

IMPROVING THE ECONOMIC GAME

The Quad (Australia, Japan, India and the U.S.) meets in a landmark physical summit this week. The agenda for the Quad has widened — till now, it was largely focused on strengthening strategic and defence pillars. This should now bring industry into the dialogue process to advance the desired outcomes. The four nations are vibrant democracies and open economies. Three are developed countries and one is an emerging market. The Quad leaders met formally but virtually for the first time in March this year, and the joint statement captured the “spirit of the Quad”, stressing democratic values, while pledging to strengthen cooperation on the “defining challenges” of the times. On the economic side, challenges were identified as the economic and health impacts of COVID-19, cyberspace, critical technologies, and quality infrastructure investment. Working groups were set up on vaccines, critical and emerging technologies, and climate action. For India, each of the other three countries is a strategic partner, and bilateral and multilateral initiatives have been taken across multiple areas in different fora with each. The Quad syncs with India’s other regional programmes such as the Indo-Pacific Oceans’ Initiative and the



Supply Chain Resilience Initiative. India's total trade with the three Quad partners was over \$108 billion in 2020-21, accounting for almost 16% of its total merchandise exports and imports. On the investment side, the U.S. is India's second largest source of foreign direct investments, while Japan has a notable footprint in India's major infrastructure projects. Inflows from Australia amount to less than a billion dollars, but the country has outlined a long-term strategy for economic engagement with India.

Business partnerships

To advance their goals for a free, open and inclusive Indo-Pacific, the four participants of Quad must activate business partnerships meaningfully with definitive measures to align economic and strategic objectives. The first piece of the economic pillar is trade and investment. Joint efforts by all Quad countries can help to establish alternative manufacturing hubs and make regional supply chains more diversified. The SCRI with India, Australia and Japan aims to address vulnerabilities in existing supply chains that were exposed during the COVID-19 pandemic. Similarly, the Quad could consider adding a trade ministers' interaction to its agenda which may engage in lowering trade barriers and boosting trade linkages among the partner countries as well as in the Indo-Pacific region. With India as a natural option for a China-Plus strategy, domestic policies to promote manufacturing and ease of doing business would help in the long-term success of trade cooperation. Quality infrastructure investment is another challenge highlighted in the statement. Innovative financing and public-private partnership models can enlarge the space for private industry and support public funds in the endeavour. Green infrastructure creation must be built into the template. A working group on this area could look into specific projects for the region that would best feed into trade objectives. As in the vaccine cooperation proposal, different partner countries could focus on various aspects of construction, drawing on their respective strengths. The third priority area for the Quad is climate change for which a working group has been set up. Cooperation on multiple dimensions of the climate challenge is proposed, including finance, emissions reduction, technology and capacity-building. With mitigation and adaptation as key aims, the involvement of industry to support governmental efforts would be critical. As a grouping of like-minded nations working on shared objectives in the Indo-Pacific region, the Quad is a formidable economic force that can deliver many gains on the identified pillars for the participating nations as well as the region. By adding businesses into its strategy mix, its initiatives would be further fortified and expanded. We hope that the governments would consider a forum for such private sector engagement.

THE BIG DEAL BEHIND THE RUCKUS OVER AUKUS

The announcement of the new Australia-U.K.-U.S. (AUKUS) trilateral security pact (<https://bit.ly/3tZUVvq> and <https://bit.ly/3EEWqE8>) has naturally generated animated debate in strategic circles, coming as it does just days before the first in-person Quad Leaders Summit to be hosted by United States President Joe Biden on September 24 in Washington. Last week, HMS Queen Elizabeth, the flagship of the United Kingdom's Carrier Strike Group, arrived in Japan after exercising with India, Malaysia and Singapore and traversing the disputed waters of the South China Sea. Exercise Malabar 2021, held in the Western Pacific from August 26-29, 2021, brought together, for the second year running, the U.S. Navy, Japanese Maritime Self-Defense Force (JMSDF), the Royal Australian Navy and the Indian Navy.



Indo-Pacific is the core issue

Earlier in April, France, which like the United Kingdom has historically been an Indo-Pacific power with territories and bases across the region, participated in a multi-nation naval exercise in the Bay of Bengal with the four Quad nations (the U.S., Japan, Australia and India). All this points to a vigorous strengthening of bilateral, trilateral and multi-lateral security dialogues and structures, seemingly different in scope and activity, but which converge on the core issue of maintaining peace and stability in the Indo-Pacific. There is no gainsaying the fact that rapid accretion in China's economic and military capacities, but more particularly its belligerence, has led to a tectonic shift in regional security paradigms. The Quad is not a security arrangement though there is a widespread feeling that without stronger security underpinnings it would play a limited role in dealing with the real challenge of China's militarisation. The Malabar exercise is not a naval alliance, even though the habit of cooperation is geared to facilitate communication and interoperability in times of need. Several countries have been obliged to review their defence preparedness in response to China's rising military power and its adverse impact on regional stability. In August, Japan's Defence Ministry proposed a budget of U.S.\$50 billion for the fiscal year 2022, which represents a 2.6% nominal increase in its annual defence spending. The traditional ceiling of limiting defence spending to under 1% of GDP is no longer sacrosanct. Its Defence White Paper, for the first time, highlighted the urgent need to take stock of developments around Taiwan, a clear acknowledgement that Japan's own security is linked to stability in the Taiwan Strait where muscle-flexing by China is the new norm. It is not without reason that Australia's defence budget has seen enhanced outlays for the ninth straight year. For the financial year 2020-2021, it touched AUD 44.61 billion (USD\$34.84 billion) representing a 4.1% hike over the previous year. The AUKUS pact will facilitate the transfer of nuclear submarine propulsion and manufacturing technologies to Australia, the first instance of a non-nuclear nation acquiring such capability. Even if the first of the eight nuclear-powered submarines may be available only around 2040, or perhaps a few years earlier, the very fact of Australia operating such advanced platforms adds a new dimension to the evolving maritime security architecture in the Indo-Pacific. It conclusively puts to rest a long-standing domestic debate on whether it was time for Australia to assess China through the strategic lens, overcoming the purely mercantile considerations that tended to dominate its China policy.

A chance for the U.K.

The AUKUS pact is also an emphatic assertion of the relevance of the U.S.-Australia Security Treaty (ANZUS). New Zealand, the outlier, walked away in 1984 from the treaty that ironically still bears its initials. Its "nuclear free" stance ran counter to the U.S. Navy's non-disclosure policy in regard to nuclear weapons aboard visiting vessels. Close ties notwithstanding, Australia's future fleet of nuclear submarines will not be permitted access to New Zealand's ports or waters, as averred by Prime Minister Jacinda Ardern. AUKUS provides a fresh opportunity to the United Kingdom to reinsert itself more directly into the Indo-Pacific. It is already a member of the Five Eyes (FVEY), an intelligence-sharing alliance built on Anglo-Saxon solidarity (Australia, Canada, New Zealand, the U.K., and the U.S.). AUKUS is not a substitute for the Quad. At the same time, it does not erode the Quad's significance as a platform for consultations and coordination on broader themes of maritime security, free and open trade, health care, critical technologies, supply chains and capacity-building. The AUKUS submarine deal, on the other hand, is an undiluted example of



strategic defence collaboration, and a game-changer at that. In 2016, Japan's Mitsubishi-Kawasaki consortium that manufactures the Soryu-class diesel-electric submarine lost out to France's Naval Group (formerly known as the DCNS) which bagged the contract to build 12 diesel-electric submarines in Australia to replace its six Collins-class vessels. The Shortfin Barracuda Block 1A submarine offered by France was a diesel-electric variant of its own Barracuda-class nuclear attack submarine. It is heightened threat perceptions that have now prompted Australia to switch from conventional to the far more potent nuclear attack submarines.

Beijing's stance is odd

China, expectedly, has strongly criticised AUKUS and the submarine deal as promoting instability and stoking an arms race. This is sheer hypocrisy. China has the world's fastest-growing fleet of sub-surface combatants, including the Type 093 Shang-class nuclear-powered attack submarine (SSN) and the Type 094 nuclear-powered Jin-class ballistic missile submarine (SSBN), not to speak of its burgeoning fleet of conventional diesel-electric submarines with AIP (air-independent propulsion) capability. Its nuclear submarines are on the prowl in the Indo-Pacific. Yet, China denies Australia and others the sovereign right to decide on their defence requirements! As for India, it operates one indigenously-built SSBN (INS Arihant) after returning the SSN (INS Chakra) on lease from Russia. It operates a number of conventional submarines, though far fewer than what it truly needs, including the Scorpene-class diesel-electric attack submarine which is manufactured at Mazagon Dock Shipbuilders Ltd. (MDL) in collaboration with France's Naval Group under Project 75.

Australia's role gets a boost

Australia's proposed nuclear submarines, whether the U.K.'s Astute-class attack submarine or the U.S.'s Virginia-class vessel, will potentially be fully equipped with advanced U.S. weapons such as the Mark-48 torpedoes, the Harpoon anti-ship missiles and the Tomahawk cruise missiles. These will give Australia quite a punch in terms of a stand-off capability. Situated as it is, far away from any other country, the diesel-electric attack submarines that it currently operates, or even those that it might have got from France, have limited capacity in terms of range and duration of mission as compared to nuclear-powered submarines. The growing focus on anti-submarine warfare across a more expansive region is clearly altering calculations. Australia's nuclear submarines would help create a new balance of power in the Indo-Pacific, especially in tandem with the U.S. and the U.K. Australia will now have a more meaningful naval deterrence of its own to protect its sovereign interests. Australia is set to play a more robust role in ensuring peace and stability in the Indo-Pacific. France's momentary pique at the cancellation of the contract by Australia should soon subside. As a major Indo-Pacific power, France is an important part of the regional security calculus. The setback 'down under' may spur France to focus afresh on partners such as India, which must strike a balance between continuing imports and implementing the all-important Atmanirbhar Bharat in defence manufacturing.

FRANCE RECALLS ENVOYS TO AUSTRALIA, U.S.

France on Friday recalled its Ambassadors to the United States and Australia in a ferocious row over the scrapping of a submarine contract, an unprecedented step that revealed the extent of French anger against its allies. President Emmanuel Macron recalled the envoys after Canberra ditched a deal to buy French submarines in favour of U.S. vessels, Foreign Minister Jean-Yves Le

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Drian said. Mr. Le Drian said that the decision was made to “immediately” recall the two French Ambassadors due to “the exceptional seriousness of the announcements made on September 15 by Australia and the United States”. The abandonment of the ocean-class submarine project that Australia and France had been working on since 2016 constituted “unacceptable behaviour among allies and partners”, the Minister said. “Their consequences affect the very concept we have of our alliances, our partnerships, and the importance of the Indo-Pacific for Europe,” he added. U.S. President Joe Biden announced the new Australia-U.S.-Britain defence alliance on Wednesday, extending U.S. nuclear submarine technology to Australia as well as cyberdefence, applied artificial intelligence and undersea capabilities. The pact is widely seen as aimed at countering the rise of China. The move infuriated France, which lost a contract to supply conventional submarines to Australia that was worth \$36.5 billion when signed in 2016.

In close contact: U.S.

A White House official expressed “regret” over the French envoy’s recall but added “we will continue to be engaged in the coming days to resolve our differences, as we have done at other points over the course of our long alliance”. State Department spokesperson Ned Price said in a tweet that Washington understood France’s position and was in “close contact” with Paris. He added that the issue would be discussed “at the senior level”, including at the United Nations General Assembly next week, which both Mr. Le Drian and U.S. Secretary of State Antony Blinken will attend. Pentagon spokesperson John Kirby meanwhile acknowledged that telephone talks earlier between U.S. Defence Secretary Lloyd Austin and French counterpart Florence Parly showed “that there is still much work to do in terms of our defence relationship with France”. The French Ambassador recalls from the United States and Australia — key allies of France — are unprecedented. Withdrawing envoys is a last resort diplomatic step taken when relations between feuding countries are plunged into crisis but highly unusual between allies.

‘Affects vision’

“I am being recalled to Paris for consultations,” France Ambassador to the U.S. Philippe Etienne wrote on Twitter. *“This follows announcements directly affecting the vision we have of our alliances, of our partnerships and of the importance of the Indo-Pacific for Europe.” Paris sees itself as a major power in the Indo-Pacific due to overseas territories such as New Caledonia and French Polynesia which give it a strategic and military foothold unmatched by any other European country.* France had made no effort to disguise its fury even before the recalls and on Thursday Mr. Le Drian accused Australia of back-stabbing and Washington of Donald Trump-era behaviour over the submarines deal.

A CLIMATE CHANGE NARRATIVE THAT INDIA CAN STEER

In a keynote speech on September 8 in a seminar organised by a think tank, R.K. Singh, Union Minister for Power, New and Renewable Energy stated, *“Environment is something we are trustees of and have to leave behind a better environment for our children and great grand children.” However, a recent report, “Assessment of Climate Change over the Indian Region” by the Ministry of Earth Sciences (MoES) reveals that India has warmed up 0.7° C during 1901-2018. The 2010-2019 decade was the hottest with a mean temperature of 0.36° C higher than average.* Heatwaves continued to increase with no signs of diminishing greenhouse gas emissions despite lower



activity since the novel coronavirus pandemic. *Prolonged exposure to heat is becoming detrimental to public health, especially the poor unable to afford support for coping with the heat. Assessment by the MoES shows that India may experience a 4.4° C rise by the end of this century. India has also suffered two of the 10 most expensive climate disasters in the last two years. Super-cyclone “Cyclone Amphan” that hit India in 2020, cost more than USD13 billion even as the country was just recovering from “June-October Monsoon Flooding” that cost USD10 billion and around 1,600 lives. It was India’s heaviest monsoon rain in the last 25 years and the world’s seventh costliest. In early 2021, India suffered two more cyclones: Cyclone Tauktae hitting the west coast and Cyclone Yaas from the east.*

India’s rising IDPs

According to the *Internal Displacement Monitoring Centre, India’s Internally Displaced Populations (IDPs) are rising due to damaging climate events. Uttarakhand residents began deserting their homes after the Kedarnath floods in 2013 due to heavy precipitation that increases every year. Within 2050, rainfall is expected to rise by 6% and temperature by 1.6° C. To make things worse, India lost about 235 square kilometres to coastal erosion due to climate change induced sea-level rise, land erosion and natural disasters such as tropical cyclones between 1990-2016. About 3.6 million out of 170 million living in coastal areas were displaced between 2008-2018. Recent figures are more alarming with 3.9 million displaced in 2020 alone, mostly due to Cyclone Amphan. India’s Deccan plateau has seen eight out of 17 severe droughts since 1876 in the 21st century (2000-2003; 2015-2018). In Maharashtra and Karnataka (the heart of the Deccan Plateau), families deserted homes in 2019 due to an acute water crisis. Hatkarwadi, a village in Beed district of Maharashtra State, had as few as 10-15 families remaining out of the previous population count of 2,000 people.*

Good policies, weak practices

India held the top 10 position for the second year in a row in 2020’s *Climate Change Performance Index (CCPI)*. The country received credit under all of the CCPI’s performance fields except renewable energy where India performed medium. India vowed to work with COP21 by signing the Paris Agreement to limit global warming and submitted the Nationally Determined Contributions (NDCs) with a goal of reducing emissions intensity of GDP by 33%-35% and increasing green energy resources (non-fossil-oil based) to 40% of installed electric power capacity by 2030. India cofounded with France at COP21, in 2015, the International Solar Alliance (ISA) — a coalition of about 120 countries with solar rich resources— which aims at mobilising USD1 trillion in investments for the deployment of solar energy at affordable prices by 2030. Despite leading ISA, India performed the least in renewable energy according to the CCPI’s performance of India. The question is, are these global alliances and world-leading policies being practised or are merely big promises with little implementation? *Experts agree that India can achieve the 2° C target of COP15 Copenhagen in 2009. But it also observes that the country is not fully compliant with the Paris Agreement’s long-term temperature goal of the NDCs and there are still risks of falling short of the 2° C goal. According to India’s carbon emission trajectory, the country is en route to achieve barely half of the pledged carbon sink by 2030. To achieve the Paris Agreement’s NDC target, India needs to produce 25 million-30 million hectares of forest cover by 2030 — a third of current Indian forestation and trees. Going by the facts, it seems India has overpromised on policies and goals as it becomes difficult to deliver on the same.*



Why COP26 matters

The Glasgow COP26 offers India a great opportunity to reflect on the years since the Paris Agreement and update NDCs to successfully meet the set targets. India is expected to be the most populated country by 2027, overtaking China, contributing significantly to the global climate through its consumption pattern. India is in a rather unique position to have a significant influence on global climate impact in the new decade. *Alok Sharma, President of the COP26 met Minister for Environment, Forest and Climate Change Bhupender Yadav in August to persuade India to deliver a more ambitious NDCs for 2030 to which the Minister responded by stating, "India believes that climate actions must be nationally determined... UNFCCC and the Paris Agreement for developing countries should be at the core of decision-making..."* Being one of the observer states of the Climate Vulnerable Forum (CVF) as well as an influential member of COP26, India has the ability to improve its global positioning by leading a favourable climate goal aspiration for the world to follow. The country has the opportunity to not only save itself from further climate disasters but also be a leader in the path to climate change prevention.

SEA LEVEL RISE IS CERTAIN

The recently published *Intergovernmental Panel on Climate Change (IPCC) Assessment Report from Working Group I — 'Climate Change 2021: The Physical Science Basis' — is a clarion call for climate action. It provides one of the most expansive scientific reviews on the science and impacts of climate change. The report discusses five different shared socio-economic pathways for the future with varying levels of greenhouse gas (GHG) emissions. The scenarios illustrated are the following: very low and low GHG emissions, where emissions decline to net zero around or after the middle of the century, beyond which emissions are net negative; intermediate GHG emissions; high and very high emissions where they are double the current levels by 2100 and 2050, respectively.* Even in the intermediate scenario, it is extremely likely that average warming will exceed 2°C near mid-century. *The average global temperature is already 1.09°C higher than pre-industrial levels and CO2 concentration in the atmosphere is currently 410 ppm compared to 285 ppm in 1850.* Over 200 experts working in several domains of climate have put the report together by assessing the evidence and the uncertainties. They express their level of confidence (a qualitative measure of the validity of the findings) ranging from very low to very high. They also assess likelihood (a quantitative measure of uncertainty in a finding) which is expressed probabilistically based on observations or modelling results.

Come hell or high water

Close to 700 million people worldwide live along the coast and there continue to be plans to expand coastal cities. Therefore, understanding the risks involved from climate change and sea level rise in the 21st and 22nd centuries is crucial. Sea level rise will continue after emissions no longer increase, because oceans respond slowly to warming. *The centennial-scale irreversibility of sea level rise has implications for the future even under the low emissions scenarios. Sea level rise occurs mainly due to the expansion of warm ocean waters, melting of glaciers on land, and the melting of ice sheets in Greenland and Antarctica. Global mean sea level (GMSL) rose by 0.2m between 1901 and 2018. The average rate of sea level rise was 1.3 mm/year (1901-1971) and rose to 3.7 mm/year (2006-2018). While sea level rise in the last century was mainly due to thermal expansion, glacier and ice sheet melt are now big contributors. In the low emissions scenario, GMSL is expected to be*

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0.19m in 2050 and 0.44m by 2100. In the very high emissions scenario, GMSL is expected to be about 0.23m in 2050 and 0.77m in 2100. These increases are relative to 1995-2014 and do not include uncertainties in ice sheet processes. Scientists rely on ice sheet models to estimate future glacier melt. While these models have improved over the years, there are shortcomings in the knowledge and representation of the physical processes.

Uncertainties

Ice sheets can destabilise rapidly as the water gets warm (marine ice sheet instability or MISI). Ice cliffs can collapse swiftly in a related process, leading to rapid sea level rise; this is marine ice cliff instability (MICI). Such changes are difficult to model and MICI events are not included in the sea level projections mentioned above. As Siegert et al. indicate, changes in ice-ocean interactions can cause extensive and rapid sea level rise. This happens from mass loss of ice shelves (ice that flows into cold oceans while attached to the land), which may disintegrate suddenly. Under strong warming scenarios, ice shelves become vulnerable and lead to MISI. *In the very high emissions scenario, with low confidence (and in the 17th-83rd percentile range), sea level rise can be as high as 1.61m by 2100. Using ice sheet models coupled with ocean models to create probabilistic scenarios for the future is therefore tricky.* The models do not capture the abrupt and non-linear dynamics of changes that take place. The report has a high-end storyline that includes processes where there is uncertainty. *The main uncertainty lies in 'when' rather than 'if' the high-end scenario occurs. Projections based on 'structured expert judgments' indicate that sea level rise as high as 2.3m by 2100 cannot be ruled out. According to the UN Environment Programme Emissions Gap Report, the world is heading for a temperature rise above 3°C this century, which is double the Paris Agreement aspiration. And there is deep uncertainty in sea level projections for warming above 3°C.*

Vulnerability in India

Communities along the coast in India are vulnerable to sea level rise and storms, which will become more intense and frequent. They will be accompanied by storm surges, heavy rain and flooding. Even the 0.1m to 0.2m rise expected along India in the next few decades can cause frequent coastal flooding. A speculator might think that if less than a metre sea level rise by 2100 is the likely scenario, they have another 60-80 years to continue developing infrastructure along the coast. That would not, however, be the right way to interpret the IPCC data. The uncertainty regarding a metre or more of sea level rise before 2100 is related to a lack of knowledge and inability to run models with the accuracy needed. Low confidence does not mean higher sea level rise findings are not to be trusted. In this case, the low confidence is from unknowns — poor data and difficulty representing these processes well in models. Ignoring the unknowns can prove dangerous. Adaptation to sea level rise must include a range of measures, along with coastal regulation, which should be stricter, not laxer, as it has become with each update of the Coastal Regulation Zone. The government should not insure or bail out speculators, coastal communities should be alerted in advance and protected during severe weather events, natural and other barriers should be considered in a limited manner to protect certain vulnerable areas, and retreat should be part of the adaptation strategies for some very low-lying areas.



WHO TIGHTENS GLOBAL AIR QUALITY NORMS

The World Health Organisation (WHO), in its first-ever update since 2005, has tightened global air pollution standards in recognition of the emerging science in the past decade that the impact of air pollution on health is much more serious than earlier envisaged. The move does not have an immediate effect in India as the *National Ambient Air Quality Standards (NAAQS) do not meet the WHO's existing standards. The government has a dedicated National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities, keeping 2017 as the base year for the comparison of concentration.* These are cities that do not meet the NAAQS when calculated from 2011 to 2015. However, experts say the WHO move sets the stage for eventual shifts in policy in the government towards evolving newer stricter standards. “This will soon become part of policy discussions — much like climate targets to reduce greenhouse gas emissions keep getting stricter over time — and once cities and States are set targets for meeting pollution emission standards, it could lead to overall changes in national standards,” said a senior official, who is part of a high-level commission to monitor air quality standards. The person declined to be identified as he is not authorised to speak to the media. *The upper limit of annual PM_{2.5} as per the 2005 standards, which is what countries now follow, is 10 microgram per cubic metre. That has now been revised to five microgram per cubic metre. The 24-hour ceiling used to be 25 microgram but has now dropped to 15. The upper limit of PM₁₀, or particulate matter of size exceeding 10 microgram, is 20 microgram and has now been revised to 15, whereas the 24-hour value has been revised from 50 to 45 microgram. India's NAAQs — last revised in 2009 — specify an annual limit of 60 microgram per cubic metre for PM₁₀ and 100 for a 24-hour period. Similarly it's 40 for PM_{2.5} annually and 60 on a 24-hour period. There are also standards for a host of chemical pollutants including sulphur dioxide, lead and nitrogen dioxide. Environmental organisation Greenpeace, in a statement, said the new guidelines meant that among 100 global cities, Delhi's annual PM_{2.5} trends in 2020 was 16.8 times more than the WHO's revised air quality guidelines, while Mumbai's exceeded eight-fold, Kolkata's 9.4, Chennai's 5.4, Hyderabad's 7 and Ahmedabad's 9.8. “WHO's new Air Quality Guidelines are an evidence-based and practical tool for improving the quality of the air on which all life depends. I urge all countries and all those fighting to protect our environment to put them to use to reduce suffering and save lives,” WHO Director-General Tedros Adhanom Ghebreyesus said in a statement. Every year, exposure to air pollution is estimated to cause 7 million premature deaths and result in the loss of millions more healthy years of life.*

Severe health crisis

“Air pollution is a severe health crisis and WHO's revised air quality guidelines bring back the focus to the issue,” said S.N. Tripathi, Professor, IIT Kanpur & Steering Committee Member, National Clean Air Programme, India.

WHAT NEW WHO POLLUTION NORMS MEAN FOR INDIA

New air quality norms released by the World Health Organization on Wednesday are likely to ignite a fresh round of discussion on air pollution in India. These norms would make India appear worse than it already looked under the existing norms. Considering the current situation, even the older WHO norms were beyond India's reach in the foreseeable future. The new standards are unlikely to be achieved for several years. Beyond that, the revised standards are an



acknowledgment of the mounting scientific evidence that points to a much higher risk to human health from air pollution than was earlier known. The appropriate response, therefore, would be a more focused effort to mitigate these risks and prevent the loss of lives.

No quick fixes

There is unlikely to be any dramatic improvement in India's air quality, even if a concerted effort was initiated immediately. The quality of air is dependent on a variety of activities and needs to be tackled at source. For example, one cannot expect clean air, when the surroundings are filthy, or the quality of roads are not good. Also, the effort to improve air quality comes in direct conflict with some other objectives, such as the need to ensure that our industry remains competitive in the short term. That is the reason why we have seen repeated relaxations, or extensions of deadlines, in implementing more stringent emission norms for certain industries. But there are also several areas where clean air comes out as collateral benefit. Several flagship government programmes – Swachh Bharat, Namami Gange and other river and lake cleaning projects, Smart City Mission, building of highways and expressways, the push for electric vehicles – would all lead to a significant improvement in air quality, not just in big metros which remain the focus of all debates on air pollution, but across the country. The Ujjwala scheme would probably have already started making a difference in the households where traditional cooking fuel has been permanently replaced by LPG in the last few years. The health impacts of indoor air pollution are not very well appreciated even now, but study after study has shown that it is as big a killer as outdoor air pollution. The faster India moves ahead on these projects, the quicker it is likely to see improvements in air quality. The fallout of these projects on air quality is expected to be far greater than any fancy ideas like artificial rain or an odd-even scheme for private transport.

Low hanging fruit

The improvement is likely to be slow even if sustained push is maintained on all these projects. This realisation is reflected in India's National Clean Air Programme as well. The targets set for the selected cities are quite modest and would take several years to be achieved. But there are a number of rather low-hanging fruits that can deliver appreciable benefits within a short span of time. Unfortunately, not enough attention is paid to these, even though these are easy and cost-effective to implement. Plenty of construction is happening all across the country — houses, roads, commercial centres, airports — and this is likely to continue for a couple of decades. India still does this construction in a very unclean manner. The construction site is not covered or segregated, construction material or debris are kept in the open, and transported in open trucks. Almost all construction sites are dust bowls. India's roads don't conform to basic construction sites. The corners of the roads are not properly paved, leading to the release of lots of very harmful particles. The sidewalks and road dividers are major sources of dust. It is easy to fix these if the local municipal bodies want to. And there are significant gains to be achieved in terms of air quality.

WHY IS IT DIFFICULT FOR INDIA TO GET TO NET ZERO?

On his recent visit to India ahead of the UN Climate Change conference in Glasgow, U.S. Special Presidential Envoy for Climate John Kerry said he had not received any assurance that India was working to raise its ambition to cut carbon dioxide emissions. *Mr. Kerry is trying to build*

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



momentum, under the Paris Agreement framework, for countries with high CO₂ emissions to commit themselves to a target date when they will reach net zero, meaning when they will achieve nil man-made emissions or ensure removal of such emissions to achieve neutrality. India, as the country with the third largest emissions, is under pressure to come up with a higher ambition on cutting CO₂ emissions. The net zero concept, according to the United Nations, has appealed to 130 countries that have either committed themselves to carbon neutrality by 2050, or are considering that target.

What is India doing to lower emissions?

India is working to reduce its emissions, aligned with the goal of less than 2°C global temperature rise, seen in *its headline pledge to cut the emissions intensity of GDP by 33%-35% by 2030 over the 2005 level. But it has not favoured a binding commitment towards carbon neutrality. It is also not aligned with the more ambitious goal of 1.5°C temperature rise. Among the contentious issues it faces is heavy reliance on coal. According to the International Energy Agency's India Energy Outlook 2021, coal accounts for close to 70% of electricity generation.* Cutting greenhouse gases which heat the atmosphere and contribute to climate change involves shifting power production away from coal, greater adoption of renewables, and transforming mobility through electric vehicles. *India is praised by some for its renewables target: scaling up power from renewables such as solar and wind to 450 GW by 2030. In recent comments, after the discussions with Mr. Kerry, Union Environment Minister Bhupendra Yadav said net zero was not the only goal of national policy. Moreover, domestic political opinion favours room for some growth in CO₂ emissions before peaking. The UN Framework Convention on Climate Change (UNFCCC) provides for common, but differentiated, responsibilities of nations, favouring countries like India. Some politicians support a net zero target as it can put India on a green development trajectory, attracting investment in innovative technologies.*

How are other big countries pursuing net zero?

As the largest emitter of GHGs, China told the UN in 2020 that it would move to net zero by 2060. Its pledge to peak CO₂ emissions before 2030 and achieve carbon neutrality three decades later is among the most high-profile commitments. To operationalise this goal, *China's State Council has issued a guideline on the transition to a green and low-carbon circular economic development system, focusing on industrial production, logistics, infrastructure, consumption, innovation, and enabling policies. But changing winds in global politics, resumed U.S. leadership of the climate campaign, and likely taxes on unsustainably produced export goods could influence Chinese policies.* The U.S., as the second biggest emitter with large historical emissions, returned to the Paris Agreement under President Joe Biden with an ambitious 2050 net zero plan. *Its Department of Energy announced two programmes that are also expected to boost employment: slashing the current cost of solar power by 60%, and putting up 30 GW of offshore wind power by 2030. The European Union (EU) member-states have committed themselves to reducing emissions by at least 55% by 2030 over 1990 levels. In July, the EU published a climate law that binds the bloc to its 2030 emissions target and carbon neutrality by 2050.*

Why do some analysts see net zero as controversial?

Although a global coalition has coalesced around the concept, an increasingly vocal group views it as a distraction, useful only to score political points. Carbon neutrality looks to nascent technology to suck out CO₂ from the atmosphere. Youth movements and some scientists call this



procrastination, since it enables the fossil fuel industry to continue expanding. Many fossil fuel companies support net zero goals.

What are India's choices?

Getting a stronger economic dividend for the same volume of CO₂ emitted by reforming energy, industry and buildings, and achieving higher energy efficiency in all sectors can slow emissions. State governments must be part of such a climate plan, and climate governance institutions must be set up at the national and State levels.

LEFT TURN

Since at least 2016 — a year which saw the unexpected election of Donald Trump as US president and Britain voting to exit the European Union in a referendum — there have been ominous signs of a far-right, often xenophobic political wave across Europe and the West. Even in Scandinavian countries, questions around immigration and the transition to a climate-friendly economy led, at least in part, to the resurgence of relatively nativist and insular political forces. *With the election of a centre-left coalition in Norway, it is clear that the forebodings of a far-right cloud over Europe were exaggerated — all five Scandinavian countries now have left-of-centre governments.* However, it would be equally premature to imagine that a left-liberal order is now deeply entrenched in Europe. Norway's Labour Party leader, Jonas Gahr Støre, is set to lead a coalition government. The questions in the election echoed some of the issues that Northern Europe — in fact, the global North as a whole — has been grappling with. How is the transition away from fossil fuels, and the jobs and wealth it creates, going to be managed? What should be the balance between fair taxation and rising inequality? In countries with ageing, declining populations, how should the political and social fallouts of immigration be addressed? In this election, as others preceding it in the region, the mandate has been for welfarists and reasonable pro-environment Green parties to attempt to guide the country through these transitions. *Yet, it's important to remember that an election leads to a change in government; it does not eviscerate the social strands that form the background of politics. In France, for example, there have been political obituaries as well as over-estimations of the far-right's influence — both have been wrong, Marine Le Pen continues to be politically significant without being dominant. In Nordic countries, a similar process is likely underway.* For the world, there will be lessons on how these developed states deal with the challenges of the 21st century.

STATUS QUO ANTE

Prime Minister Justin Trudeau had framed the September 20 Parliamentary election as Canada's "pivotal moment". Two years into the four-year term of his minority government, he dissolved Parliament and called the snap election hoping that Canadians would give him an absolute majority. However, Mr. Trudeau must be both relieved and disappointed with the preliminary results. His Liberal Party got the most seats in Parliament, at 158, just one more than what they won in the 2019 vote, but well short of a majority of 170 seats. To continue to stay in power, the Liberals will have to depend on smaller parties. The Conservatives, who under the leadership of Erin O'Toole took a moderate position on contentious issues from carbon tax to a ban on assault rifles, failed to make any gain. His plan was to reach out to the voters beyond the Conservative



base and take on the liberals on policy specifics rather than on ideology. They secured 119 seats, down from 121 in 2019. While the centre-left New Democrats, led by Jagmeet Singh, won 25 seats, one more than in the last vote, the Bloc Québécois, which backs Quebec independence, took 34 seats, a gain of two. Mr. Singh, whose party backed Mr. Trudeau's minority government after the 2019 election, has hinted that he would continue to support the Liberals. Mr. Trudeau, son of the former Liberal Prime Minister Pierre Elliott Trudeau, took over the party's reins in 2013 at a time when the liberal prospects were dim. But a young Mr. Trudeau not only revived the Liberal Party but also led it to a surprise election victory in 2015. He has remained the most influential voice in Canada's political landscape. In 2019, he secured victory but without an absolute majority, which forced him to seek the support of the New Democrats. Poll numbers for the Liberals soared after the government's handling of the COVID-19 pandemic. By calling the snap election, Mr. Trudeau's plan was to turn those numbers into actual votes and win a fresh four-year term with a clear majority. But the decision to call a mid-term election was controversial. His rivals called him a political opportunist who had pushed the country into an expensive election — at C\$600 million, it is the most expensive in its history — in the midst of the COVID scare. Voter turnout, at 58.44%, was the lowest ever. In the end, the voters backed Mr. Trudeau's government but stopped short of endorsing his political gamble. Having led the party to three back-to-back victories, he is the undisputed leader of the Liberals. He should focus on the art of coalition politics, finding common ground with the New Democrats for his progressive legislative agenda and providing stable governance to tackle Canada's myriad problems, from the COVID challenge to the climate crisis.

COVISHIELD FINE, BUT NOT INDIAN CERTIFICATION: U.K.

In an unexpected move, the United Kingdom added Indian-made Covishield to its list of recognised vaccines, but refused to recognise vaccine certificates given to those administered the vaccine in India. The decision, which means Indian travellers to U.K. will still be subject to 10-day quarantine rules, is expected to further fuel the rift between both countries over what India has called a "discriminatory practice", and had threatened reciprocal measures against, even as officials from both countries continued to discuss the issue. British and Indian officials said they hoped ongoing discussions on "vaccine certifications" would be resolved soon, but could not confirm when. According to the amended U.K. government rules set to be adopted from October 4, "Formulations of the four approved vaccines [AstraZeneca, Pfizer BioNTech, Moderna and Janssen], such as AstraZeneca Covishield, Vaxzevria and Moderna Takeda qualify as approved vaccines." *However, India continued to remain on the list of "Amber countries", and not included in the list whose "public health bodies" were recognised for issuing vaccination certificates.* The U.K. cleared 18 countries, including Canada, Denmark, Antigua and Barbuda, for the "Green List", allowing fully vaccinated travellers from those countries to fly to the U.K. without any quarantine requirements.

Quarantine required

The latest U.K. travel guidance rules and the recognition of Covishield means that a traveller from the 'Green List' countries who has been vaccinated with the Covishield vaccine can enter the U.K. without quarantine, but not a traveller from India who has been administered the vaccine. "Covishield is not an issue...[But] India is an Amber country, and there are still some COVID cases in India," U.K. High Commissioner Alex Ellis told news channel NDTV in an interview on Wednesday, adding that "the question is on certification". Mr. Ellis said U.K. NHS app officials and



Indian officials who deal with the CoWIN app had been in talks, on the working of their respective apps and security protocols used, explaining that the U.K. hopes to eventually find a mutually acceptable protocol for accepting Indian travellers without quarantines. "Because we have to have confidence, obviously, just as India would have to have confidence in the U.K., from our app, to make sure, 'This looks okay'," Mr. Ellis added.

British entry protocols also came in for severe criticism from the Opposition Congress, with Kerala MP Shashi Tharoor cancelling a visit to the U.K. in protest. In response to the calls for India to place reciprocal quarantine restrictions on U.K. travellers, Mr. Ellis tweeted, "They already do", pointing to Indian Health Ministry guidelines that require travellers from U.K., Brazil and South Africa to remain in home quarantine for seven days, even if they test negative on arrival in India. The MEA declined to comment on the U.K.'s latest decision, as well as the British High Commissioner's contention that they were not completely assured about the working of the Co-WIN app, that issues certificates of vaccination for Indians, including those who have been administered the Serum Institute's Covishield, Bharat Biotech's Covaxin and Russian-made Sputnik vaccines.

AF-PAK AMBUSH

No tears need be shed for the cancellation of the SAARC foreign ministers meeting on the sidelines of the UN General Assembly in New York, given that so much in the region is lost already. *Afghanistan was inducted into SAARC in 2007, a decision that recognised its struggle to emerge from years of war and isolation, and its historical, political, religious, economic and cultural links to the rest of the region.* The takeover of Afghanistan by the Taliban is a massive setback to South Asia. It is yet to be officially recognised by any country, or by the United Nations, though some Western nations are engaged with it to provide humanitarian aid. *In the SAARC grouping, even Pakistan, which makes no secret of its support for the Taliban government, has yet to declare official recognition of the new set up in Kabul.* So it is surprising that it wanted the Taliban symbolically represented at the planned regional meeting, with an empty chair (Amir Khan Muttaqi, the Taliban's "acting foreign minister", designated and sanctioned as a terrorist under United Nations Security Council resolution 1267 like many other Islamic Emirate of Afghanistan cabinet members, could not have attended). The move appears to have been an attempt to pressgang SAARC to grant de facto legitimacy to the IEA. It is not clear how many SAARC capitals pushed back against this, but it is certain Delhi would have been among them, and rightly so. *As SAARC works by consensus, the meeting has had to be called off. However, the larger issue of recognition of the IEA is looming.* The IEA has written to the UN Secretary General to accept its own chosen Permanent Representative to the UN. But recognition is the only leverage the world now has with the Taliban, and it is in no position to grant this easily, especially as the IEA has conveyed quite clearly that it does not intend to address, at least to begin with, global concerns about a Haqqani heavy government without women and ethnic minorities. The UN should take its time considering the Taliban request. It may be time to face up to the fact that *there is no real chance of reviving an already moribund SAARC. It has been years since there was a summit, principally because it is Pakistan's turn to host it, and Delhi has refused to participate due to the tensions between the two countries over terrorist incidents and other issues.* Other SAARC arrangements, including regional trade, have never been able to get off the ground due to the forever hostility between the two big neighbours. To get around this, there was already talk of a separate grouping that would be



“SAARC minus 1”. Now, with the Taliban in Kabul, and Pakistan playing its local guardian, regional cooperation in South Asia is bound to remain a chimera.

AFGHAN WOMEN OUTRAGED BY TALIBAN RESTRICTIONS ON WORK

Fears were mounting in Afghanistan on Monday as the Taliban tightened their grip on women's rights, slashing access to work and denying girls the right to secondary school education. After pledging a softer version of their brutal and repressive regime of the 1990s, the Islamic fundamentalists have been stripping away at freedoms one month after seizing power. “I may as well be dead,” said one woman, who was sacked from her senior role at the Foreign Ministry. “I was in charge of a whole department and there were many women working with me... now we have all lost our jobs,” she said. The acting Mayor of the capital Kabul has said any municipal jobs currently held by women would be filled by men. Many women fear they will never find meaningful employment. Although still marginalised, Afghan women have fought for and gained basic rights in the past 20 years, becoming judges, pilots and police officers, though mostly limited to large cities. Hundreds of thousands have entered the workforce — a necessity in some cases as many women were widowed or now support invalid husbands as a result of two decades of conflict. But since returning to power on August 15, the Taliban have shown no inclination to honour those rights. When pressed, Taliban officials say women have been told to stay at home for their own security but will be allowed to work once proper segregation can be implemented. “When will that be?” a woman teacher said. “This happened last time. They kept saying they would allow us to return to work, but it never happened.” “The Taliban told us not to come to work and to wait for their second announcement. But it seems like they don't want women to work again,” said a lawyer in the capital's High Court.

BATTER TAKES GUARD

It was a long innings. But the “batsman” is finally out, making space for the “batter”. The change in terminology, according to the Marylebone Cricket Club (MCC), the authority on the game's laws, helps “reinforce cricket's status as an inclusive game for all”. And this is just as it should be. When women's cricket, once dismissed as the also-ran version of the “real game”, has proved its ability to draw crowds, bust records and produce cricketing heroes, the shift in language is a sign that the sporting establishment is catching up. There are those, like British journalist Piers Morgan, known to see the collapse of civilisation at even the slightest stumble towards change, who have been triggered into outrage. Others find the new word awkward on the tongue, so strong is the hold of habit. Fact: In a playground of “fielders”, “bowlers”, “wicket-keepers” and “umpires”, it was “batsman” that was as odd as a powerplay in Test cricket. Cricket in the 21st century is nothing like it once was — a “gentleman's” sport tied up with class and feudal notions of gentility in Britain and with the “civilising” force of the empire in the colonies. Well, the former colonies have gone on to own the game, turning it into a desi spectacle, a money-spinning one, that cannot be played with a stiff upper lip. Even the Aussies blush when they read Virat Kohli's lips. Women too were not welcome, with the MCC reluctantly opening its doors to female members as late as 1998. But the future of any sport in 2021 rests on how many doors it can open to a diversity of talent. *Cricket must be glad that it has fresh blood, male and female, running through its veins. If that means finding a better word for “third man” and “nightwatchman”, what's to lose?*



GOOGLE ABUSED ANDROID DOMINANCE

Google abused the dominant position of its Android operating system in India, using its 'huge financial muscle' to illegally hurt competitors, the country's antitrust authority found in a report on its two-year probe seen by Reuters. Alphabet Inc.'s Google reduced 'the ability and incentive of device manufacturers to develop and sell devices operating on alternative versions of Android,' says the June report by the Competition Commission of India's (CCI) investigations unit. The U.S. tech giant told Reuters in a statement it looked forward to working with the CCI to 'demonstrate how Android has led to more competition and innovation, not less.' Senior CCI members will review the report and give Google another chance to defend itself, before issuing a final order, which could include penalties, said another person familiar with the case. The 750-page report finds the mandatory pre-installation of apps "amounts to imposition of unfair condition on the device manufacturers" in violation of competition law, while the company leveraged the position of its Play Store app store to protect its dominance.



DreamIAS



NATION

HUNTINGTON'S GHOST

In a lecture last week, the Chief of Defence Staff, General Bipin Rawat, touched upon the idea of “clash of civilisations”, propounded at the end of the Cold War three decades ago by American political scientist, Samuel Huntington. Clash of civilisations was certainly not the main focus of Rawat's speech. It was about India's defence reforms that have acquired a new urgency under the NDA government. The reference to the idea was in his opening remarks about the geopolitical imperatives of India's defence reform. Given the massive political and religious baggage associated with the idea, it inevitably drew attention at home and abroad. *Rawat was not making the claim himself but pointing to Huntington's thesis on the inevitable confluence of Confucian and Islamic interests.* What is said in Delhi does not stay in Delhi these days. It travels quickly and is easily distorted. The media headlines on Rawat's speech in India, unsurprisingly, drew attention in Beijing and it reportedly came up in the Chinese foreign minister Wang Yi's conversation with India's External affairs minister Subrahmanyam Jaishankar when they met on the margins of a regional summit in Dushanbe, Tajikistan. Jaishankar affirmed that “India does not subscribe to any clash of civilisations theory”. *Although the controversy seems rooted in a misperception of what Rawat had said, it is a reminder to officials in high positions not to wade into grand theologies about how the world works.* It is one thing to discuss these ideas in universities and think tanks and entirely another for policy makers to throw them around casually. *Huntington argued that after the collapse of communism, the main international contradiction will be between different religious identities rather than nation-states.* Although religious identity has indeed gained ground across different geographies, it has by no means become the main locus of international conflict. On the contrary religion has become a divisive force. In West Asia, the resurgence of Islamist ideology has only sharpened conflict among, and within, various Muslim societies. *In the last few years, we have seen more Islamic countries make up with Israel, rather than embark on a final confrontation with the Jewish state in Israel.* India's military planners are right to focus on the two-front military problem that it confronts with China and Pakistan. *But what brings China and Pakistan together is not some grand convergence between Confucianism and Islam, but a shared secular interest in keeping India down.* China's influence in West Asia is certainly growing as Rawat noted But that is true of every region in the world — from Europe to the South Pacific, and from Africa to the Arctic. That is a consequence of China's economic and military weight, and not the power of its civilisation.

ALL-WEATHER BORDER OUTPOSTS: MINISTRIES IN BLAME GAME AS LADAKH PROJECT FAILS

At a time when Indian troops are still in a faceoff with the Chinese along the Line of Actual Control in eastern Ladakh, an infrastructure project for troops guarding the region has turned out to be a non-starter after five years of work and investment of crores of rupees. And the failure of the project has also pitted two key ministries of the government — Ministry of Home Affairs and Ministry of Jal Shakti — against each other. *The project involved construction of over 40 integrated Border Outposts (BOPs) announced by the government in 2015. These BOPs were supposed to be the first of their kind in the region with freeze-proof toilets, running water and temperature maintained*



above 22 degree Celsius at all times. The project was seen as a significant step in improving border infrastructure for troops on the frontline at a time when infrastructure on the Chinese side was seen to be years ahead of India. The first BOP, as a pilot for the project, was sanctioned to be built for the Indo-Tibetan Border Police (ITBP) in Lukung, on the western bank of Pangong Tso. The lake area saw serious confrontation between Indian and Chinese troops for nine months before disengagement was achieved in February this year. The project was awarded to National Projects Construction Corporation (NPCC), a PSU under the Ministry of Jal Shakti. Five years later, and after spending about Rs 20 crore, the project has, for all practical purposes, been declared a failure by the ITBP. *Sources in the ITBP and the MHA said the BOP is unable to maintain temperatures of over 10-11 degree Celsius and the quality of construction is so poor that the 40-odd jawans staying in the BOP have begun to miss the insulated pre-fabricated huts where they lived earlier.* The MHA, sources said, is so unhappy that it has not only stopped part payment to the NPCC for the project, but is also thinking of dumping the project altogether. *The NPCC, on the other hand, has blamed the ITBP and the MHA for the failure of the project, claiming that withholding the payment has resulted in the sub-contractor concerned not maintaining the heating system and thereby negatively impacting the efficiency of the BOP.* Sources said the ITBP has withheld payment to the tune of Rs 4 crore to NPCC for its failure to maintain the desired temperature within the BOP. "The contract between us and the NPCC was to construct a BOP where temperature would remain above 22 degree Celsius all year round, even if the outside temperature was minus 44 degree. The NPCC has failed to deliver the most fundamental of requirements. For us, the BOP is still incomplete. So, why should we release the entire payment?" a senior ITBP officer said. Sources in the MHA said even the quality of construction is poor. "NPCC was supposed to provide Rajdhani train-like insulated windows in the BOP with double-sheets of glass, but they have used poor quality glass and fixed the same in aluminium frames, leading to icy draughts wafting into the BOP. The jawans are saying they felt warmer in their prefab huts," an official of the MHA said. The BOP was inspected last year by the Secretary (Border Management) in the MHA along with top officers of the ITBP. Ever since there have been multiple meetings and communications between the arms of the two ministries to improve the situation without any consequence, sources said.

An NPCC official involved with the project said the heating system in the BOP works on solar and geo-thermal energy. "There are some chemicals and liquids that regularly need replacement in the heating system for it to remain efficient. The sub-contractor has not been paid, and so it is refusing to maintain it," he said. According to NPCC, to increase the efficiency of green features of the building, it had submitted an enhancement proposal to the ITBP in August 2020. This, it said, was "as per the discussion held with MHA and ITBP officers. But till date, no decision has been communicated in this regard." An official of MHA, however, said this was only a way of hiding its inability to deliver the project. "They are now asking us to build a wall between the BOP and the Pangong lake to break the wind. You have failed to deliver the agreed project and are now asking us to spend more," the official said. A detailed questionnaire sent by The Sunday Express to the ITBP and the MHA did not elicit any response. The NPCC, meanwhile, has sent ITBP an additional bill of Rs 1.35 crore.

GOGRA GRAZING AREAS OFF-LIMITS

Villagers have lost access to a vast grazing area near Gogra in eastern Ladakh owing to growing Chinese presence in the area, Konchok Stanzin, a councillor from Chushul, has said. Gogra is one



of the several friction points in eastern Ladakh where Indian and Chinese troops have been engaged in a stand-off since April-May 2020. The troops have disengaged from the north and south banks of the Pangong Tso and Gogra sector, creating “no zones” in areas along the undemarcated Line of Actual Control (LAC) that was regularly patrolled by Indian troops prior to April 2020. Mr. Stanzin told The Hindu that the Army had stopped the villagers’ access to the Kiu La pass that was till a few years ago frequented by the villagers of Lukung, Phobrang and Yourgo for cattle-grazing. “A group of villagers marched to the Kiu La pass a few days ago but they were denied access by the Army. There used to be a bunker on the upper reaches, but it is no longer there. We fear that the Chinese are nibbling away at our territory. This was never a disputed area,” Mr. Stanzin said. He said the area did not have home or Internet connectivity and the villagers had decided to go there on their own initiative.

No connectivity

Since April 2020, Chinese troops have blocked Indian troops from reaching at least 10 patrolling points (PPs) in eastern Ladakh — running from Depsang plains in the north to the Pangong Tso lake in the south. In all, there are more than 65 PPs from the base of the Karakoram to Chumar. Mr. Stanzin said that China had constructed permanent structures and roads close to the LAC, while the Indian side boasted only a few roads. “There is no mobile connectivity in border areas and despite repeated pleas, the administration has not acted. It is frustrating. They fix the phone lines for a few hours whenever a VIP arrives here. It’s back to square one once they leave,” he said. On April 2, in a communication to Mr. Stanzin, the Defence Ministry said, “due to the present operational situation in Ladakh, grazers have been asked to restrict their cattle movements”. Army authorities when contacted declined to comment.

NIC DROPS MODI IMAGE FROM SC EMAILS

The National Informatics Centre (NIC), a crucial link in the “Digital India” initiative, got a quick lesson in judicial independence from the Supreme Court. Late on Thursday evening, the Registry of the Supreme Court learned that official emails from the Supreme Court were carrying a government tagline with Prime Minister Narendra Modi’s image. The NIC provides email services to the Supreme Court. A clarificatory note issued by the Supreme Court said the image being carried as an email footer had “no connection whatsoever with the functioning of the judiciary”. The court immediately directed the NIC to drop the image and the banner from the emails. The court directed the NIC to fill the blank space left by the dropped picture and tagline with an image of the Supreme Court. “The NIC has since complied with the directions of the Supreme Court,” the note said. Under the doctrine of separation of powers, the three branches — government, legislature and judiciary — lead a separate, independent existence. Judicial independence is recognised under the Constitution so that judges can perform their duties of office with neither fear nor favour.

PM CARES IS NOT GOVT. FUND, CENTRE TELLS HC

The Central government has informed the Delhi High Court that the PM CARES Fund is “not a fund of the Government of India and the amount does not go in the Consolidated Fund of India”. The affidavit filed by an Under Secretary at the Prime Minister’s Office (PMO) said the PM CARES Fund



was a charitable trust not created by or under the Constitution or by any law made by Parliament or by any State legislature. Under Secretary Pradeep Kumar Srivastava said despite being an officer of the Central government, he was permitted to discharge his functions in the PM CARES Trust on an honorary basis. PM CARES functioned with transparency and its funds were audited by an auditor, who is a chartered accountant drawn from the panel prepared by the Comptroller and Auditor General of India, he stated. "To ensure transparency, the audited report is put on the official website of the trust along with the details of utilisation of funds received by the trust," he said. The Centre's affidavit came in response to a petition filed by Samyak Gangwal before the court seeking to declare PM CARES as a "public authority" under the Right to Information (RTI) Act. It said that irrespective of whether the trust was a 'State' or other authority within the meaning of Article 12 of the Constitution or whether it was a 'public authority' within the meaning of provisions of the Right to Information Act (RTI), it was not permissible to disclose third party information.

SC INTRODUCES FASTER SYSTEM TO SEND RECORDS

In a big fillip to the fundamental rights of life, dignity and personal liberty, the Supreme Court has introduced a new system by which crucial decisions, including orders on bail and stay of arrest, can be communicated electronically to prison authorities and investigating agencies through a secure channel. Following an order on July 16 by a Special Bench led by Chief Justice of India N.V. Ramana, the top court introduced the "Fast and Secured Transmission of Electronic Records" (FASTER) system. The Bench approved its use on Thursday. The system is meant to ensure that undertrials are not made to wait for days on end behind bars to be released because the certified hard copies of their bail orders took time to reach the prison. The system would also prevent unnecessary arrests and custody of people even after the court had already granted them its protection. It may even communicate a stay on an execution ordered by the final court on time. The process to develop the FASTER system began with the CJI's observations in court on July 16, "In this modern era of technology, why are we still looking at the skies for pigeons to deliver our orders?" The court hearing was based on a suo motu case. The suo motu case was taken after The Hindu reported the plight of 13 prisoners in an Agra jail, who suffered imprisonment for up to two decades despite the Juvenile Justice Board declaring them 'juveniles' at the time of commission of their crimes. The top court had granted them bail on July 8, but they were released by the prison authorities after a delay of four days.

HC REMARKS ON EWS QUOTA SET ASIDE

The Supreme Court on Friday set aside a Madras High Court observation that the Centre ought not to have provided 10% reservation for economically weaker sections (EWS) in the all India quota (AIQ) medical seats without obtaining the express approval of the Supreme Court. The High Court's remarks in August came while closing a contempt of court case filed by the DMK. "This observation has to be set aside because it has nothing to do with the contempt plea... The observation by the High Court was unnecessary for deciding the contempt," Justice D.Y. Chandrachud, sharing a Bench with Justice B.V. Nagarathna, observed. However, Justice Chandrachud made it very clear that the HC's observations were being set aside only because they were made while dealing with a contempt plea and had strayed outside its jurisdiction. The top court refrained from making any comment about the merits of the EWS quota issue. Instead, the



court scheduled for October 7 a detailed hearing of a batch of petitions challenging the entirety of the Centre's July 29 notification of 27% reservation for OBC and 10% for EWS in the NEET-AIQ seats. The High Court had approved a July 29 notification of the Central government providing 27% reservation to OBC candidates for admission in central medical colleges under the AIQ. It, however, said the inclusion of a further 10% by way of vertical reservation for EWS would be impermissible until the top court approved it. It, however, had said that the inclusion of a further 10% by way of vertical reservation for EWS would be impermissible until the top court approved it. The Centre had rushed to the top court on September 3 against the observation, saying: "It was unnecessary for the High Court to have gone into an evaluation of the July 29 notification..." "In a contempt case, the High Court went ahead and examines all other issues... We had started the process [the implementation of 10% EWS quota as per the July 29 notification]. But the HC observation made us stop," Additional Solicitor General K.M. Nataraj, for the Centre, submitted. The quota covers undergraduate and postgraduate medical and dental courses, starting from the current academic year. The government believes the quota policy would help marginalised sections get better opportunities. Senior advocate Shyam Divan, for the petitioners, said the July 29 notification was unconstitutional. Senior advocate Arvind Datar, also for the petitioners, said the notification raises the question whether ₹8 lakh should be the criteria for considering the EWS category. The petition also said it has to be examined whether there would be vertical or horizontal reservation. Mr. Datar said the such quota sucks away over 2,500 seats from the general category. The petitioners contended that the selection process had already begun for the academic year and cannot be interfered with. The implementation of the quota policy now would cause grave injustice, they contended.

National ramifications

Senior advocate Kapil Sibal, for Tamil Nadu, said the question of the EWS quota is pending before a Constitution Bench. He made a subtle point that the EWS has national ramifications and all the States should be heard by the court. Senior advocate P. Wilson, for DMK, said it was the party's petition that made reservations in All India Quota seats across the country.

COURT IS WATCHING

The Supreme Court said Thursday that it would set up a committee of experts to study the allegations of illegal surveillance using Pegasus spyware and issue orders next week. Expert panels appointed by the court always test the separation of powers but in this case, the move is vital and welcome. When the executive cites national security, a probe under an SC-appointed committee has more credibility than one by a government panel. At stake are vital issues involving civil liberties, including the right to privacy of citizens, the integrity of institutions and due process. The public is entitled to know, as the court said, "whether this spyware has been used by the government by any other method other than permissible under the law". Since the Pegasus Project, a collaborative journalism enterprise, reported by The Wire in India, revealed that a spyware developed by Israeli firm NSO Group is being surreptitiously used to snoop on politicians, journalists, civil liberties activists — three journalists of The Indian Express were on the list, two current, one former — the government has been cagey about clearing the air. Though the Minister of State for Defence told Parliament that his ministry "had not carried out any transaction with NSO Group Technologies" — the NSO has clarified that it trades only with sovereign governments — Solicitor



*General Tushar Mehta told the Supreme Court that the government cannot be made to answer whether or not it uses Pegasus spyware. Mehta reasoned that a clarification on this matter by the government would alert terrorists and compromise national security. While the government filed a short affidavit in the Supreme Court, when proceedings began on a clutch of petitions filed by journalists and the Editors Guild of India, it backtracked from filing a detailed affidavit that it had promised the court, earlier this month. However, the government offered to set up a panel of experts to look into the allegations and submit a report to the court. At every step, the government has cited national security to avoid a discussion on Pegasus — its refusal to allow a debate on the matter in Parliament resulted in the Opposition disrupting the Monsoon Session. The government's defence of its intransigence — that terrorists would be alerted if it speaks — is weak since *no one has asked for the names of terrorists under surveillance. What is being asked is whether state agencies used the spyware to snoop on journalists, Opposition politicians, human rights activists, bureaucrats etc., and if so under whose authorisation.* If it has not, it is as much a task of the government to probe if any outside agency has used the spyware on Indian citizens since the petitioners have claimed that forensic analysis revealed tampering of their gadgets. *The Supreme Court has been the custodian of personal freedoms and has been an alert watchdog whenever the executive and legislature have transgressed the red lines that separate the state's authority from the domain of individual rights, including the right to privacy. India's stance on Pegasus has been in sharp contrast to other governments, which have taken serious note of the revelations and set up probes.* The court has rightly recognised that the likes of Pegasus pose a threat to core values of democracy as well as the autonomy and credibility of institutions and processes. Its panel and its work are keenly awaited.*

THIS JUDICIAL SELECTION NEEDS MORE THAN A TWEAK

In recent weeks, the Supreme Court of India's collegium has been busy. New judges have been appointed to the Court on its advice and long overdue vacancies have been filled up. Now, after a meeting held on September 16, the body has made proposals to alter the existing composition of various High Courts. When these recommendations are notified, new Chief Justices will be appointed to as many as eight different courts, five existing Chief Justices will swap positions with others, and a slew of puisne judges will be moved to new courts.

A need for transparency

These recommendations are seen as reflective of a new and proactive collegium. A resolve for swiftness is fine as far as it goes; clearing up vacancies is a minimal requirement of a functioning system. What ought to concern us, though, is that long-standing apprehensions about the collegium's operation remain unaddressed: specifically, its opacity and a lack of independent scrutiny of its decisions. These misgivings are usually seen in the context of a battle between the executive and the judiciary. Less evident is the effect that the failings have on the status of the High Courts. Today, even without express constitutional sanction, the collegium effectively exercises a power of supervision over each of the High Courts. For nearly two years, despite vacancies on the Bench, the collegium made no recommendations for appointments to the Supreme Court. The conjecture in the press was that this logjam owed to a reluctance amongst some of its members to elevate Justice Akil Kureshi to the Court. Indeed, it was only after a change in its composition that the panel recommended on August 17 a list of names for elevation. This list



did not contain Justice Kureshi's name. The perfunctory nature of the collegium's resolutions means that we do not know the reasons for his exclusion. We also do not know why five Chief Justices, including Justice Kureshi, and several other puisne judges are now being transferred to different courts. This is not to suggest that these decisions are unfounded. It is possible that each of the choices made is predicated on administrative needs. But whatever the rationale, surely the public has a right to know.

The middle course

Separation of powers is a bedrock principle of Indian constitutionalism. Inherent in that idea is the guarantee of an autonomous judiciary. To that end, the process of appointing and transferring judges assumes salience. But the question of how to strike a balance between the sovereign function of making appointments and the need to ensure an independent judiciary has long plagued the republic. The Constitution's framers wrestled over the question for many days. Ultimately, they adopted what Dr. B.R. Ambedkar described as a "middle course". That path stipulates the following: Judges to the Supreme Court are to be appointed by the President of India in consultation with the Chief Justice of India (CJI) and such other judges that he deems fit. Judges to the High Courts are to be appointed by the President in consultation with the CJI, the Governor of the State and the Chief Justice of that court. In the case of transfers, the President may move a judge from one High Court to another, after consulting the CJI.

Where primacy rests

In this design, there is no mention of a "collegium". But since 1993, when the Supreme Court rendered a ruling in the Second Judges Case, the word consultation has been interpreted to mean "concurrence". What is more, that concurrence, the Court held there, ought to be secured not from the CJI alone, but from a body of judges that the judgment described as a "collegium". Thus, the Court wound up creating a whole new process for making appointments and transfers and carved out a system where notional primacy came to rest in the top echelons of the judiciary. This procedure has since been clarified. The collegium for appointments to the Supreme Court and for transfers between High Courts now comprises the CJI and his four senior-most colleagues, and for appointments to the High Courts comprises the CJI and his two senior-most colleagues. When appointing judges to the High Courts, the collegium must also consult other senior judges on the Supreme Court who had previously served as judges of the High Court under consideration. All of this is contained in a "Memorandum of Procedure" (MoP). But there is, in fact, no actual guidance on how judges are to be selected.

The NJAC and after

In 2015, Parliament sought to undo the labyrinthine procedures put in place by the Court through the 99th Constitutional Amendment. The National Judicial Appointments Commission (NJAC), that the law created, comprised members from the judiciary, the executive, and the lay-public. But the Court scuppered the efforts to replace the collegium and it held in the Fourth Judges Case that judicial primacy in making appointments and transfers was an essential feature of the Constitution. In other words, the Court held that a body that found no mention in the actual text of the Constitution had assumed a position so sacrosanct that it could not be touched even by a constitutional amendment. To be sure, the NJAC was far from perfect. There were legitimate fears



that the commission might have resulted in the appointment of malleable judges. Therefore, it is plausible to argue that until a proper alternative is framed, the collegium represents the best solution; that allowing senior judges of the Supreme Court primacy in matters of appointments and transfers is the only practical way to guarantee the independence of the judiciary. But when the Court struck down the NJAC, it also promised to reform the existing system. Six years down the line those promises have been all but forgotten. A new MoP, for instance, is nowhere in sight. The considerations that must go into the procedure for selecting judges is left unexplained. The words “merit” and “diversity” are thrown around without any corresponding debates on what they, in fact, mean. Somehow, amidst all of this, we have arrived at a consensus that enveloping a veil over the process of selection is essential to judicial autonomy, and that there is no legitimate reason why the public ought to know how judges are chosen and transferred. In the case of the latest set of recommendations, five Chief Justices of High Courts have been reshuffled. Our constitutional scheme envisages no power of administrative superintendence in the Supreme Court over the High Courts. But when transfers are made routine, when the process of appointing Chief Justices to High Courts is shrouded in secrecy, a de facto system of oversight is put in place.

Getting back the shine

It is clear that we have come a long way from a time when Chief Justices of High Courts declined invitations to the Supreme Court, because they valued the work that they were already entrusted with. Restoring High Courts to that position of prestige must be seen as essential to the process of building trust in our Constitution. Achieving this will no doubt require more than just a tweak in the process of appointments. But what is clear is that the present system and the mysteries underlining the decision-making only further dilute the High Courts’ prominence. When Chief Justices are moved around with alacrity, and when they are accorded tenures lasting a matter of months, at best, it is impossible for them to make any lasting changes. At some point we must take seriously the task of reforming the existing scheme, because the status quo is ultimately corrosive of the very institutions that it seeks to protect.

JUDGE SETS UNUSUAL BAIL CONDITION

In an unusual order, a local court in Bihar’s Madhubani district has granted bail to an accused charged with outraging the modesty of a woman and attempted rape, on the condition that he washes and irons the clothes of all women of the village free of cost for six months. The accused is required to obtain a certificate of completion from the mukhia (village headman) or any respectable public servant of the village and file the same in court. Additional Sessions Judge-1 of Jhanjharpur Avinash Kumar also asked the accused to furnish a bail bond of ₹10,000 with two sureties of the same amount. Earlier in August this year, Judge Kumar had granted bail to a man arrested under the State’s prohibition laws on the condition that he paid for the education of five poor children for three months and their parents duly certified it. His latest order followed a virtual bail hearing of Lalan Kumar Safi, 20, a washerman by profession, lodged at Laukaha police station of Madhubani district since April 19. “The petitioner shall wash and iron the clothes of all women of the village of informant, including informant/victim free of cost for six months and after completion of six months shall obtain a certificate from mukhia/sarpanch or any respectable public servant of the village and file it in the court concerned,” said the judge in his order on September 16.



THE SURVEILLANCE TRAP

India has seen a rapid deployment of Facial Recognition Systems (FRS) in recent years, both by the Centre and State governments, without putting in place any law to regulate their use. The growing unabated use of this potentially invasive technology without any safeguards, legal experts say, poses a huge threat to the fundamental rights to privacy and freedom of speech and expression of the citizens. Currently, 18 FRSs are in active utilisation by the Centre and State governments for the purpose of surveillance, security and authentication of identity, and 49 more systems are in the process of being installed by different government agencies. The national capital has three FRSs in active utilisation by Delhi Police (security/surveillance), New Delhi Airport (authentication of identity), and Indian Institute of Technology (authentication of identity). Three more FRSs are in the process of being installed. Only Telangana is ahead of Delhi at present with four facial recognition systems in active utilisation for surveillance and authentication of identity, according to data published by Project Panoptic, which tracks deployment and implementation of such systems across India. Delhi Police was the first law enforcement agency in the country to start using the technology in 2018. It is important to note that the facial recognition technology is being used in Delhi without any legal framework in place to regulate it, said Anushka Jain, associate counsel (surveillance and transparency) at Internet Freedom Foundation.

HC order

In response to an RTI query filed by Project Panoptic over the legality of the use of FRSs, Delhi Police, on February 20, 2020, replied that it was authorised by the Delhi High Court in terms of the decision in the case of 'Sadhan Haldar vs NCT of Delhi'. In that particular case, the High Court had authorised the Delhi police to obtain facial recognition technology for the purpose of tracking and reuniting missing children. On the question of any guidelines or standard operating procedure guiding the use of facial recognition technology, Delhi Police replied, "FRS may be used in investigation in the interest of safety and security of general public." Ms. Jain pointed out that Delhi Police was now using the FRS, which was meant for tracking missing children, for wider security and surveillance and investigation purpose. There is a "function creep" happening with Delhi Police gradually using the technology beyond its intended purpose, said Ms. Jain, giving examples of use of FRS to identify accused who took part in the farmers' tractor rally violence in January this year. Earlier, Delhi Police took the help of Automated Facial Recognition System (AFRS) to compare the details of people involved in the violence during the protests against the Citizenship (Amendment) Act at Jamia Millia Islamia in 2019 with a data bank of more than 2 lakh "antisocial elements". The police have also been using facial recognition software to track down the suspects involved in the north-east Delhi riots that left 53 people dead.

Bring accountability

Surveillance of any kind happens in secret and the people generally don't know that they are being watched, Ms. Jain said, adding that "there is a very obvious power dynamic and power imbalance which happen when surveillance takes place". "Citizens are powerless because they don't know what is happening in the name of surveillance. The public needs to know what the government is doing in order to hold them accountable," Ms. Jain said. She said the idea behind Project Panoptic



is to bring light to the fact that these technology systems are being used without any laws in place to regulate them.

COMPLEX COUNT

The idea of a national caste census might be abhorrent when the stated policy is to strive for a casteless society, but it will be useful to establish statistical justification for preserving caste-based affirmative action programmes. It may also be a legal imperative, considering that courts want *'quantifiable data' to support the existing levels of reservation*. Political parties with their base in particular social groups may find a caste enumeration useful, if their favoured groups are established as dominant in specific geographies; or they may find the outcome inconvenient, if the precise count turns out to be lower and has a negative bearing on perceptions about their electoral importance. *In this backdrop, the Union government's assertion in the Supreme Court that a census of the backward castes is "administratively difficult and cumbersome" may evoke varying responses*. There are two components to the Government's stand. First, it asserts that it is a policy decision not to have caste as part of the regular census and that, administratively, the enumeration would be rendered so complex that it may jeopardise the decennial census itself. Second, it cites the difficulties and complexities inherent in getting an accurate count of castes, given the mind-boggling numbers of castes and sub-castes, with phonetic variations and similarities, that people returned as their caste in the Socio-Economic Caste Census (SECC) conducted in 2011. *The Government has said data from the 2011 SECC were not acted upon because of "several infirmities" that rendered them unusable*. Even in the Censuses up to 1931, when caste details were collected, they were wanting in completeness and accuracy. Further, the data contained *46 lakh different caste names, and if subcastes were considered, the ultimate number may be exponentially high*. These points do merit consideration, and even those clamouring for a caste census cannot easily brush them aside. However, these need not mean that an enumeration of the social groups in the country is impossible. A caste census need not necessarily mean caste in the census. It may be an independent exercise, but one that needs adequate thought and preparation, *if its ultimate goal is not for political or electoral purposes, but for equity in distribution of opportunities*. A preliminary socio-anthropological study can be done at the State and district levels to establish all sects and sub-castes present in the population. These can be tabulated under caste names that have wider recognition based on synonymity and equivalence among the appellations that people use to denote themselves. Thereafter, it may be possible to do a field enumeration that can mark any group under castes found in the available OBC/BC lists. *A caste census may not sit well with the goal of a casteless society, but it may serve, in the interim, as a useful, even if not entirely flawless, means of addressing inequities in society*.

RAILWAYS FALLING FOUL OF CVC NORMS

In what could be a major setback to the Vigilance Directorate of the Railways, Principal Economic Adviser, Ministry of Finance, Government of India, Sanjeev Sanyal has said the organisation is functioning in violation of the Central Vigilance Commission (CVC) guidelines. Railway sources said the Principal Economic Adviser's note raises questions on the legality of the decisions made in the past and pending cases of the Vigilance Directorate relating to allegations of corruption and other irregularities involving thousands of employees, including senior officers, in the past. In his report on the 'Rationalisation of Government Bodies and Proposal for the Ministry of Railways',

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



Mr. Sanyal said the Railways had the largest Vigilance Directorate in the Central government with over 1,170 personnel, including 192 officers. But the administrative structure is not compliant with the CVC guidelines. While the CVC had mandated in its circular issued in 2001 that the Chief Vigilance Officer of an organisation should be external, the post is being appointed with internal officers in the Railways. "In fact, all posts in the Vigilance Directorate of the Railways, except Director Vigilance which is filled from the Indian Police Service, are internal. Further, in many cases, these Vigilance Officers have tenures longer than what is permitted by the CVC. This is in violation of the CVC guidelines...", he noted. In its recommendations, the expert panel headed by Mr. Sanyal said the Railways should ensure that the Vigilance Directorate adhered to the CVC guidelines. In case certain roles required technical skills that necessitated internal appointments, such posts should be identified and clearly notified. The Railways is one of the largest employers with over 12 lakh staff and officers. Though the CVC guidelines prescribe that the CVO should be appointed from other Ministries for a certain tenure, the post in the rank of a Senior Deputy General Manager is filled internally. The organisation deals with allegations of corruption, misappropriation of funds, abuse of official power and other irregularities and recommends punishments ranging between stoppage of increments and dismissal.

Merger of Directorates

The report also said the number of Directorates in the Railway Board be reduced from 52 by merging Directorates that had similar functions. It was recommended that the Traffic Transportation Directorate be merged with the Traffic Commercial Directorate, Economics with Statistics & Economics, Tourism & Catering with Heritage, Infrastructure with Land & Amenities and Accounts, Accounting Reforms, Finance, Finance (Budget), Finance (Expenditure) be merged into one as Finance & Accounts Directorate.

FERTILITY RATES OF HINDUS AND MUSLIMS CONVERGING

A new study on the religious composition of India's population since Partition said due to the "declining and converging fertility patterns" of Hindus and Muslims, there have been only marginal changes in the overall religious composition of the population since 1951, the year India conducted its first Census as an independent nation. From 1992 to 2015, the total fertility rates of Muslims declined from 4.4 to 2.6, while that of Hindus declined from 3.3 to 2.1, indicating that "the gaps in childbearing between India's religious groups are much smaller than they used to be," said the study published by the Pew Research Center, a non-profit based in Washington D.C. The average fertility rate in India today was 2.2, which was higher than the rates in economically advanced countries such as the U.S. (1.6), but much lower than what it was in 1992 (3.4) or 1951 (5.9).

Marked slowdown

Although growth rates had declined for all of India's major religious groups, the slowdown had been more pronounced among religious minorities, who outpaced Hindus in the earlier decades. Between 1951 and 1961, the Muslim population expanded by 32.7%, 11 percentage points more than India's overall rate of 21.6%. But this gap had narrowed. From 2001 to 2011, the difference in growth between Muslims (24.7%) and Indians overall (17.7%) was 7 percentage points. India's Christian population grew at the slowest pace of the three largest groups in the most recent



Census decade — gaining 15.7% between 2001 and 2011, a far lower growth rate than the one recorded in the decade following Partition (29.0%). In terms of absolute numbers, every major religion in India saw its numbers rise. In percentage terms, between 1951 and 2011, Muslims grew by 4.4 percentage points to 14.2% of the population, while Hindus declined by 4.3 points to 79.8%. But all the six major religious groups — Hindus, Muslims, Christians, Sikhs, Buddhists and Jains — have grown in absolute numbers. The sole exception to this trend are Parsis, whose number halved between 1951 and 2011, from 110,000 to 60,000. Interestingly, out of India's total population of 1,200 million, about 8 million did not belong to any of the six major religious groups. Within this category, mostly comprising adivasi people, the largest grouping was of the Sarnas (nearly 5 million adherents), followed by the Gond (1 million) and the Sari Dharma (5,10,000). Observing that a preference for sons over daughters could play a role in overall fertility, the study noted that sex-selective abortions had caused an estimated deficit of 20 million girls compared with what would naturally be expected between 1970 and 2017, and that “this practice is more common among Indian Hindus than among Muslims and Christians”. Cautioning that religion was by no means the only or even the primary factor affecting fertility rates, the study noted that women in central India tended to have more children, with Bihar and Uttar Pradesh showing a total fertility rate (TFR) of 3.4 and 2.7 respectively, in contrast to a TFR of 1.7 and 1.6 in Tamil Nadu and Kerala respectively. With regard to migration as a driver of change in the religious makeup, the study said since the 1950s, migration has had only a modest impact on India's religious composition. More than 99% of people who live in India were also born in India, and migrants leaving India outnumber immigrants three-to-one, with “Muslims more likely than Hindus to leave India”, while “immigrants into India from Muslim-majority countries are disproportionately Hindu.” The study also cast doubt over the speculated numbers of undocumented immigrants in India, noting, “If tens of millions of Muslims from nearby countries had indeed migrated to India, demographers would expect to see evidence of such mass migration in data from their countries of origin, and this magnitude of outmigration is not apparent.” Religious conversion has also had a negligible impact on India's overall composition, with 98% of Indian adults still identifying with the religion in which they were raised.

INDIA'S RELIGIOUS MIX STABLE SINCE PARTITION

The religious composition of India's population since Partition has remained largely stable, with both Hindus and Muslims, the two largest religious groups, showing not only a marked decline but also a convergence in fertility rates, according to a new study by the Pew Research Center, a non-profit based in Washington DC. The study, based on data sourced from India's decennial census and the National Family Health Survey (NHFS), looked at the three main factors that are known to cause changes in religious composition of populations — fertility rate, migration, and conversions. With regard to fertility rates, the study found that Muslims, who had the highest rate, also had the sharpest decline in rates.

TACKLING HATE SPEECH

A speech by a Bishop belonging to the Syro-Malabar Church in Kerala has caught attention for the wrong reasons. Mar Joseph Kallarangatt, the Bishop of Pala, a small city in Kerala, coined the term ‘narcotic jihad’. He accused a few Muslim groups of giving Catholic girls narcotics or wooing them



with the aim of religious conversion or of taking them to terrorist camps abroad. The speech aimed at a particular religion has a divisive tone.

Understanding hate speech

This controversy has occasioned intriguing questions about hate speech regulation. It is important to consider — philosophically and morally — what justifies prohibiting hate speech. In *Chaplinsky v. New Hampshire* (1942), the U.S. Supreme Court held that their Constitution does not protect “insulting or ‘fighting’ words — those which, by their very utterance, inflict injury or tend to incite an immediate breach of the peace.” This is the core principle behind hate speech prohibition. It is important to think why liberal democracies prohibit some types of speech on grounds that they are ‘injurious’. An important answer is based on the dignity and equality of individuals. Every person is entitled to basic human dignity and decent treatment. Lord Bhikhu Parekh, a British academic, said: “(Hate speech) views members of the target group as an enemy within, refuses to accept them as legitimate and equal members of society, lowers their social standing, and... subverts the very basis of a shared life. It creates barriers of mistrust and hostility between individuals and groups, plants fears, obstructs normal relations..., and... exercises a corrosive influence on the conduct of collective life.” In *Pravasi Bhalai Sangathan v. Union of India* (2014), the Supreme Court of India quoted from the Canadian Supreme Court’s decision in *Saskatchewan v. Whatcott* (2013). It said that hate speech “impacts a protected group’s ability to respond to the substantive ideas under debate, thereby placing a serious barrier to their full participation in our democracy.” This idea resonates well in India’s political context. Being a minority in an aggressively Hindu majoritarian political climate, Muslims are left defenceless against a rhetoric of hatred against them. This rhetoric has not only led to a climate of fear for Muslims, but to cases of violence carried out solely on the basis of their identity. Relentless accusations have successfully sidelined the real concerns of the community, including social and educational backwardness.

The Indian legal position

Values of social tranquility and substantive equality justify laws such as Section 153-A of the Indian Penal Code (IPC) which prohibits “promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc. and doing acts prejudicial to maintenance of harmony”. The very genesis of the provision indicates that emphasis was given to societal integrity which the law thrives to preserve. The provision in its erstwhile form was incorporated by way of the Penal Code Amendment Act of 1898. The Select Committee rejected the proposal to add this provision along with Section 124-A of the IPC (sedition) saying that the former is more concerned with “public tranquility” than the security of the state. It said: “The offence only affects the Government or the State indirectly and the essence of the offence is that it predisposes classes of people to action, which may disturb the public tranquility.” It is this communitarian element that makes the law still relevant, while the sedition law has become dangerous and obsolete. The law, in contemporary politics, suffers from disuse and misuse. This is an issue at the operational level, i.e., how the law is implemented and enforced. On the one hand, remarks with tendencies towards hatred and violence, especially against Muslims, are ignored. On the other, vague references against the majoritarian agenda are often charged under this provision. The Kerala incident, unfortunately, is not an isolated one. In a national scenario where hate has become an ideology and its impact on society is fatal, we need to think about countering it with political and



jurisprudential means. In India, hate speech is not defined under the Constitution or in the penal statutes. There is no specific legislation on it. It is not easy to design an accurate anti-hate speech law, due to its inherent potential for misuse. This is why we need a political and pedagogical solution to the menace. The Constitution's ideas of equality, liberty and fraternity must be made topics of continuing public education. Whenever hate speech thrives, the state should invoke the existing law judiciously in appropriate cases. It must also take a secular stand based on the rule of law and educate the masses.

A FLICKER OF HOPE

India's count of active COVID-19 cases has hit a six-month low with the number dropping to 3,00,162, according to a Friday bulletin from the Health Ministry. Helped by the nearly 56 crore tests done so far, positivity rates — or the percentage of those tested who turn out positive — have also been showing encouraging trends. The weekly positivity rate has been less than 3% for the last 91 days and the daily positivity rate has been around 2% for the last 25 days. But this is no time to be complacent. Last September, active cases in India appeared to have peaked at a little over 10 lakh after which there was a steady decline. Around December 20 it had gently descended to a little around 3,00,000 or the levels seen today. Around the same time, the first reports of the clinical trial successes of the Pfizer-BioNTech, Moderna and AstraZeneca vaccine brought cheer. Even India's home-grown vaccines seemed to be around the corner, and all of these triggered an optimism that India may have passed the worst. The lack of alacrity in hunting for new mutations, underlying dangerous new variants, meant that the insidious emergence of the Delta variant, which caused the catastrophic peak in April-May, was only understood in hindsight. The nature of the virus, its propensity to evade antibodies and the inevitable socialisation that normal life entails means that there is no absolute nadir in a country's pandemic trajectory at which it can be sure that a fresh threatening wave will not rise again. The 3,00,000 active cases last December, saw around 300 deaths being reported every day. Even today, those numbers are fairly similar. While the spread of infection can be controlled in limited ways, the availability of vaccines and the fact that many large countries now are getting closer to having half their population inoculated with at least one dose means that the biggest threat associated with the pandemic — severe disease and death — is much more tractable than last year. Because crores of Indians have been vaccinated, and Government officials have optimistic projections that most adults will be vaccinated with at least a single dose by the year end, there is again an air of optimism. This time, however, the Government messaging is more cautious with warnings that the second wave was yet to abate, and recommendations of continued behavioural caution. This is also accompanied by projections that say, at its worst, a possible third wave cannot be as catastrophic as the second wave peak, even accounting for significantly more infectious and lethal variants suddenly emerging. Thus, to expand vaccination and track new variants are the only real ways forward.

A WELCOME DECISION

In a welcome move to address the huge vaccine inequity globally, India will, from October, resume exporting much needed COVID-19 vaccines. The decision comes after the Government severely restricted vaccine exports in March and stopped them in mid-April. The renewed export drive, known as Vaccine Maitri, will first prioritise the global vaccine-sharing platform, COVAX, and neighbouring countries. Just four days after the vaccination programme kicked off in India on

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January 16, India shipped the first batch of vaccines to Bhutan and the Maldives as a part of its vaccine diplomacy. Till mid-April, India had supplied nearly 20 million doses to COVAX and donated nearly 11 million, while nearly 36 million doses were sold to 26 countries. But with the daily fresh cases and deaths in the second wave beginning to surge in March and the supply of vaccines from the two manufacturers not meeting domestic demand, the priorities quickly changed and the export of vaccines was put on hold. It became possible to export vaccines till March mainly due to the slow uptake of vaccines by health-care and frontline workers and Covishield vaccine manufactured late last year nearing the six-month expiry date. The daily uptake of vaccines began climbing steadily with vaccine eligibility too — all above 45 years from April 1 and all adults above 18 years from May 1. With most developed countries hoarding vaccines and prioritising their vaccination, and India too halting all exports, vaccine supply to the COVAX facility has been hit. As a result, about 80% of the nearly six billion doses administered globally have been in high- and upper middle-income countries. Vaccine inequity is striking in Africa — just 2% of the six billion doses have been administered here and less than 3.5% of its people fully vaccinated. While efforts are being made through COVAX to increase vaccine supply to Africa, the continent will still end up with 25% fewer doses than anticipated by the end of 2021. Only 15% of the over one billion doses pledged by the developed countries have reached Africa, which has made unsuccessful attempts to buy vaccines. And now, with the U.S. and other developed countries focusing efforts on approving booster doses for certain categories, the supply of vaccines to Africa and other countries to immunise even health-care workers will continue to be restricted. A vaccination policy that leaves many of the countries in the Global South vaccine deprived will be hugely counterproductive. As long as vaccine inequity prevails, the virus will continue to circulate, thereby increasing the possibility of more dangerous variants, far more transmissible and resistant to vaccines than Delta, emerging. India's decision to resume vaccine exports is, hence, commendable. The need to quickly ramp up vaccine production here to sustain exports even while meeting the ever-rising domestic demand cannot be overemphasised.

A SPIKE

India on September 17 administered a record 2.5 crore vaccine shots, which an ebullient Health Ministry said was the equivalent of the populations of the whole of Australia, two-thirds of Canada and five times that of New Zealand. The only other comparison would be China's pace of vaccination — 2.47 crore shots on a single day. Thus, 2.5 crore means 62% Indian adults have now got at least one dose and one in five fully inoculated. Friday's drive was part of a concerted push by BJP-ruled States to boost vaccination numbers as a birthday gift to Prime Minister Narendra Modi. But to encourage a behavioural nudge when supply is abundant and demand is not commensurate — as in the U.S. — and have a marked supply shortage even as vaccine production continues — as in India — are two different things. Bharat Biotech was supposed to be supplying 6-7 crore doses a month from July-August and 10 crore doses a month from September, according to a Department of Biotechnology statement in April. This would mean at least 52 crore doses from July-December, of which 40 crore is to be supplied from September-December. Since the vaccination drive began, only nine crore doses of Covaxin have been administered as of last week — at least three crore short. Several cabinet Ministers, in summer, had boasted that India would inoculate its adult population (about 94 crore) by the year end. This will require over 185 crore doses, or close to one crore inoculations a day; India has now crossed the 80 crore mark. Before the birthday drive, India's most recent seven-day average was 0.6-0.7 crore. Bihar, Karnataka,

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Madhya Pradesh and Gujarat, which saw among the highest vaccination spikes on September 17, delivered 6-10 times their previous seven-day average. India is once again on a downswing as far as daily coronavirus numbers go, but at close to 30,000 cases a day is nowhere near the all-time low of nearly 10,000 daily cases in February which preceded the catastrophic second wave. The globally most prevalent Delta variant may have already washed over large swathes of India, but waning immunity and the emergence of variants capable of immune escape are thriving too. With educational institutions set to open in a big way during the winter and crores of unvaccinated children vulnerable, the imperative should be to boost daily supplies. India is lucky that there is so far no discernible vaccine scepticism and hesitancy and it has only to really bother with producing and delivering the jab painlessly. Instead of positioning vaccine drives as opportunities to set vacuous records, the Centre must prioritise vaccines to States and districts that are at greatest infection risk and follow up with vaccine makers to speed up and make good on their commitments.

VITAL RELIEF

It took an assertive Supreme Court to persuade a reluctant Centre, and in a welcome turn of events, families of those who died of COVID-19 are to get ex gratia financial relief of ₹50,000 per deceased individual within 30 days of submitting the necessary documents. The staggering impact of the pandemic cannot be meaningfully addressed with a token sum, but it nevertheless provides immediate succour to families that have lost breadwinners and productive members. No other scourge in living memory has taken a toll of tens of thousands of lives in 18 months, although India has high chronic and invisible mortality due to disease and road traffic accidents. As of September 13, WHO recorded 4,45,768 COVID-19 deaths in India and 3,35,31,498 confirmed cases, indicating that the current ex gratia outlay would be of the order of ₹2,300 crore. The relief amount proposed by the National Disaster Management Authority is to be paid out of the State Disaster Response Fund, which represents a dedicated facility to deal with notified disasters, including COVID-19; State authorities will create a people-friendly claims mechanism. Fresh audits and recertification of deaths have become an important factor, given the move by several States to keep virus mortality numbers low, attribute a significant number of deaths to co-morbidities rather than the infection, and the indisputable undercounting of lives lost in the two phases of the pandemic. The ex gratia payment decision puts the issue of compensation on a sound footing, and provides clarity for future cases, but the task before the States is to ensure that the process is easy, accurate and empathetic. It should be possible for such claimants to submit a simple form electronically. More challenging will be the issue of resolving cases where the medical certification of cause of death has not acknowledged it as COVID-19. In fact, such disputes have already entered the realm of litigation, with families seeking judicial relief, because doctors refuse proper certification and cite underlying conditions of patients based on Government instructions. Also, the Centre must consider providing additional compensation in the future, treating COVID-19 on a par with other disasters such as cyclones, major accidents, building collapses and industrial mishaps, where the Prime Minister's National Relief Fund has been sanctioning ₹2 lakh for death and ₹50,000 for serious injury. In a positive move, the demand for inclusion of COVID-19 cases for compensation where people took their own lives due to mental agony has been accepted. Going forward, the Centre must now quickly set up risk insurance for disasters as suggested by the XV Finance Commission, to which States will readily contribute.



A DISEASE SURVEILLANCE SYSTEM, FOR THE FUTURE

A defining moment in the history of epidemiology was the removal of the handle of a water pump. This is a spectacular story. In 1854, when a deadly outbreak of cholera affected Soho area of London, John Snow (1813-1858), a British doctor and epidemiologist, used the health statistics and death registration data from the General Registrar Office (GRO) in London, to plot on a map of the area, the distribution of cholera cases and deaths. He observed that a majority of cases and deaths were in the Broad Street area, which received supply from a common water pump, supporting his theory that cholera was a waterborne, contagious disease. The collection of health data and vital statistics by the GRO had improved over the previous decade-and-a-half due to untiring efforts put in by another medical doctor, William Farr (1807-1883). Based upon the data on the time, place and person distribution of cholera cases and deaths, supplemented by a map, Snow, on September 7, 1854, could convince the local authorities in London to remove the handle of the water pump, which they reluctantly did. The cholera outbreak was controlled in a few weeks. It started the beginning of a new era in epidemiology. John Snow is often referred to as the father of modern epidemiology and William Farr as founder of the modern concept of disease surveillance system.

A nodal point

In the years to follow, epidemiology became a key discipline to prevent and control infectious diseases (and in present context for non communicable diseases as well). The application of principles of epidemiology is possible through systematic collection and timely analysis, and dissemination of data on the diseases. This is to initiate action to either prevent or stop further spread, a process termed as disease surveillance. However, in the late 19th century, with the emergence of understanding that germs cause the diseases, and then in the early 20th century, with the discovery of antibiotics and advances in modern medicine, attention from epidemiology somewhat shifted. The high-income countries invested in disease surveillance systems but low- and middle-income countries used limited resources for medical care. Then, in the second half of Twentieth century, as part of the global efforts for smallpox eradication and then to tackle many emerging and re-emerging diseases, many countries recognised the importance and started to invest in and strengthen the diseases surveillance system. These efforts received further boost with the emergence of Avian flu in 1997 and the Severe Acute Respiratory Syndrome (SARS) outbreak in 2002-04.

Surveillance in India

A major cholera outbreak in Delhi in 1988 and the Surat plague outbreak of 1994, nudged the Government of India to launch the National Surveillance Programme for Communicable Diseases in 1997. However, this initiative remained rudimentary till, in wake of the SARS outbreak, in 2004, India launched the Integrated Disease Surveillance Project (IDSP). The focus under the IDSP was to increase government funding for disease surveillance, strengthen laboratory capacity, train the health workforce and have at least one trained epidemiologist in every district of India. With that, between 2004 and 2019, nearly every passing year, more outbreaks were detected and investigated than the previous year. It was on this foundation of the IDSP (which now has become a full fledged programme) that when COVID-19 pandemic struck, India could rapidly deploy the teams of epidemiologists and public health experts to respond to and guide the response,

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coordinate the contact tracing and rapidly scale up testing capacity. The disease surveillance system and health data recording and reporting systems are key tools in epidemiology; however, these have performed variably in Indian States, as we know now from available analyses, be it seroprevalence-survey findings or the analysis of excess COVID-19 deaths. As per data from the fourth round of sero-survey, Kerala and Maharashtra States could identify one in every six and 12 infections, respectively; while in States such as Madhya Pradesh, Uttar Pradesh and Bihar, only one in every 100 COVID-19 infections could be detected, pointing towards a weak disease surveillance system. The estimated excess deaths are also higher in those States which have weak disease surveillance systems and the civil registration and vital statistics (CRVS) systems. In a well-functioning disease surveillance system, an increase in cases of any illness would be identified very quickly. An example is Kerala, arguably the best performing disease surveillance system amongst the India States, as it is picking the maximum COVID-19 cases; it could pick the first case of the Nipah virus in early September 2021. On the contrary, cases of dengue, malaria, leptospirosis and scrub typhus received attention only when more than three dozen deaths were reported and health facilities in multiple districts of Uttar Pradesh, began to be overwhelmed. The situation is not very different in States such as Madhya Pradesh and Haryana, where viral illnesses, most likely dengue, are causing hospitalisation but not being correctly identified or are being reported as mystery fever. This is a bit concerning as 18 months into the COVID-19 pandemic and a lot of political promises of strengthening disease surveillance and health systems, one would have expected a better performance. It raises the question: if the pandemic could not nudge the governments to strengthen the disease surveillance system, then what will? Or is it that difficult to strengthen the disease surveillance system?

What should be done

A review of the IDSP by joint monitoring mission in 2015, conducted jointly by the Ministry of Health and Family Welfare, the Government of India and World Health Organization India had made a few concrete recommendations to strengthen disease surveillance systems. These included increasing financial resource allocation, ensuring adequate number of trained human resources, strengthening laboratories, and zoonosis, influenza and vaccine-preventable diseases surveillance. Clearly, it is time all these recommendations are re-looked and acted upon. At a more specific level, the following should be considered by health policy makers. First, the government resources allocated to preventive and promotive health services and disease surveillance need to be increased by the Union and State governments. Second, the workforce in the primary health-care system in both rural and urban areas needs to be retrained in disease surveillance and public health actions. The vacancies of surveillance staff at all levels need to be urgently filled in. Third, the laboratory capacity for COVID-19, developed in the last 18 months, needs to be planned and repurposed to increase the ability to conduct testing for other public health challenges and infections. This should be linked to create a system in which samples collected are quickly transported and tested and the reports are available in real time. Fourth, the emerging outbreaks of zoonotic diseases, be it the Nipah virus in Kerala or avian flu in other States as well as scrub typhus in Uttar Pradesh, are a reminder of the interconnectedness of human and animal health. The 'One Health' approach has to be promoted beyond policy discourses and made functional on the ground. Fifth, there has to be a dedicated focus on strengthening the civil registration and vital statistics (CRVS) systems and medical certification of cause of deaths (MCCD). These are complementary to disease surveillance systems and often where one is weak, the other is also



functioning sub-optimally. Sixth, it is also time to ensure coordinated actions between the State government and municipal corporation to develop joint action plans and assume responsibility for public health and disease surveillance. The allocation made by the 15th Finance Commission to corporations for health should be used to activate this process.

Check the right pump

The emergence and re-emergence of new and old diseases and an increase in cases of endemic diseases are partly unavoidable. We cannot prevent every single outbreak but with a well-functioning disease surveillance system and with application of principles of epidemiology, we can reduce their impact. Sometimes, the control of a deadly disease could be as easy as the removal of a handle of a water pump. However, which handle it is to be can only be guided by coordinated actions between a disease surveillance system, a civil registration system and experts in medical statistics, and, finally, informed by the application of principles of epidemiology. Indian States urgently need to do everything to start detecting diseases, which will prepare the country for all future outbreaks, epidemics and pandemics. This is amongst the first things, which Indian health policy makers should pay attention to.

WESTERN GHATS OFFER MAJOR ADDITIONS TO FLORA

The Botanical Survey of India, in its new publication Plant Discoveries 2020 has added 267 new taxa/ species to the country's flora. The 267 new discoveries include 119 angiosperms; 3 pteridophytes; 5 bryophytes, 44 lichens; 57 fungi, 21 algae and 18 microbes. In 2020, 202 new plant species were discovered across the country and 65 new records were added. With these new discoveries the latest estimate of plant diversity in India stands at 54,733 taxa including 21,849 angiosperms, 82 gymnosperms, 1,310 pteridophytes, 2,791 bryophytes, 2,961 lichens, 15,504 fungi, 8,979 algae and 1,257 microbes. "The year 2020 will remain marked in global history for the outbreak of the COVID-19 pandemic, with the havoc it caused and still continues in 2021. This overwhelming addition of 267 plant taxa to Indian flora, which were discovered as either new species or as new distributional records for India, is nowhere less than the average number of new plant discoveries made from India during the past one-and-half decade," said A.A. Mao, Director of the Botanical Survey of India.

Balsam blossoms

Among the new discoveries this year, nine new species of balsam (*Impatiens*) and one species of wild banana (*Musa pradhanii*) were discovered from Darjeeling and one species each of wild jamun (*Syzygium anamalaianum*) from Coimbatore in Tamil Nadu and fern (*Selaginella odishana*) were recorded from Kandhamal in Odisha. There are 14 new macro and 31 new micro fungi species recorded from various parts of India. An assessment of the geographical distribution of these newly discovered plants reveals that 22% of the discoveries were made from the Western Ghats followed by the Western Himalayas (15%), the Eastern Himalayas (14%) and the Northeast ranges (12%). The west coast contributed 10% while the east coast contributed (9%) in total discoveries; the Eastern Ghats and south Deccan contribute 4% each while the central highland and north Deccan added 3% each.



BUDDHA COLLECTION ON DISPLAY SOON

The National Museum's extensive collections are set to be displayed in new locations in the city, with galleries on Buddhist art expected to be opened within the next few weeks. Work is also under way to prepare the arms and armour collection and the freedom struggle collection for display. The Buddhist galleries, located in the Archaeological Survey of India's former offices next to the National Museum, were set to be opened within a week or two, a National Museum source said on Monday. The National Museum building on Janpath is among the buildings proposed to be demolished as part of the Central Vista redevelopment project and the museum itself has moved to the North and South Block. However, the plans for these projects and timelines have not been announced. At the same time, parts of the National Museum's collections are being moved to new galleries, including in renovated barracks at the Red Fort. The National Museum's gallery on arms and armour of India would be shifted to the Red Fort within the next two months, the source said.

Freedom struggle

In addition, the gallery on the freedom struggle from 1857 onwards was being developed by the National Museum at the Red Fort and would take about four or five months to complete, the source noted. The Jammu and Kashmir display was also being developed by the National Museum, the source added. In a reply to the Lok Sabha in August, Culture Minister G. Kishan Reddy said the museum on Buddha was being "developed in a renovated century-old majestic building and spread over an area of about 15,000 square feet, surrounded by a lush green landscape". He added it was a first-of-its-kind museum on Buddha and would include over 200 objects dating back to the 1st Century CE. Mr. Reddy had further stated that the museum on the freedom struggle would have an interactive approach and tell the stories of those who fought for Independence.

ANTI-TANK MISSILE COMPLETES ALL TRIALS

The helicopter-launched Nag Anti-Tank Guided Missile (ATGM), Helina, being developed indigenously, has completed all trials and the process for issuing of acceptance of necessity (AoN) by the Army has started, said Sachin Sood, project director of Helina and Dhruvastra at the Defence Research and Development Laboratory (DRDL), Hyderabad, a laboratory of the Defence Research and Development Organisation (DRDO). "The launcher and missile are ready. There are some Human-Machine Interface [HMI] to be realised, which are going on now," Dr. Sood told The Hindu. While the cost estimate was yet to be done, each missile was expected to cost under ₹1 crore, and around 500 missiles and 40 launchers would be required initially, he added. Once the AoN is issued, the request for proposal (RFP) would be issued. Some firing trials would be done from the first production lot by the Army at a later stage. Helina is a third-generation fire-and-forget class ATGM mounted on an indigenous Advanced Light Helicopter (ALH), and has a minimum range of 500 metres and a maximum range of 7 kilometres. All issues with the minimum range had been sorted out and the integration with other weapons on the platform was over, said Dr. Sood. Stating that the Air Force had asked for the feasibility of integrating the Helina on the soon-to-be inducted Light Combat Helicopter (LCH), Dr. Sood said this would be done and would bring in economies of scale in the production of the missile. "There is also very good export potential," Dr. Sood added.



'FUND AND FACULTY' COUNT IN HIGHER EDUCATION RANKINGS

The sixth edition of the National Institutional Ranking Framework (NIRF) for higher education was released by the Union Minister of Education on September 9 2021 (<https://bit.ly/2XyL4k0>). Jubilant are those that have made it to the top 100 or have improved their rankings or scores by a few notches. Downcast are those that have slid in rank or score but are still upbeat as they are in the coveted list. Disheartened, they must already be busy finding out their faults. Those with no rank may be ready with their excuses and commitment to do better next year. Since the NIRF ranks only the top 100, an estimated 935 universities, in any case, are bound to remain shut out. Each higher educational institution in the country undergoes the trauma of hope and despair a few times a year when the Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and Quacquarelli Symonds (QS) rankings are published. Ranking may offer many advantages. Its signalling effect may help students, faculty, and prospective employer, respectively, to help them choose institutions for admission, to enhance chances for securing research funding, and target campuses for hirings. It may promote competition among institutions, which in turn leads to an overall improvement in their quality. As in present policy, ranking leads to privileges such as getting autonomy, power to offer open and distance mode programmes, and permission to enter into collaboration with foreign universities. The most useful purpose that the ranking can serve — but ignored so far — is to identify areas of improvement and then proactively to work to overcome those deficiencies and thus ensure quality and promote excellence. This would mitigate the huge difference that presently exists between the best and the rest of the Higher Education Institutions. After all, no nation can afford a few 'islands of excellence surrounded by the sea of mediocrity', condemning them to eternal inferiority.

Basis of metrics

Universities ought to offer quality dissemination of knowledge, skill and application orientation, but to attain excellence, they must make a seminal contribution in research, publications, patents and innovations. Since performance of universities cannot be measured by a single indicator, they are assessed, and ranked on a metric of measures. Most give considerable weightage to research output, quality and impact thereof. The ARWU ranks universities solely on the basis of their research performance whereas THE and QS, respectively, accord 60% and 20% weightage to research. Following the trend, NIRF accords 30% weightage to Research Performance and Professional Practices (RPP). This, in turn, is measured through the combined metric of publications (PU, 35%), combined metric of quality of publications (QP, 35%), IPR and patent (IPR, 15%) and Footprint of Projects and Professional Practice (FPPP, 15%). Analysed in this context, even the top 100 universities in NIRF, present a very disquieting trend which warrants urgent attention. The NIRF 2020 ranking (<https://bit.ly/3zpkC9F>) reveals that the best university in the country scored 92.16% on research performance. The score drastically declined to 60.52% for the 10th best university. Going further down, the 20th and the 50th best universities, respectively, scored 50.32% and 28.69%. In the case of the 100th best university, the RPP declined to as low as 4.35%. It is not difficult to guess the state of affairs of the remaining 935 universities in the country.



On salaries and research

NIRF does not disclose data on the total number of teachers but amongst a few statistics that it reports includes the total expenditure on salaries of teaching and non-teaching staff bunched together and the total number of PhD students enrolled in each of the ranked universities. Using the above two as proxy for the size of a university in terms of the faculty members and research staff, they were transposed against the Research and Professional Practice (RPP) ranks grouped in 10 categories. The data disclose in no uncertain terms that on an average, the higher the expenditure on salaries of the staff, the higher is the ranking of the university. For example, the average annual expenditure on salaries for the top 10 universities works out to be ₹391.72 crore. As against this, the universities ranked between 41-50 were found to be spending only ₹119.64 crore on salaries. Expectedly, those ranked at the bottom between 91-100, spent only ₹79.26 crore. So is the case with regard to the research scholars. Data discerns that the top 10 universities in NIRF had an average of 2,627 research scholars, whereas those ranked between 41-50 had only 1,036 PhD students on the rolls. Reinforcing the trend, the universities ranked in the bottom 10 had no more than 165 research scholars. The larger the number of research scholars, the higher the ranks of the universities in terms of RPP. What was already known intuitively is now proven by the data. To conclude, the fund and the faculty, the two most neglected areas, are critical not only for research performance but also for the overall ranking, as the two bear a high degree of positive correlation.

KASTURIRANGAN TO LEAD SYLLABUS PANEL

The Centre has started the process to revise school textbooks by appointing former Indian Space Research Organisation (ISRO) chairman K. Kasturirangan as the head of a 12-member steering committee responsible for developing a new National Curriculum Framework (NCF). Dr. Kasturirangan also chaired the drafting committee for the National Education Policy, 2020 which recommended the development of a new NCF. The steering committee has been given a tenure of three years to complete its task, said an Education Ministry statement on Tuesday. The last such framework was developed in 2005. It is meant to be a guiding document for the development of textbooks, syllabi and teaching practices in schools across the country. The subsequent revision of textbooks by the National Council of Educational Research and Training will draw from the new NCF. In fact, the steering committee will develop four such frameworks, one each to guide the curriculum of school education, teacher education, early childhood education and adult education. Apart from Dr. Kasturirangan, others on the panel who had also helped draft the NEP include former Karnataka Knowledge Commission Member Secretary M.K. Sridhar and the Central Tribal University of Andhra Pradesh Vice-Chancellor T.V. Kattimani. Other academics on the steering committee include Jamia Millia Islamia Vice-Chancellor Najma Akhtar, Central University of Punjab Chancellor Jagbir Singh, and Manjul Bhargava, an American mathematician of Indian origin. Padma Shri awardee Michel Danino, an Indian of French origin who authored a book identifying the legendary Saraswati river with a current water body, is also on the steering committee along with National Book Trust Chairman Govind Prasad Sharma and National Institute of Educational Planning and Administration Chancellor Mahesh Chandra Pant. Indian Institute of Management-Jammu Chairman Milind Kamble and Dhir Jhingran and Shankar Maruwada from the non-profit sector are also part of the panel.



EMPATHY THROUGH EDUCATION

India's National Education Policy (2020) mentions social and emotional learning (SEL) as an important facet of education. SEL is the process of learning to recognise and manage emotions and navigate social situations effectively. While the policy notes numeracy and literacy as its central aims, SEL should be an equally important goal as it supports skills such as communication, collaboration, critical thinking and creativity.

What is SEL?

SEL is foundational for human development, building healthy relationships, having self and social awareness, solving problems, making responsible decisions, and academic learning. Key elements of SEL include cultivating empathy and theory of mind. 'Empathy' is the ability to understand another person's emotions and be aware of why they might be feeling those emotions from their perspective. 'Theory of mind' is the ability to understand others' intentions, knowledge and beliefs and recognise that those might be different from your own. Research finds that students with greater social skills and emotional regulation are more likely to have success. While some people may perceive discussions surrounding SEL as "fluff", it is, in fact, rooted in physiology. Neurobiologically, various brain regions such as the prefrontal and frontal cortices, amygdala, and superior temporal sulcus are involved in the cognitive mechanisms of SEL. Interestingly, scientists have proposed that the physiological and psychological factors of SEL are inherently linked. Brain systems that are responsible for basic human behaviour, such as getting hungry, may be reused for complex mechanisms involved in SEL. This can explain why the way we feel physically directly impacts our social-emotional evaluation of the world. Despite its importance to life, SEL is often added as a chapter in a larger curriculum rather than being integrated in it. To overcome this challenge, it is vital to consider that the learning process is a social and emotional experience. The pandemic has brought unprecedented challenges for SEL as school closures reduced opportunities for students to deepen social relationships and learn collaboratively in shared physical spaces. Conversely, remote learning "gave parents the opportunity to discover their childrens' social and emotional lives," notes Jim Eagen, the head of Synapse school in California, where SEL is a key strategic pillar of the school. Even with parental involvement, the challenge of an inadequate support system for SEL remains. So, how do we move forward?

A way forward

Perhaps we can contextually adapt best practices from existing models. Synapse school seamlessly incorporates SEL into curricula through self-science classes, and places SEL centrally within the school culture. How can we sustainably incorporate SEL into education across communities, cultures, and social strata? In reality, individuals from underprivileged backgrounds have faced immense learning losses over the last one and a half years. A starting point would be to consider insights from the Indian SEL framework: one, application of SEL practices should be based on students' socioeconomic backgrounds; two, SEL strategies of caretakers and educators must align with one another; three, long-term success requires SEL to be based on scientific evidence. While policies provide guidelines, a big challenge in moving forward is unlearning old habits. The lockdowns provided an unintended reset which afforded an opportunity for positive change. As a sustainable development goal outlines, policymakers now have to ensure that future changes prioritise "inclusive and equitable quality education and promote lifelong learning

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opportunities for all.” Importantly, the onus lies on all of us to make individual contributions that will drive systemic change.

HUMANITIES, SOCIAL SCIENCES ESSENTIAL IN TECH INSTITUTIONS

The introduction of the humanities and social sciences have added value to technological institutions such as the five (originally started) IITs at Kanpur, Kharagpur, Mumbai, Chennai, and Delhi. This is an outstanding example of what can be done if faculty members with expertise in the humanities are added and encouraged to offer courses there. They add values to the entire institution and through them to the nation itself. Study of the humanities and social sciences not only adds values but is a way of understanding the complexity of society, its culture and developing a historical perspective. It makes the students take on a more socially conscious attitude, which lasts through their career as technologists. An outstanding example is the recruitment of the late Professor Usha Kumar as a full-time faculty member at IIT Kanpur (IITK) and offering of courses in the humanities, and encouraging students and the faculty to take these courses and take semester-long projects. Many did so and found these useful later in their profession as well. Such semester projects left a deep impression on these young minds and paved the way to the path they took in their future careers. This has come to be known as the Usha Kumar Model. Exemplifying this model, IITK set up a high school in its campus to help its employees, but also admits students from the Kanpur city. In addition, IITK is currently offering relief services to the city’s poor people. The alumni, current faculty and students at IIT Delhi (IITD) work closely with the local eye hospitals and eye specialists. One of its earlier alumni initiated “Project Prakash”, which offers free eye care facilities (cataract surgery, spectacles and drugs for the needy) in Delhi and its neighbourhood. Project Prakash is an ongoing project, and several current students of IITD take part in it. Also, on a different note, it was from an alumnus of IITD that the project called SPICMACAY or the Society for the Appreciation of Classical Music, Arts and Culture Among Youth got initiated, which has now spread across the country, offering annual events. SPICMACAY has made students and the general public aware of and appreciate the musical heritage that we in India can be proud of.

Study of Sanskrit

Likewise, at IIT Bombay (IITB) in Mumbai, the recruitment of professors in the humanities (ancient mathematics, languages and other themes) has triggered some students to discover ‘the wonder that was India’. Some students went on to learn and study Sanskrit. To their delight and pride, they realised why Sanskrit is called the perfect language that humans have created in the world, and how many ‘modern’ languages are derived from their parent, Sanskrit. Some other students who did not think highly of ‘pandits’ who publish yearly calendars in a variety of Indian languages, with data on eclipses, periodic extra months, and draw horoscopes for people who wish to have them. This practice that has been going on for centuries, using traditional methods of calculations. Some students at IITB decided to test this accuracy by using their laptop computers and appropriate programming software. Guess what? They found the results to coincide with what the pandits have been doing all these years! Also, thanks to the values they had learnt as students at IITB, several of its graduates now do not look down upon the illiterate and poor customers, but run their profit-making companies, each with a humane and human touch. Similarly, at IIT Madras (IITM), based in Chennai, one of its alumni decided to start his own public



health initiative at a town near Pune, which offers its services to the local population. Faculty members and students at IITM have been working regularly with the M S Swaminathan Research Foundation (MSSRF) in seawater studies and on forestations. IITM biology group interacts closely with the local medical centres and doctors. They also work with the KRM university and interact with the Cancer Centre of the KRM University nearby, working with cancer specialists. Further, they collaborate in research with the Diabetes Foundation Madras, working with its diabetologists. The oldest of all the IITs, the one at Kharagpur (IITKGP) has been offering its technology to the local medical personnel and doctors, since its very beginning. It has recently also come out with technological devices and products.

Black fungus

At the newest of them all located in Hyderabad, IIT Hyderabad (IITH), interaction with the LV Prasad Eye Institute has led to the production of corneal tissue of the eye and a hydrogel that can be used to replace the human corneal tissue. It is now marketed to a company in Bengaluru. Most recently, its scientists have devised an oral liquid solution that can treat patients suffering from black fungus that has recently affected a large number of people during the pandemic. The scientists are now ready to transfer their technology to suitable pharma partners for large-scale production. Also, at IITH, the introduction of a 'Design Centre' has led to some remarkable results from performing artists and designers. The students at this centre are delighted in listening to, learning and practising music and performing arts. In addition, IITH also has been supporting Hyderabad's SPICMACAY group, by offering funding support and its auditorium when needed. The government is keen on establishing a dozen more IITs in the coming years. Establishing the humanities and social sciences divisions in each of them is thus clearly needed in order that they too contribute to the welfare of the nation.

THE RELATIVE INCOME, SUBJECTIVE WELL-BEING CONNECT

"Well-being is attained little by little, and nevertheless is no little thing itself," pronounced philosopher Zeno of Citium. While the centrality of the notion of well-being is hard to dispute, its measurement is far from straightforward. There are two distinct approaches to measurement of well-being: one is the conventional approach of measuring it in terms of objective criterion such as income/expenditure; and the second is the growing consensus around a measure of subjective well-being/SWB/life satisfaction/happiness that takes into account not just objective criteria such as income but also individual characteristics including age, gender, schooling, religion, caste, marital status, health, employment, social networks, and the overall economic and natural environment. The intuitive appeal of SWB measures is that these are influenced not just by objective criterion of income/expenditure but also by perceptions of individuals about their experiences of whether they are better-off, just the same or worse-off. In a previous OpEd article, Kulkarni et al. ("Money vs. happiness" – Subjective well-being and income are intricately linked, The Hindu, February 18, 2021), it was argued that subjective well-being varies with level of income but at a diminishing rate. Here, however, our focus is on whether relative income (i.e., relative to that of a reference group) matters more than the level of income and, in that case, whether a shift in policy is necessary to enhance SWB. Our analysis draws upon the two rounds of the nationally representative India Human Development Survey (IHDS), conducted by National Council of Applied Economic Research (NCAER) and University of Maryland, covering the years



2005 and 2012. The data were released in 2015. Its salient features are: it is the only all-India panel survey; apart from the wide coverage of demographic, health, economic, and social variables, it asks a question on SWB. The question is: compared to seven years ago (2005), would you say your household is economically doing the same, better or worse today (2012)? Specifically, therefore, it is a measure of change in SWB, but for convenience of exposition we refer to it interchangeably as SWB, or, SWB outcomes. Admittedly, a broader coverage of both economic and social aspects (such as questions about the best possible life on a scale) would have been more helpful for comparisons with studies conducted using the Gallup World Poll. SWB and income/expenditure are positively related but at a diminishing rate. Besides, the association is weak and arguably transitory. These findings are not surprising. First, we find that the relative income effect (actual per capita income/expenditure as a fraction of the maximum in the primary sampling unit) is much larger. This is consistent with the relative income hypothesis formulated by Duesenberry (1949) and the famous Easterlin paradox (1973). This paradox states that at a point in time, SWB/happiness varies directly with income both among and within nations, but over time, happiness does not trend upward as income continues to grow. Indeed, rank in the income distribution influences life satisfaction. As a society becomes richer, the average rank does not change and thus average life-satisfaction remains stable despite income growth. The relative income hypothesis cannot by itself explain why a permanent increase in an individual's income has a transitory effect on his/her well-being, as relative standing would increase. However, the increase in relative standing can be offset by change in the reference group: with this increase, the new peers serve as a reference point, and the previous peers lose salience.

On material goods

Second, individuals adapt to material goods, and these goods yield little joy for most individuals. Thus, increases in income, which are expected to raise well-being by raising consumption opportunities, may in fact have minor lasting effect because consumption of material goods has little effect on well-being above a certain level of consumption or because of hedonic adaptation (<https://bit.ly/3zrlPNA>). This has been questioned on the grounds that there is no income threshold at which SWB diverged. Instead, higher incomes are associated with both feeling better moment-to-moment and being more satisfied with life overall. While there may be some point beyond which money loses its power to improve well-being, the current view is that the threshold may be higher than previously thought (<https://bit.ly/3nQEYX8>).

Income changes

We further analysed how relative income changed during 2005-2012. We classified relative income/expenditure into three intervals: 0-25%, >25-50% and above >50% in both 2005 and 2012. The cross-tabulation unravels sharp changes. Consider the first interval with lowest relative income, 0-25%, in 2005. About 40% remained in this interval, while about the same proportion experienced a sharp increase in relative income (by moving to the interval, >25-50%), and above a fifth a substantial increase (by moving into the interval, >50%). The next interval with higher relative income, (>25-50%), revealed a different pattern. While about 40% remained in this interval, more than a third ascended into the highest relative income interval, >50%, implying substantial narrowing of the income/expenditure disparity. However, a distressing feature was that well over one fourth experienced a marked increase of this disparity or lower relative income (i.e., by moving into the interval 0-25%). In the third interval, >50%, about 51 % remained in it,



while about one third experienced a marked reduction in relative income (by moving into the lower interval, >25-50%) and a considerably lower proportion (over 16%) registered a sharp reduction (by moving into the highest relative income interval, 0-25%).

Going forward

So, to recapitulate, the lower the relative income, the lower is SWB. What our analysis shows is that a large majority of those with lowest relative income experienced substantially higher relative incomes; also, a large majority of those in the next higher range (>25-50%) recorded significantly higher relative incomes; and, nearly half of those in the highest range of relative income (>50%) recorded lower relative incomes in 2012. During a period of steady growth of per capita income (just under 6% annually), the benefits in terms of higher relative income accrued largely to those in the lower intervals. In sum, the important policy lesson is that, instead of relentless pursuit of income growth, more attention must be given to a strategy of shared growth through remunerative employment in order to enhance well-being.

HINDI GAINS DUE TO DEMOGRAPHIC SHIFT

When the Centre launched its NIPUN Bharat scheme in July 2021 to improve foundational literacy and numeracy among primary school students, participants from non-Hindi speaking States complained that they were the ones left feeling illiterate as they could not understand either the speeches, nor the PowerPoint presentations on the scheme, all made in formal Hindi. Last August, Tamil Nadu delegates at a yoga and naturopathy training webinar claimed that the AYUSH Ministry Secretary told them if they wanted English to be used, they could leave. These incidents that made the headlines over the last year may be only the tip of the iceberg when it comes to language-related frictions in a country that has 121 languages spoken by at least 10,000 people — along with over a thousand more which have fewer speakers — but which also restricts education and governance to a handful of languages. According to the 2011 Census, Hindi and its variants are the only major languages to have gained mother tongue adherents over the last 40 years, growing from 36.99% of the population in 1971 to 43.63% by 2011. A large factor in this growth comes from demographic changes. “Fertility rates are higher among the poor and among women with less education, who comprise a higher share of Hindi speakers,” said Centre for Policy Research senior fellow Partha Mukhopadhyay, who noted that the 10 States with the highest share of Hindi speakers grew from 41.9% of India’s population in 1971 to 46.5% by 2011.

Migrants add numbers

He added that migration could be increasing the number of those whose mother tongue is Hindi even in non-Hindi speaking States. “If a Hindi-speaking poor illiterate family migrates from Bihar to Kerala, they may have fewer children than a similar family in Bihar but they’ll have more than the average Malayalam-speaking family in Kerala. This will raise the share of Hindi speakers in other such ‘destination’ States too,” he said. The Centre cites the Census’ mother tongue data to justify its stance on the languages used in governance. In March, DMK MP A.K.P. Chinraj raised a query in the Lok Sabha asking for the estimated number of people from non-Hindi speaking States who would understand the Central government’s notifications and Acts. The Home Ministry responded with Census data claiming that the Hindi-speaking population of Nagaland was 62,942, while the English-speaking population was 419. For Kerala, the figures were 51,928 and 4,471,



respectively. However, these are in fact, the number of people who claimed Hindi and English as their mother tongues, not the number who can actually speak these languages. An analysis by The Hindu of the bilingualism and trilingualism data gathered for the first time in 2011 shows that 16% of Nagaland's population said Hindi was among their top three spoken language choices, only half of the 33% who chose English. Similarly, in Kerala, 9% had Hindi among their top three languages, while 20% included English on their list. The 2021 Census will be the second to gather such data, and thus record for the first time the growth among actual speakers of a language, rather than those who claim it as their mother tongue. "So far, the Census data has not been about the knowledge of a language, but rather identity with a language," said Ayesha Kidwai, a professor of linguistics and the politics of language at the Jawaharlal Nehru University. "Hindi is identified as a language of power. When Hindi is promoted, it is not a promotion of choice, but a promotion of power." She noted that the choice of Hindi in the Census in fact subsumes 50 other choices, as variants like Bhojpuri, Rajasthani, Magadhi and Chhattisgarhi — each of which has more than a crore speakers — are all clubbed under the Hindi umbrella. In fact, only about 26% of the Indian population selected Hindi itself as their mother tongue. Almost 40% of those clubbed under the Hindi label actually chose one of the variants. At the celebration of Hindi Divas last week, Home Minister Amit Shah emphasised that "Hindi is the friend of all Indian languages" and can only progress through coexistence. Even while increasingly shifting the daily routines of governance into Hindi, the Centre has in fact taken steps to incorporate powerful regional languages. For instance, the NEET for entrance into medical programmes is now offered in 13 different languages, while engineering colleges have started offering courses in five Indian languages this year. Faced with political pushback from non-Hindi speaking States, the Centre had also amended the draft of the National Education Policy to ensure that Hindi is not imposed as a compulsory language choice for school students. While the political tussles around language in education revolve around schools, it is significant that higher education — which produces the teachers who teach the language in schools — is significantly skewed towards Hindi and English. Education Ministry data shows there were 1.3 lakh students enrolled in M.A. Hindi programmes in 2019-20, while the next highest language, Bengali, had only 22,719 students at the postgraduate level. Interestingly, English has almost 2 lakh students enrolled for Masters degrees. "Unless English is replaced at the higher education level, nothing will change. For that, speeches at Hindi Diwas are not sufficient; the government must be willing to put in the painstaking background work needed to develop curriculum, reading materials, resources and teachers for Hindi," said Abhay Kumar Dubey, who heads the Indian Languages programme at the Centre for the Study of Developing Societies. "There is a top-down pressure to promote Hindi, from the government, as well as the more organic promotion via popular culture. For English, there is a societal pressure, from the bottom-up, from a society which recognises it as a language of aspiration. Both have their engines in place," said Deepesh Chandrasekhar, an assistant professor of English at Shiv Nadar University, who has a background in linguistics. "I'm more worried about languages like Bhili or Gondi, which have lakhs of speakers, but are not in the Eighth Schedule. If a diwas is needed to promote a language, those are the languages that need it," he said.

GANDHIJI IN THE CARIBBEAN

One of the suggestions that the Mayor of San Fernando, Junia Regrello, made when I visited him in 2020 was the renovation of the statue of Mahatma Gandhi and its pedestal on the Harris promenade, named after Lord George Francis Robert Harris, one of the progressive Governors

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from 1846 to 1854. Those were the years of emancipation and the induction of Indian indentured labourers to Trinidad. His son George Robert Canning Harris, the fourth Lord Harris, was a leading English cricketer from 1870 to 1911. The promenade is house also to the memorial pillar of Eric Williams, the first Prime Minister of Trinidad and Tobago; busts of Simon Bolivar and Rodney Wilkes, legendary Trinidadian weightlifter; and a statue of Marcus Mosiah Garvey, a pan-African nationalist hero. Later, I learned from the Gandhi Seva Sangh, the local organisation which has taken up the responsibility of the upkeep of the statue, that in February 1950, the Gandhi Statue Committee was formed in San Fernando to erect the figure. The committee had requested Professor Satya Narayan Shastri, the then Commissioner of India to the British West Indies and British Guyana based in Port of Spain, to approach the Government of India to source one. According to The Indian Daily Mail report of July 30, 1951, sculptor Nagesh Yawalkara was commissioned to do a life-size bronze of Mahatma Gandhi. The entire cost of the statue and the transport charges had been contributed by the Indian community living in Trinidad and Tobago. The then Bombay Mayor, S.K. Patil, had approved the mould of the statue at Yawalkar's studio on July 26, 1951. This was the first statue of the Mahatma in the Caribbean. In prominence at Kew Place on Phillip Street at the Mahatma Gandhi square in Port of Spain is a second bronze of Mahatma Gandhi, which was installed in October 1988. This statue, sculpted by Balkishan Guru, was gifted by a noted jurist of Indian origin, Ramdeo Sampat Mehta. The sculptor's father was born in Trinidad. Every year, on the occasion of Gandhi Jayanti, the Mayor of Port of Spain joins the High Commissioner of India in garlanding this statue.

Gandhi village

A third interesting abode of Gandhiji is in Gandhi village near the southern town of Debe. The village carries a unique indenture history. It was called "Cooliewood" in colonial Trinidad since most residents were indentured labourers from India. Most families were Hindus, and a few were Muslims. However, in 1958, Eric Williams, during a visit, renamed the village Gandhi village. Williams subsequently became the first Prime Minister of independent Trinidad and Tobago. In 2003, the villagers installed a bust of Gandhiji, donated by the Government of India. Gandhiji is also present in the National Council for Indian Culture (NCIC) in the Diwali Nagar complex and the office compound of the Mayor of Chaguanas. Established in 1986, the NCIC is the principal organisation for developing and promoting Indian culture in Trinidad and Tobago. Chaguanas is the largest and fastest-growing municipality in the country. In addition, two streets that bear Gandhiji's name are the Gandhi Streets of Victoria county in San Fernando and Tunapuna in Caroni county. The Indian culture centre in Trinidad and Tobago is named after Gandhiji. On October 2, 2020, on the culmination of his 150th birth centenary celebration, the Government of India unveiled a bust of Gandhiji at the newly constructed Mahatma Gandhi Institute of Cultural Cooperation in Mount Hope. The foundation stone of the complex, built on five acres of land, was laid by then Prime Minister of India Atal Bihari Vajpayee and then Prime Minister of Trinidad and Tobago Basudeo Pandey in 1999. Earlier, the Indian culture centre was operating out of a rented premise. Trinbagonians love Gandhiji. They have a deep appreciation of India's freedom struggle and democratic values and the Gandhian ideals of truth, non-violence and peace. Gandhiji's non-violent method of work and his opposition to indentureship are highly respected. In December 1915, at the 30th Indian National Congress session held in Bombay, he decried the system and urged for its abolition. Eventually, the practice ended in 1917. Though Gandhiji never visited



Trinidad personally, he had sent his emissary C. F. Andrews in 1930, to study the Caribbean situation and listen to the indentured labourers' plight.

IISC RESEARCHERS FIND A WAY TO SUBSTITUTE FOR SINGLE-USE PLASTICS

According to a report by Central Pollution Control Board of India, for the year 2018-2019, 3.3 million metric tonnes of plastic waste are generated by Indians. The bad news is that this may well be an under-estimation of the problem. Another alarming statistic is that of all the plastic waste produced in the world, 79% enters the environment. Only 9% of all plastic waste is recycled. Accumulation of plastic waste is detrimental to the environment and when this waste finds its way into the sea, there can be major harm to aquatic ecosystems, too. Researchers from Department of Material Engineering, Indian Institute of Science, Bengaluru (IISc) have found a way to make a substitute for single-use plastic that can, in principle help mitigate the problem of accumulating plastic waste in the environment.

Agricultural stubble

While plastic waste causes one type of pollution, agricultural stubble burning is responsible for air pollution in several States. In Delhi, for example, the air quality index dips to indicate "severe" or "hazardous" level of pollution every winter, and this is due in part to the burning of agricultural stubble in the surrounding regions. Indranil Chakraborty, a Research Associate working in the labs led by Suryasarathi Bose and Kaushik Chatterjee, has, along with coworkers, developed polymers using non-edible oil and cellulose extracted from agricultural stubble. These polymers can be moulded into sheets having properties suitable for making bags, cutlery or containers. The material so made is bio-degradable, leak-proof and non-toxic.

Simple process

Non-edible Castor oil was used in this process of making the polymer which involves allowing them to react with the cellulose and di-isocyanate compound. "All precursors are mixed in toluene solvent and heated at 80 degree for 8 hours. Then [we] poured the solution mixture in a teflon sheet and allowed the toluene to evaporate. After 12 hours, nice polyurethane sheet is obtained because of the crosslink between the functional groups present in the precursors," explains Dr Chakraborty, in an email to The Hindu. The sheets are then moulded in compression moulding to make the articles such as a bag or pieces of cutlery. "We already used castor oil for our experiment. Currently, we are doing the same experiment with other non-edible oils such as jatropha oil and neem oil," he adds. The sheets of polymer made were subjected to a leaching test and were also tested for thermal stability and were found to hold against the tests. These preliminary tests suggest that the material can be used for food packaging. Further tests are on to establish the sheet as food-grade.

Tuning flexibility

In order to obtain sheets with properties like flexibility suitable for making different articles, the researchers played with the proportions of cellulose to non-edible oil. The more cellulose they added, and less non-edible oil, the stiffer was the material, so that it was more suitable to making tumblers and cutlery. The greater the proportion of oil, the more flexible was the material and it



could be moulded into sheets for making bags. While Indranil Chakraborty designed the experiment, synthesised the sheet, and moulded it to make the articles, Pritirajan Mondal characterised the material. The group has already filed a provisional patent. "As the material is bio-degradable and non-toxic, we are planning to use the material for healthcare applications also," says Prof. Chatterjee. "We are in discussion with various companies for technology transfer." "Given the surge in the usage of single use plastics and the challenge of managing the landfills choked with SUPs, such alternatives could bring paradigm shift especially in packaging sector, the largest consumer of SUPs," says Prof Bose.

SAFDARJUNG TOMB NEEDS URGENT CARE

Weeds growing on the dome of Safdarjung Tomb had damaged the monument, which required urgent care from the Archaeological Survey of India (ASI), historian S. Irfan Habib said on Saturday. Sharing a photo of the 18th Century monument taken earlier this week, Mr. Habib said in a tweet the "dome has developed cracks, with weeds growing all over it". Later he told The Hindu that the ASI had neglected several monuments. He said weeds tended to grow during the monsoon but it was vital to clear them soon as they could lead to cracks. Asked to respond to Professor Habib's assertion, an ASI spokesperson said: "The ASI is aware of the damage and the remaining portion of repairs will soon start as per our team's assessment. Conservation work at monuments is a round-the-year job and presently also the work is going on, but due to the rain in Delhi it got a bit delayed." The spokesperson said repair and conservation work at the monument was ongoing in 2019-20, but was stopped due to the lockdown and shortage of workers caused by the pandemic. "There is no damage. Only grass has come up on the dome which needs to be cleaned."

ON WORLD RHINO DAY, 2,500 HORNS TURNED TO ASHES IN ASSAM

The "world's largest stockpile" of rhino horns was consigned to flames in eastern Assam's Bokakhat, the headquarters of the Kaziranga National Park and Tiger Reserve, amid Vedic rituals on Wednesday. The event, timed with World Rhino Day, was aimed at dispelling myths that have driven the illegal horn trade and the poaching of the animal. Wildlife officials said 2,479 of the 2,623 horns stored in 12 district treasuries since 1979 were burnt in six large iron pyres placed at a stadium in Bokakhat, about 240 km east of Guwahati. The pyres were lit remotely through drones. Among those destroyed were 21 fake horns seized from smugglers and traders and 15 African rhino horns brought from the Assam State Zoo in Guwahati. "We organised this event to convey to the world that rhino horns are just a mass of compacted hair and they have no medicinal value. We urge people not to kill these rare animals or buy their horns based on superstitions or myths," Assam Chief Minister Himanta Biswa Sarma said after initiating the programme. "Rhino horns are burnt in Africa but not so many at a time. I think we have set a world record," Dr. Sarma said, adding that all horns recovered from rhinos dying naturally or during disasters and accidents would henceforth be burned annually. P. Sivakumar, Director of the Kaziranga National Park, said 29 horns implicated in court cases, will be kept in the treasuries while 94 others, including the heaviest at 3.05 kg, will be preserved for exhibition or educational purposes.



Museum planned

The State government will set up a natural history museum near the national park to showcase the preserved horns. The weight of the horns destroyed was 1,305.25 kg while the weight of those to be preserved is 131.05 kg, officials said. Before the destruction, experts had studied the horns using scientific methods at the treasuries they were kept in. Each horn was cleaned, weighed, photographed, labelled with a unique barcode, packed and sealed again after extraction of DNA samples. The ashes will be stored in a life-size rhino replica to be displayed at Mihimukh, the main entrance of Kaziranga Park, Mr. Sivakumar told The Hindu. The event was preceded by an elaborate Vedic ritual that entailed performing the last rites. Wednesday's event was the second mass-burning of animal body parts in eastern India. A stockpile of rhino horns and elephant tusks was burnt in West Bengal's Chilapatha forest (Alipurduar district) in 2005-06.



DreamIAS



BUSINESS & ECONOMICS

INDIA, UAE LOOK TO SIGN 'EARLY HARVEST DEAL' BY START OF 2022

India and the UAE have launched formal trade negotiations aimed at concluding discussions on an **early harvest agreement** by December 2021 and sign a formal agreement in early 2022. The aim is to boost bilateral merchandise trade to above \$100 billion and services trade to \$15 billion in five years. India is also aiming to sign free trade agreements with Australia, UK and the European Union in the near future. *Early harvest agreements are used to liberalise tariffs on the trade of certain goods between two countries or trading blocs before a comprehensive Free Trade Agreement (FTA) is concluded.* Commerce Minister Piyush Goyal and UAE Minister of State for Foreign Trade Thani bin Ahmed Al Zeyoudi announced that formal negotiations for the India–United Arab Emirates Comprehensive Economic Partnership Agreement (CEPA) would start on Thursday. Goyal said *India would aim to get access for Indian textiles, gems and jewellery, footwear and handicrafts as part of the early harvest agreement.* “Both sides have drawn up a very aggressive and ambitious timeframe, and aim to conclude negotiations by December 2021 itself,” said Goyal adding that both sides aimed to sign a formal agreement in early 2022 after the completion of internal procedures and necessary ratification processes. Goyal added that negotiations on the CEPA would continue post the signing of the early harvest agreement. *The UAE would focus on areas such as fintech, petrochemical equipment and byproducts in the early harvest agreement,* Al Zeyoudi said.

FEDERAL RESERVE'S STANCE AND INDIA

Stock Exchanges that were nervous ahead of the Federal Reserve's meeting on Wednesday cheered the US central bank's statement reiterating that it would maintain an 'accommodative stance' until inflation and employment targets had been met. *Indications that rates may be raised towards the end of 2022, and that the tapering of the Fed's bond purchase programme would be gradual and spread into the middle of next year,* have brought comfort to market participants. The Sensex at the Bombay Stock Exchange on Thursday jumped 958 points (1.6 per cent), closing at a new high of 59,885. The broader Nifty at the National Stock Exchange rose by 1.57 per cent, to close at 17,882. The markets have also reflected the waning of concerns over possible default on debt repayment by the Chinese real estate giant Evergrande.

What did the Federal Reserve say?

Even as it outlined the risks to economic outlook in line with the course of the coronavirus, *the Federal Reserve, in its statement issued on Wednesday, said it would continue to "maintain an accommodative stance of monetary policy" until it achieves an inflation moderately above 2 per cent.* The Federal Open Market Committee (FOMC), which sets US monetary policy, has decided to keep the *target range for the federal funds rate at 0 to 1/4 per cent.* It “expects it will be appropriate to maintain this target range until labour market conditions have reached levels consistent with the Committee's assessments of maximum employment and inflation has risen to 2 per cent, and is on track to moderately exceed 2 per cent for some time”.



What did the Fed say on the infusion of liquidity?

The Fed had said earlier that it would moderate the pace of asset purchases; it said on Wednesday that if progress in the economy continues, moderation in the pace of asset purchase “may soon be warranted”. Markets expect the Fed to start the tapering process from November, which may lead to a slowing of the flow of liquidity. *Markets have risen significantly on account of excess liquidity worldwide, which has been channelled into equity markets; a slowing of the bond-buying programme will reduce its availability, and diversion into the markets.* The Fed *currently purchases treasury securities of at least \$80 billion, and mortgage-backed securities of at least \$40 billion per month.*

What does the Fed’s decision mean?

Asset purchases could decline by \$15 billion per month, and an end to asset purchases by mid-2022 will strengthen the case for raising rates in 2023. The updated Summary of Economic Projections now implies three rate hikes by 25 basis points in 2023, and the Fed is split over delivering the first increase in 2022. *Inflation of over 2% is firmly signalled for the entire forecast horizon that had been extended until 2024.* “We expect the Federal Reserve to act on the dovish side of the median of the new projection, as Chairman Powell most likely favours hiking rates in 2023.

Why did the markets rise on Thursday?

That had more to do with the Fed’s statement on raising interest rates — the markets derived comfort from the continuation of the accommodative monetary policy stance for now. Market participants believe that interest rate hikes are still some time away — which is good for Indian equities. *Low interest rates in the US will ensure continued fund flows from foreign portfolio investors (FPIs) into Indian equities, while existing investments will likely stay put for now.* FPI flows into Indian equities amounted to Rs 2,083 crore in August; it has risen sharply in September, and stood at a net of Rs 12,921 crore on Thursday. *In its last policy statement, the Fed delinked tapering and rate hikes; on Wednesday, it put stringent conditions with respect to inflation and employment for a rate increase.* Many feel it may be some time before employment targets are achieved — there is, thus, hope that a rate hike could be 12-15 months away.

GST COMPENSATION REGIME: SEVERAL OPPN-RULED STATES SEEK EXTENSION

With the Goods and Services Tax (GST) Council discussing not to extend the compensation mechanism for states beyond the legally *mandated five-year period ending in June 2022*, several state Finance Ministers have raised concerns and demanded an extension of it. States such as Kerala, Tamil Nadu and West Bengal are learnt to have demanded an extension of the compensation mechanism in the 45th Council meeting, which was held in Lucknow on Friday. Finance Minister K N Balagopal on Saturday said he has asked for an extension of the GST compensation regime, stating that the state is already grappling with a significant revenue shortfall. In case the GST compensation regime ends next year, the state will face further revenue shortfall, Balagopal said. In his speech at the meeting, Tamil Nadu Finance Minister P Thiaga Rajan demanded the continuation of the compensation mechanism, and deferment of a decision on this issue. “While we are broadly, and firmly in favour of the continuation of the compensation mechanism, we are concerned by many of the details,” he said. Thiaga Rajan said all the Council Members will require some time to analyse and assess the features and consequences of the



options presented during the 45th meeting, and hence, expect that any decision on the way forward will be deferred to the 46th meeting at least.

Union Finance Minister Nirmala Sitharaman on Friday had said that the regime of paying compensation to states for revenue shortfall resulting from GST implementation will end in June next year and that the compensation cess, levied on luxury and demerit goods, will continue to be collected till March 2026 only to repay the borrowings made in 2020-21 and 2021-22 to compensate states for GST revenue loss.

States were guaranteed compensation under GST for the revenue gap between actual collections and the protected amount based on a 14 per cent compounded rate from the base year 2015-16 for five years after the GST rollout, until June 2022. Last year, the government had decided to borrow to meet the compensation cess deficit through back-to-back loans to states. In FY 2020-21, an amount of Rs 1.10 lakh crore was released to states under the back-to-back loan arrangement.

COURSE CORRECTION MODE: COUNCIL LOOKS TO FIX DUTY STRUCTURE, BOOST REVENUES

Taking note of the revenue trend dipping below the revenue neutral rate levels, the Goods and Services Tax (GST) Council will now be looking at a series of measures including rate rationalisations to correct the ***inverted duty structure*** and to take steps to augment revenues. The move comes after four years of the rollout of the indirect tax regime, with the acknowledgement that a series of ***rate cuts across these years and spanning over 500 items has resulted in a strain on finances of both central and state governments with lower-than-expected revenue buoyancy and an inverted duty structure for many items.*** The Council will now be on a course correction mode as it seeks to correct the inverted duty structure for items such as footwear and textiles sectors beginning January 1. ***An inverted duty structure arises when the taxes on output or final product is lower than the taxes on inputs, creating an inverse accumulation of input tax credit which in most cases has to be refunded.*** Inverted duty structure has implied a stream of revenue outflow for the government prompting the government to relook the duty structure. For footwear, the government refunds around Rs 2,000 crore in a year. The decision on inverted duty structure was deferred in June last year as the Council did not agree on the timing of the rate rationalisation to be done during the pandemic. ***The GST rate on footwear worth up to Rs 1,000 was reduced to 5 per cent earlier, while those above this value attract a GST rate of 18 per cent. Inputs for footwear such as in-soles, heel cushions attract 18 per cent GST.*** Footwear is now likely to have a uniform rate of 12 per cent, irrespective of prices, sources said. ***Textiles, which currently are in the 5 per cent GST slab for fabrics and man made yarns are in the 18 per cent slab, is also likely to attract a 12 per cent tax rate with exceptions for some categories such as cotton products.*** The anomalies in revenue stream arising out of earlier rounds of rate rationalisation were noted in the 45th GST Council meeting held in Lucknow on Friday. Union Finance Minister Nirmala Sitharaman after the meeting said that the revenue neutral rate has fallen to 11.6 per cent from 15.5 per cent. “The Revenue Neutral Rate of 15.5 per cent coming down to 11.6 per cent is because of course, the Council in its wisdom probably over the years had reduced the rate of many many items and not just the reduction but the resultant refund due to the inversion have resulted, net net, in the collection coming down from the revenue neutral levels. As a result we feel that the overall collection has come down. We also feel why it has come down. But if we all put together



we can all see that we are far below the revenue neutral rate," she said. *A September 2019 report by the Reserve Bank of India (RBI) had noted that the rationalisation of rates by the GST Council has brought down the effective weighted average GST rate from 14.4 per cent at the time of inception to 11.6 per cent.* It, however, said that *enhanced buoyancy has been achieved by widening the tax base and removing distortions.* The GST Council had within one year of the July 2017 rollout of the GST reduced rates for every four items. The rate cuts on over 350 items out of total 1,211 items in the five broad categories of zero, 5 per cent, 12 per cent, 18 per cent and 28 per cent under GST were estimated to have resulted in a revenue loss of about Rs 70,000 crore in a year. At the time of fitment of goods and services in the various GST slabs in May 2017, the government had said that *about 7 per cent of the total 1,211 items were exempted, 14 per cent of the items were kept in the 5 per cent tax slab, 17 per cent of total items were in 12 per cent tax slab. About 43 per cent of items were in 18 per cent tax slab, while only 19 per cent of the items were placed in the 28 per cent tax slab. Now, only about 3 per cent of the total 1,211 items remain in the peak 28 per cent slab.*

ANTI-DUMPING DUTY LIKELY ON PHARMA API FROM CHINA

The Commerce Ministry has recommended the imposition of **anti-dumping duty** on a pharma raw material — Ceftriaxone Sodium Sterile — from China to guard local players from cheap imports. Directorate General of Trade Remedies (DGTR) has recommended the duty after concluding in its probe that the API (active pharma ingredient) from China has been exported at dumped prices into India, impacting the domestic industry. "The authority recommends the imposition of the anti-dumping duty on the imports of subject goods," the Directorate has said in a notification. *Ceftriaxone Sodium Sterile is an API used in formulation for treating diseases such as lower respiratory tract infection, skin and surgical prophylaxis.* DGTR had conducted the probe following a complaint from Nectar Life Sciences and Sterile India about the dumping of the chemical. The recommended duty is \$ 12.91 per kg. The Finance Ministry takes the final decision to impose duty. In a separate notification, DGTR said it has started a sunset review probe to review the need for continued imposition of anti-dumping duties on aluminium foil from China. *The imposition of anti-dumping duty is permissible under the World Trade Organization regime. It is aimed at ensuring fair trading practices and creating a level-playing field for local producers vis-a-vis foreign producers and exporters.*

G-SEC RETAIL DIRECT: MKT PLAYERS SEEK EASY KYC, INTEROPERABILITY

For effective implementation of the RBI Retail Direct platform for Government Securities (G-secs), market participants are pushing for tweaks in the rules, seeking relaxation in KYC norms, interoperability for buyers and a clarity on whether bonds bought through the retail direct platform must be held in demat form. Investments done directly by retail investors in G-sec may also not reflect in the single record of all financial assets, as being envisaged under the account aggregator guidelines, sources said. The Reserve Bank of India in July unveiled a scheme allowing retail investors to directly participate in the G-sec market. They can open and maintain a '**Retail Direct Gilt Account**' (RDG Account) with the RBI through a portal, which will also provide access to primary issuance of G-Secs and the secondary market as well. G-Secs held in demat mode are reflected in the CSGL or Constituent Subsidiary General Ledger (SGL) account of the depositories. "If a demat account holder in CDSL sells the G-Sec to a buyer whose demat account is with NSDL, then transfer between these accounts is not online; it entails pre approval from the Public Debt



Office (of the RBI) and hence not seamless. This is in sharp contrast to the transfer of other securities between these two Depositories, whose systems are interoperable...The PDO is the depository for G-Secs and is outside the ambit of the Depositories Act," a source in the debt market said. Sources said this lack of interoperability may create liquidity issues for trading in the secondary market in a stock exchange, as settlement has to be done on T+2 (transaction plus two days) basis. *In 2005, RBI created its online platform, Negotiated Dealing System (NDS-OM), operated by the Clearing Corporation and Indian Ltd (CCIL), for issue of G-Secs. At present, the RBI's Core Banking Solution (E-Kuber), trading platform (NDS-OM), depository system (PDO/SGL) and clearing and settlement by CCIL, together provide a comprehensive, seamless and end-to-end platform for trading and settlement of G-Secs for banks and select institutional investors on T+1 basis with settlement guarantee.* The present scheme announced by RBI enables individual investors to directly open on-line Retail Direct Gilts account (account) with the central bank. Now, a retail investor can place a direct bid on NDS-OM as well as trade in the secondary market. *So far, only institutional players like banks, primary dealers, insurance companies, mutual funds, foreign portfolio investors and high net worth individuals had direct access to this platform. Gilts are normally traded on NDS-OM in lots of Rs 5 crore each, but retail investors have been allowed to trade with a minimum investment of Rs 10,000.* Sources said fresh mandate on KYC with the RBI should not be mandatory as bank already have KYC on the investors and can also use the common KYC mechanism being used across financial service providers. "The scheme is also silent on whether G-Secs held in this retail account in SGL mode can be demated. Moreover, *as RBI is not a Financial Information Provider under its Account Aggregator Directions, the investment held in this account will not reflect in the single record of all financial assets.* These issues need to be addressed," a market participant said. Some industry executives feel that G-secs should be held preferably on the stock market's depository platform instead of the SGL system for convenience of investors. "Slightly over 50 per cent of Sovereign Gold Bonds (SGB) are held in demat mode. Although SGBs are available for subscription in SGL mode also, retail investors prefer demat mode. We believe this can be made the preferred mode for G-secs also," they said.

REAL RETURNS NEGATIVE, NEED REVIEW OF TAX ON BANK DEPOSITS

With the real rate of return on bank deposits remaining negative "for a considerable period of time", it's time to revisit the taxation of interest on bank deposits, State Bank of India said in a research report. Arguing for more sops to depositors, the SBI report said the threshold of exemption for senior citizens should be reviewed. "The RBI can relook at the regulation that does not allow interest rates of banks to be determined as per age-wise demographics," it said. *The interest income from bank fixed deposits is subject to TDS (tax deducted at source) at 10 per cent but can be deducted at 20 per cent if PAN is not furnished. Banks deduct TDS on interest paid on fixed deposits when interest income exceeds Rs 40,000 (Rs 50,000 for senior citizens) in any given financial year.* So, if the depositor is in highest tax bracket of 30 per cent, merely paying TDS of 10 per cent will not be enough. *Retail inflation is above 5 per cent while one-year term deposit gets less than 5 per cent interest rate, giving negative returns on deposits.* Currently, retail inflation is above five per cent while one year term deposit gets less than five per cent interest rate, giving negative returns on deposits. The total number of depositors in the banking system is around 207 crore and the number of creditors is at 27 crores. *The total bank deposits at Rs 151 lakh crore constitute Rs 102 lakh crore of retail deposits, including that of senior citizens.* "Clearly, real rate of return on bank deposits has been negative for a sizeable period of time and with RBI making it abundantly clear

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that supporting growth is the primary goal, the low banking rate of interest is unlikely to make a north bound movement anytime soon as liquidity continues to be plentiful,” said the report authored by *Soumya Kanti Ghosh, group chief economic adviser, SBI. The negative return from bank deposits could be one of the reasons for households to divert funds to the stock markets for more returns. “This (negative returns on deposits) implies that the current bull run in financial markets is possibly a break from the past as households may have got into the bandwagon of self-fulfilling prophecy of a decent return on their investment,” the report said.* According to the SBI report, in banking sector’s total term deposits, contribution by 40 -million plus senior citizens, who remain much dependent on accrued interest income for meeting most of their fixed expenditure needs, hovers around 20 per cent.

WHAT IS THE NEED FOR A ‘BAD BANK’?

The Union Cabinet on Wednesday approved a ₹30,600-crore backstop facility for guaranteeing securities to be issued by the **National Asset Reconstruction Company Ltd. (NARCL)**, the so-called ‘bad bank’ that is being set up to help aggregate and consolidate lenders’ non-performing assets (NPAs) or bad loans.

What is a ‘bad bank’, and specifically the NARCL?

A ‘bad bank’ is a financial entity set up to acquire NPAs from banks and resolve them. The bank, which sells the stressed assets to the bad bank, is now relieved of the burden of the bad loans and can focus instead on growing its business by advancing fresh loans to borrowers requiring credit. The cleaner balance sheet also makes it relatively easier for the lender to raise fresh capital, if required. *The NARCL, which is being set up by lenders and will be 51% owned by public sector banks, proposes to take over the fully provisioned stressed assets of about ₹90,000 crore in the first phase. The minimum size of each NPA to be acquired will be ₹500 crore as the focus is on resolving big-ticket bad loans.* The longer-term goal for the NARCL is to help resolve NPAs worth ₹2 lakh crore, with the remaining assets with lower provisions expected to be transferred in a second phase.

How will the NARCL operate?

The ‘bad bank’ will acquire assets by making an offer to the lead bank of a group of lenders of an NPA. Finance Minister Nirmala Sitharaman said the NARCL would make a 15% cash payment to the banks based on a valuation and the rest would be given as security receipts. These receipts, in turn, would be guaranteed by the government’s **₹30,600-crore backstop facility**. To assist the NARCL, public and private banks together would set up an **India Debt Resolution Company Ltd. (IDRCL)** that would manage the acquired assets and try to improve their value for final resolution. And on completion of resolution, the balance 85% of value, being held as security receipts, would be given to the banks.

Why is the Centre providing a backstop?

Given the large volume and individual sizes of these NPAs, a backstop from the government helps lend credibility to the resolution process and provides for contingency buffers. *The guarantee, which will be valid for five years, would be invoked either at the time of resolution or liquidation to cover the shortfall (if any) between the face value of the security receipts and the actual realisation.*



The Union government's guarantee will also enhance liquidity of these receipts, which are tradable. Also, given that there would be a pool of assets, it is likely that the realisation of value in many cases would exceed the acquisition cost, obviating the need to draw down on the guarantee.

What lies ahead for the banking industry?

The government expects that the setting up of the twin entities, the NARCL and the IDRCL, with adequate capital and its guarantee, will incentivise quicker action on resolving stressed assets, thereby helping in better value realisation. *As the holders of these stressed assets and security receipts, banks stand to receive the gains accruing from a successful resolution process.* In a bid to *disincentivise delay in resolution, the government has also proposed that the NARCL pay a guarantee fee to the Centre, which would increase with the passage of time.* Critics of the bad bank concept, however, contend that the government's role in guaranteeing some part of the NPAs *could lead to laxity on the part of bankers in assessing risk and thus creating fresh dodgy loans.* Separately, a January 2020 Bank for International Settlements working paper on 'Bad bank resolutions and bank lending', in fact, found that "bad bank segregations are effective in cleaning up balance sheets and promoting bank lending only if they combine recapitalisation with asset segregation". The study, based on data covering 135 banks from 15 European banking systems over the period 2000-16, observed that neither recapitalisation nor asset segregation used in isolation "would suffice to spur lending and reduce future" NPAs.

FARMER'S FUTURE

An average so-called agricultural household earned a total monthly income of Rs 10,218 during 2018-19 (July-June), of which net receipts from crop production (Rs 3,798) and farming of animals (Rs 1,582) together contributed hardly 53 per cent. The single-largest income source was actually wages/salary, at Rs 4,063. *The average farmer, in other words, was more a wage labourer than a seller of produce from his/her land.* Out of the country's estimated 93.09 million agricultural households, over 70 per cent possessed less than one hectare land. It shouldn't surprise, then, that wages generate up to 60 per cent of their incomes. But the share of agriculture — crop production plus animal husbandry — to total income was higher (about 62 per cent) for households with 1-2 hectares land, rising further to 73, 82 and 91 per cent for those having 2-4, 4-10 and above 10 hectares, respectively. Simply put, *if one considers as farmers only those deriving at least 60 per cent of their overall income from cultivation and rearing of animals, India wouldn't have even 30 million such homes, going by the National Statistical Office's Situation Assessment of Agricultural Households report. The 30 million are the ones also possessing one hectare or more land, which is clearly the minimum holding required for agriculture per se to generate a major share of any family's income.* It also means that "agriculture policy" should primarily target these 30 million households. Farm incomes can, realistically speaking, be doubled or tripled only for those truly dependent on agriculture and having enough land to productively deploy labour and capital resources. They must be enabled to do so, through improved access to markets, water, electricity, credit and other productivity-enhancing inputs. *The whole focus should be to lower their production costs by raising yields, while simultaneously ensuring higher input use efficiency and minimal environmental footprint.* The question that naturally arises is where does this leave the remaining 60-65 million households — those having less than one-hectare land and "agricultural" only in name? The answer is simple: Their future lies outside the farms. Outside doesn't



necessarily have to be in large industrial centres or cities. It can even be in aggregation, grading, packaging, transport, processing, warehousing and retailing of produce. These activities — plus supply of inputs and services to farms — can generate far many more jobs than in the fields themselves. The government should stop obsessing over “marginal farmers”. *The limited land with them can, if at all, be put to better use for dairy, poultry, piggery etc. rather than in regular crop agriculture. Farming is best left to those who can do it well. Better fewer, but better.*

FOR EASY ACCESS TO SCHEMES, GOVT PLANS 12-DIGIT UNIQUE ID FOR FARMERS, DATABASE

The government has started generating 12-digit unique IDs for farmers that can be used to avail all farm-related services under various schemes “seamlessly”, according to a senior official of the Union Ministry of Agriculture and Farmers’ Welfare. Vivek Aggarwal, Additional Secretary, Agriculture and Farmers’ Welfare, told *The Indian Express* that a unique ID for each farmer is part of the Government’s initiative to create a database by collating data from various schemes, such as PM-Kisan, and linking them with land records. “The intent is to create a unified farmer service interface. The unique ID will enable them to seamlessly avail various Government schemes and credit facilities, and help the Centre and state governments in better planning of procurement operations,” Aggarwal, who heads the Ministry’s Digital Agriculture Division, said. “We have started internally generating unique farmer IDs and once we are ready with the database of 8 crore farmers, we will launch this,” the official said. “So far, the database has been prepared for 11 states, including Madhya Pradesh, Uttar Pradesh, Rajasthan and Andhra Pradesh. The remaining states, including Telangana, Kerala and Punjab, will be covered in the coming months,” he said. For this, Aggarwal said, a database is being created from existing schemes such as PM-Kisan, Soil Health Card and PM Fasal Bima Yojana. “All farmer data in Central schemes will be linked to land record details available with state governments. Aadhaar will be used as a deduplication mechanism,” he said. Besides, *linkage of land parcels through a Geographical Information System (GIS), where maps are digitised by states, will be used.* According to Aggarwal, GIS data of land parcels will help farmers in getting precise advisories. The plan to issue such an ID to farmers, and the creation of a database, was discussed during the Chief Ministers’ Conference earlier this month. On September 6, Union Agriculture Minister Narendra Singh Tomar had said that his Ministry has created a database of 5.5 crore farmers and it will be increased to 8 crore by this December. Recently, as part of its digital mission, the Agriculture Ministry signed MoUs with 10 private companies, including CISCO, Ninjacart, Jio Platforms, ITC and NCDEX e-Markets Ltd (NeML), and Microsoft, Star Agribazaar, Esri India Technologies, Patanjali and Amazon.

‘BEER CARTELISATION’: UNITED BREWERIES, CARLSBERG, OTHERS FINED OVER RS 873 CR

The **Competition Commission of India (CCI)** has imposed *penalties totalling over Rs 873 crore on United Breweries Ltd (UBL), Carlsberg India Pvt Ltd (CIPL), All India Brewers Association (AIBA) and 11 individuals for cartelisation in the sale and supply of beer in 10 states and Union Territories, including Andhra Pradesh, Karnataka, Delhi and Maharashtra.* The regulator concluded United Breweries, Carlsberg India and Anheuser Busch InBev India *colluded to fix beer prices from 2009 to at least October 2018.* A government release said the CCI had passed orders against UBL, AB InBev and CIPL “for indulging in cartelisation in the sale and supply of beer ... including through the platform of AIBA.” The Commission decided to give a 100 per cent penalty reduction to AB

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Inbev as the company explained the nature of the **cartel** and submitted evidence of email communications between key managerial personnel at the companies being investigated. The final penalty of Rs 751.8 crore on UBL and Rs 120.6 crore CIPL also included reductions in penalties of 40 per cent and 20 per cent, respectively, for cooperation with the probe by the CCI. The search and seizures conducted by the Director General of the CCI found regular communications between the three companies. Key managerial personnel cited the need to seek approvals from state authorities for any price revisions as a key reason for the need for coordination. In one case, *a UBL executive said due to the fact that price changes were only permitted on three specific dates in a year, competitors would exchange notes and price main products similarly to "ensure that we do not suffer huge losses as a result of this policy."* Emails recovered during the investigation showed executives sharing proposed price changes and coordinating the timing for applying to state authorities for price changes. The CCI noted that such state policies "cannot be taken as an excuse for entering into price co-ordination by parties." In case of Maharashtra, the CCI found price revisions by UBL and Ab Inbev since 2011 showed an "uncanny closeness" in timing, with Carlsberg India also joining the two companies in making revisions around the same time since April 2014. UBL, AB InBev and CIPL did not respond to emailed requests for comments as of press time on Friday.

TREE OF STRIFE

In his Independence Day speech, the Prime Minister announced a scheme to support the growth of palm oil in India. Three days later, the Cabinet approved a ₹11,040 crore outlay over five years for the National Mission on Edible Oils — Oil Palm, based on the argument that India needs to reduce its dependence on importing edible oils. Since then, there has been much discussion on whether this is good for the environment or not. The discussion has largely been framed within the rubric of 'environment versus development', and many valuable details are being ignored to the detriment of a logical discourse. There is nothing new about palm oil. As Jonathan Robins explains in his book, *Oil Palm: A Global History*, *the plant was cultivated in western Africa and reached global markets with the Atlantic slave trade five centuries ago*. Slaves used it for much-needed nutrition and to ease the pain from bruises accumulated during the punishing journey. *Slave traders used it to add a gloss on the skin of the people they were selling into bondage to command a higher price*. As its efficacy was discovered by European nations, it transformed from a luxury product into a cheaper replacement for things such as tallow in soaps and as a cooking oil. Over time, though, the demand outstripped supply, and the market demanded more production. This was difficult in western Africa, where the large palm oil trees tended to be more scattered. This was not the case when the same trees were carried to Southeast Asia. *In the tropical rainforest conditions of what are now Malaysia and Indonesia, the colonial states found that the trees grew shorter. Since labour could be coerced or indentured, overhead costs were low, and business boomed. It remained a staple for trade even after the countries became independent, and expanded even more as the World Bank advocated for palm oil as a path to prosperity.*

Cornered market

According to the U.S. Department of Agriculture, the world will produce approximately 76.5 million tonnes of palm oil in 2021, 58% of this produced in Indonesia, and 26% in Malaysia. No other country produces even 5% of the global supply. Palm oil is cheap and versatile. It is found



in everything from lipstick to ice cream. For Indians, though, its primary use has been as a cooking oil. We are the world's largest importer of palm oil, outstripping China, the European Union, Pakistan, Bangladesh, and the U.S. Over 90% of the palm oil we import is used for cooking, replacing various types of oil seeds, and it has grown almost 10 times in the last 20 years. And it is to deal with the huge import bill that the government is supposedly floating this scheme. But again, this is nothing new. *The Ministry of Agriculture launched the Oil Palm Development Programme in 1991-92. It has continued in one form or the other since then. The National Mission on Oilseeds and Oil Palm was started in 2012, as part of the 12th Five Year Plan (2012-17), and it identified two million hectares of cropland where palm oil could be cultivated. Incentives, like the one currently proposed under the latest scheme, were offered. In April 2017, the Ministry of Agriculture raised rates of support for planting, maintenance, inter-cropping, and borewells for the promotion of oil palm cultivation. Many of the States identified under the scheme were from the Northeast, which is highlighted in the current scheme as well. Even the Andaman and Nicobar Islands saw oil palm cultivation started by the Kerala State government in the 1970s.*

Zero growth

What is worth noting, though, is that the area under cultivation remains largely unchanged. According to the U.S. Department of Agriculture, that area was 80,000 ha in the market year 2012-13. It is projected to be 80,000 ha in 2021-22, a change of a big fat zero. *India ranks 17th in terms of production, at about 2,00,000 tonnes a year, less than 0.5% of what Indonesia — the biggest producer of palm oil — produces.* Will more subsidies really make a difference? Has oil palm cultivation benefited the Indian farmer? Has it benefited the Indian economy? Is it appropriate for the environment? Maybe the place to ask these questions would be *Andhra Pradesh, which produces nearly 90% of India's palm oil.* And it is here that *a number of people who had started growing the crop are shifting back to coconut.* The primary reason is that — *as a fast-growing and large plant — a palm requires lots of water.* Both Indonesia and Malaysia have an average annual precipitation of over 2,500 mm. India's average annual precipitation comes to a little over 1,000 mm. *The demand for water cannot be met by rain alone, and needs irrigation systems.* This, in turn, means greater strain on water sources, especially groundwater, which leads to a falling water table. The government expects the expansion of palm oil to happen in existing farmland, replacing other crops, or — since the plant requires three to four years to mature — intercropping. More than half the Indian farmers are totally dependent on rain-fed agriculture, with no access to irrigation. In short, this scheme is not for them. *In fact, the leading players in palm oil production in India are corporate players such as Patanjali-owned Ruchi Soya, 3F Oil Palm Agrotech, and Godrej Agrovet.*

Support price

One thing, though, is new. This is the offer of a viability price for the crop to buffer producers from market fluctuations. *This raises the question: why is the government, often said to be reconsidering a minimum support price for essential commodities, guaranteeing a profit for just this commodity, and that too from taxes that might be paid by other farmers.* A viability price would mean that those engaging in oil palm cultivation, led by large agro-businesses (even if they procure from smaller farmers), would receive subsidies both in setting up the plantations as well as in selling their produce. Does this make sense for a crop suited to far more rainy countries, which needs to have a guaranteed water supply to grow? Remember, a city like Chennai came close to running out of



water not so long ago. This brings us back to the question of why we import so much palm oil anyway. Bear in mind that the vast majority of this is used for cooking. It is not that India does not have other forms of edible oil, or that we did not cook with them before the sudden increase of palm oil imports over the last two decades. The truth is that palm oil has replaced other forms of edible oils, and this has a larger impact on the economy, one which often goes unseen. In his book, *Despite the State*, M. Rajshekhar refers to *the surprising drop and rise of palm oil consumption in India. In 2002 it was about 40%, and then it fell to just under 25% of all edible oils consumed by 2005-06. By 2009 it had increased to over 40%, hitting about 50% by 2014. In a similar period, between 2001-02 and 2014-15, groundnut oil consumption plummeted from 15% of total edible oils consumed to about 1%. Rajshekhar matched this with how import duties, which had been about 70% for crude palm oil and 90% for refined palm oil in 2002, fell to zero for crude palm oil, and just about 10% for refined palm oil by 2008. He quotes the Solvent Extractors' Association of India (SEA), which represents Indian oil producers, to show that the fall in import duties tipped the balance in favour of imports, and that imported edible oil went from about 3% of the edible oils consumed by Indians in 1992-93 to 75%. When the latest subsidy to help palm oil cultivation was announced on Independence Day, the SEA stated that such policies should have been extended to other oil seeds as well. Without that, they said, it was unlikely to change Indian reliance on edible oils.*

Cost of cheapness

The truth is that Indians have switched to palm oil not because of some great choice but merely because it has come cheap. For most people cooking their food in palm oil or some mixture thereof, the content makes little difference. It is just another vegetable oil to them. The very versatility of the oil is what allows us to use it as a substitute for other kinds of oil. But the low price point of palm oil is inherently linked to the conditions of Southeast Asia. *It is the massive clearing of old growth forest, abusive labour conditions that often mimic those of colonial days, and high precipitation levels that allow the price to be so low. Indian conditions are different, and thus the state is subsidising both the production and buying of the oil to create the illusion that it is cheap. In doing so, we are destroying the industry and livelihoods of those in other industries, such as groundnut oil, and destroying existing domestic industries that have taken much time and effort to build.* Nothing comes free, and in the low price of imported palm oil, what is being excluded is the massive destruction of habitats that threatens the survival of nearly 200 species. *We are able to ignore the smog that periodically envelops parts of Malaysia and Singapore from the burning of forests.* Just as the slave traders could ignore the humanity of the slaves whose skin they polished with palm oil to sell for a profit, we are ignoring the cost that Southeast Asia's ecosystem pays for the cheap oil the world imports. *Apart from anything else, in trying to replicate that price point in India, we will be extracting a ruinous cost in water that we are increasingly running short of. We may be able to buy cooking oil for a slightly cheaper price, as long as we ignore the price the country will pay in terms of water, the environment, and the livelihoods lost.*

CAN THE TELECOM INDUSTRY GET OUT OF THE RUT?

The Union Cabinet on Wednesday approved a set of financial relief measures to help major telecom companies in trouble. Companies such as Vodafone Idea and Bharti Airtel have seen their business hit hard by financial demands made by the government and cut-throat competition. In



2019, the Supreme Court had ordered telecom companies to pay dues worth over ₹1.4 lakh crore to the government, which they are yet to complete.

Why are telecom companies in trouble?

Telecom companies traditionally paid *a fixed fee to purchase spectrum under lease from the government*. Since 1999, however, apart from the spectrum licence fees, they have also had to share a certain proportion of their **adjusted gross revenue (AGR)** with the government. *The government and the telecom companies have disagreed on what counts as AGR*. Companies have argued that the government cannot classify their non-telecom revenues as AGR and demand a share of it. The dispute landed in court and eventually ended in favour of the government with the Supreme Court ordering companies to pay all their accumulated AGR dues. The order put immense stress on the balance sheets of the companies which were already in trouble owing to an intense price war.

What are the concessions offered by the government?

The Centre has offered the companies a four-year moratorium on spectrum and AGR dues to relieve them of their financial stress. They can now opt to pay these dues and the interest accumulated on them at the end of the moratorium period. If a company is unable to pay the accumulated dues by the end of the moratorium it can negotiate with the government to give it an equity stake in lieu of the accumulated dues. Moreover, the government has eased its policy stance in order to decrease the future liabilities of the companies. *It has declared that they do not have to share with the government revenues that they receive from non-telecom sources.* Further, to make investment in telecom companies easier, *the Centre has allowed 100% foreign direct investment without the need for government clearance.* It has also *eased bank guarantee requirements against licence fee and done away with penalties imposed on late payment of fees.*

Will the measures help telecom companies?

The relief measures announced by the government are expected to free up cash from the balance sheets of the companies. The hope is that they will use this cash to invest in expanding and strengthening their business, thus becoming more capable of paying back their dues. It should be noted that *the government has not agreed to waive off dues that companies already owe the government or the dues that will arise over the next four years.* Analysts, however, see the government's decision to waive off charges on future non-telecom revenues as significant because it puts to rest the two-decades long controversy in the telecom sector over what counts as AGR. Sceptics of the plan believe that it will not relieve the pain of the companies like Vodafone Idea, which has a total debt of nearly ₹2 lakh crore. *In fact, according to analysts, the government's offer to convert the spectrum and AGR dues of the companies into equity may cause Vodafone Idea to come under government control. This risk could deter investors from infusing fresh capital into the company.*



Are telecom tariffs set to rise?

A major reason for the crisis in the telecom sector has been the intense competition. This has led to the overwhelming supply of telecom services, in turn leading to lower prices that have made India a country with one of the lowest telecom tariffs in the world. *So, some believe the government should let troubled telecom companies like Vodafone Idea to fail and exit the market, just as other telecom companies have done in the past. This will cause supply to drop and prices to rise. The last major increase in tariffs came in December 2019. A further rise in tariffs is expected as the companies try to boost their average revenue per user to match the rising costs.*

AUTO BOOST

The Centre on Wednesday approved *a production-linked incentive scheme for the automobile and drone industries with a budgetary outlay of ₹26,058 crore.* This tranche is part of the overall plan for 13 sectors highlighted during the Budget announcements for 2021-22, with a total outlay of ₹1.97 lakh crore.

What is the scheme laying stress on?

The incentive scheme for the auto sector aims to blunt the impact of costs involved when investing in technologies that could power vehicles in future. While existing players — in addition to new entrants — may avail themselves of the benefit for fresh investments, *the incentives are available for what the government refers to as 'Advanced Automotive Technology products'. These include technologies for battery electric vehicles and those that use hydrogen fuel cells.*

How relevant is the plan for the auto sector?

The Indian auto sector was once *slated to emerge as the third-largest auto market*, after the U.S. and China, by 2020. After peaking at annual sales of 3.3 million passenger vehicles in FY19, as per figures from the Society of Indian Automobile Manufacturers (SIAM), the sector witnessed a decline to 2.77 million units the subsequent year. Likewise, two-wheelers peaked at 21.2 million in FY19 before dipping to 17.4 million. Then, the pandemic struck, resulting in factory lockdowns and negative consumer sentiment. *In 2020, the country was ranked fifth.* Global interest in the Indian market has waned. General Motors exited India in 2017. Pushed by cumulative losses of about \$2 billion, Ford last week announced its decision to shut shop in the country. *Given that the pandemic — with resultant semiconductor supply shortages and container availability issues — had only further dampened the prospects of the sector*, automotive veterans such as Maruti Suzuki chairman R.C. Bhargava and TVS Motor chairman Venu Srinivasan had recently urged the government to act and protect industry interests. In this backdrop, the scheme aims to inject some verve into the sector, especially with a nudge to technologies that help lower fossil fuel emissions. The government expects the scheme would lead to fresh investments of more than ₹42,500 crore, incremental production worth over ₹2.3 lakh crore and creation of an additional 7.5 lakh jobs.

Are only newer fuel technologies eligible for it?

Yes. The move to clean technologies came even as electric-vehicle (EV) maker Tesla had urged the Centre to cut duties on imported vehicles. Incentivising local production could translate into more investments in this segment. Also, India has become increasingly keen to reduce dependence on



oil imports and bring down pollution, even as it strives to meet commitments under climate change agreements. With most vehicle manufacturers betting on buyers' preference for personal mobility following the pandemic-induced hygiene restrictions, the government would likely want to take advantage of the mood and boost emission-friendly EVs; but it is still a challenge for vehicle-owners to make a full recharge of batteries as quickly as they would refill a petrol/diesel tank. *EVs are seen as not being suited to long-distance driving, given the power storage technologies currently in place as well as the poor spread of the charging network.* According to a December 2020 report by the India Energy Storage Alliance, EVs were set to grow from 3.8 lakh units in the country in FY20 to about 63 lakh by 2027. The figures indicate that the total EV count was a small fraction of just the passenger vehicles sold in India. Further, *charging stations numbered 1,800 as of March, according to the Society for Manufacturers of Electric Vehicles. A Grant Thornton-FICCI report estimates that the country would need about 4 lakh charging stations by 2026 that would meet the needs of two million EVs.* Traditional fuel stations numbered about 77,215 as on May 1, 2021, according to government data.

What can customers expect?

The announcement aims to offer benefits to the supply side of the equation. The industry, including the SIAM, has been demanding a cut in the GST rate from 28% applicable to the average passenger vehicle to aid customers. *The government recently said it was open to "tinkering" with the rate for automobiles. In November 2020, Tamil Nadu announced a 100% waiver of road tax on EVs for two years. Earlier that year, the Centre revised norms for FAME-II.* These factors, coupled with the relentless climb in the cost of traditional fuels, likely spurred the EV count on Tamil Nadu roads to double to 14,300 in eight months till August this year.

DreamIAS



LIFE & SCIENCE

HOW RESEARCHERS FOUND WHERE TO LOOK FOR PLANET NINE

In August 2006, the International Astronomical Union broke several hearts when it announced that it had reclassified Pluto as a dwarf planet. The decision was based on Pluto's size and the fact that it resides within a zone of other similarly-sized objects. Currently, there are five dwarf planets: Ceres, Pluto, Eris, Makemake and Haumea. Scientists have continued their search for new planets and in 2016 Konstantin Batygin and Michael E. Brown, both from the California Institute of Technology, published a paper in The Astronomical Journal, stating that they had evidence for a distant giant planet and nicknamed it Planet Nine. They noted that it could have a mass about 10 times that of Earth. "Although we were initially quite skeptical that this planet could exist, as we continued to investigate its orbit and what it would mean for the outer solar system, we became increasingly convinced that it is out there," said Dr Batygin, an assistant professor of planetary science in a release. *"For the first time in over 150 years, there is solid evidence that the solar system's planetary census is incomplete." The team continued their study of the planet and in 2019 published a pair of papers on its orbit and influence on other objects.* "The most distant objects that we know of in the solar system are being slightly tugged by some gravitational effects; as far as we can tell, the only plausible explanation is a giant planet out there," explained Dr Brown in an email to indianexpress.com. He was one of the researchers who helped reclassify Pluto and is the author of the book 'How I Killed Pluto and Why It Had It Coming.' New computer studies said that Planet Nine could be five Earth masses. "Planet Nine is likely to be very reminiscent of a typical extrasolar super-Earth," explained Dr Batygin in a release. "Planet Nine is going to be the closest thing we will find to a window into the properties of a typical planet of our galaxy."

Is Planet 9 a black hole?

Researchers from across the globe have carried out several studies on Planet Nine and there are several theories about it, including one that stated Planet Nine could in fact be a black hole. The paper published last year in Physical Review Letters argued that the unknown object causing anomalous orbits of the trans-Neptunian objects could be a primordial black hole. Another study published in 2018 in The Astronomical Journal gave more evidence for the existence of Planet Nine. It noted that a trans-Neptunian object called 2015 BP519 had an unusual trajectory because it was affected by Planet Nine's strong gravity. The lead author Juliette Becker had then told The Indian Express: *"When we ran a simulation without Planet Nine, we found it was very hard to make objects like BP519. When we ran a different simulation including Planet Nine, we found that it was very easy to make objects like BP519."*

What is the new finding?

Dr. Brown tweeted last month that he has 'the treasure map' to find Planet Nine. "Five and a half years after our proposal of the existence of Planet Nine, we have finally accomplished what is perhaps the most important task in aiding the search: we now know where to look," he wrote in his blog. The paper posted on arXiv says that Planet Nine has a mass of 6.2 (+2.2/-1.3) Earth masses. The paper also details Planet Nine's semimajor axis, inclination, and perihelion. Dr. Brown mentioned in his tweet that the data only tells us the orbital path of Planet Nine but not where in the orbital path it



is. "It is more likely to be at its most distant point from the sun, but only because it travels more slowly there. But this is where you should be looking," he tweeted. When asked if there were any ideas on how Planet Nine was formed, he explained: "Our best guess is that it formed in the vicinity of Uranus and Neptune and eventually got too close to Jupiter or Saturn which flung it out into the outer reaches of our solar system." The team is continuing their studies and note that the Vera C. Rubin Observatory, currently under construction in Chile, will further help the hunt for Planet Nine. "The observatory will scan the skies night after night and eventually uncover many things, including — we hope — Planet Nine," concludes Dr. Brown.

Is everyone convinced that Planet Nine exists?

Since 2016, studies have variously concluded that there is more and more evidence of Planet Nine's exist, or that it does not exist, or that it may in fact be a black hole. A paper published last year in Physical Review Letters argued that the unknown object causing anomalous orbits of the trans-Neptunian objects could be a primordial black hole. Another study published in 2018 in The Astronomical Journal, on the other hand, cited fresh evidence for the existence of Planet Nine. It noted that a trans-Neptunian object called 2015 BP519 had an unusual trajectory because it was affected by Planet Nine's strong gravity.

YOUR SMARTPHONE AND ITS 'ADAPTIVE REFRESH RATE'

Every year Apple adds one or two features in its flagship iPhone model, which, even if not new, has the capability to move the industry as a whole. This year was no different with the recent iPhone 13 Pro range offering *a 120Hz high-refresh-rate display which Apple is calling ProMotion*. Top-end Android phones from Samsung and others have had this feature for a couple of years now, but since Apple is making it easier for developers to benefit from this feature, it is going to get more adoption in the industry. Here is what adaptive refresh rate means, how it changes user interaction with the smartphone.

What is refresh rate?

Whether it is a TV, a PC monitor, or a smartphone, all devices constantly change the pixels they display to project the appearance of motion. *Simply put, refresh rate means how many times the image on a screen can be updated or "refreshed" every second – much faster than your eye can detect. Refresh rate is measured in Hertz (Hz).* For example, your HD TV at home has a 60Hz refresh rate like the iPhone 12 series. A 60Hz TV can refresh the screen 60 times per second, while a 120Hz on the iPhone 13 Pro can refresh the screen 120 times per second. The higher the refresh rate, the more times per second the screen is refreshing its pixels. While the refresh rate is the number of times per second an image is refreshed or flashed on the screen, the frame rate is the rate at which frames appear in a display and form moving imagery. *When a video is displayed on a screen, the speed at which it is played is also known as the frame rate. Experts believe the human eye can see between 30 and 60 frames per second.* Movies are shot and played at a 24 frames-per-second rate. To be clear: there are 24 frames in 1 second of video. This is the standard frame rate for videos. *If you are shooting a video using a smartphone camera, 30 frames per second (FPS) is almost the standard now. Games, meanwhile, are created with up to 120 FPS. For the best visual experience, refresh rates and frame rates have to work together.* For example, a mobile game



running at 120 frames per second should look smooth on a 120Hz display when compared to the same game running at 60 fps on a 60Hz display.

So, what is an adaptive refresh rate?

When a display has an adaptive refresh rate, like with the ProMotion display on the new iPhone 13 Pro series, the refresh rate changes from 10Hz to 120Hz depending on the content being played — some Samsung phones offer between 48Hz and 120Hz. So a static website will be played at a 10Hz refresh rate and a game at a 120Hz refresh rate. This means there is little chance of under delivering or over delivering refresh rate. Apple is not giving users the option to set a default refresh rate on the phones as some Android phones do. But developers will have the ability to code in such a way that they can set specific refresh rates for different aspects of their app.

When does the refresh rate matter?

Faster refresh rates are usually better at handling motion, especially when watching action movies, playing video games, or scrolling through your Twitter timeline. If you are into hardcore mobile gaming, the high-refresh display makes a huge difference. Would you see a drastic change in the way you use your smartphone? Absolutely not... 60Hz displays are good enough for average consumers, but companies like Apple, Samsung and OnePlus believe a 120Hz display is a “pro” feature, aimed at a specific audience. This is why the iPhone 13 and iPhone 13 mini are limited to a 60Hz display while the top-end iPhone 13 Pro series has a display that can go up to 120Hz.

Does a high-refresh rate impact gaming?

Yes and No. If you play a casual game like Super Mario Run or Subway Surfers on the iPhone 13 Pro Max it does not really take advantage of a 120Hz “ProMotion” display. But if you play Alto’s Odyssey or Dead Trigger 2 on the iPhone 13 Pro Max, those games will benefit from using the 120Hz display. You will actually notice that this results in improved motion resolution, reduced ghosting, and better responsiveness. *A lot of what adaptive displays offer is driven by the powerful processors and low-temperature polycrystalline oxide (LTPO) displays that are making their way to phones these days, even more so when the system has to decide what refresh rate to show when.*

... but a high-refresh rate could impact the battery life

One other reason for adding an adaptive display in phones that can offer 120Hz display, is the impact higher refresh rates have on battery life. So the adaptive refresh rate in the new iPhones and phones like the Samsung Galaxy S21 Ultra are designed to save the phone’s battery life by boosting refresh rates only when they’re really needed.

TALE OF 2 INTERNETS: BATTLE FOR DIGITAL PRIVACY MAY RESHAPE THE WEB

Apple introduced a pop-up window for iPhones in April that asks people for their permission to be tracked by different apps. Google recently outlined plans to disable a tracking technology in its Chrome web browser. And Facebook said last month that hundreds of its engineers were working on a new method of showing ads without relying on people’s personal data. The developments may seem like technical tinkering, but they were connected to something bigger: an intensifying battle over the future of the internet. The struggle has entangled tech titans, upended Madison Avenue



and disrupted small businesses. And it heralds a profound shift in how people's personal information may be used online, with sweeping implications for the ways that businesses make money digitally. *At the centre of the tussle is what has been the internet's lifeblood: advertising.* More than 20 years ago, the internet drove an upheaval in the advertising industry. It eviscerated newspapers and magazines that had relied on selling classified and print ads, and threatened to dethrone television advertising as the prime way for marketers to reach large audiences. Instead, brands splashed their ads across websites, with *their promotions often tailored to people's specific interests.* Those digital ads powered the growth of Facebook, Google and Twitter, which offered their search and social networking services to people without charge. But in exchange, *people were tracked from site to site by technologies such as "cookies, and their personal data was used to target them with relevant marketing.* Now that system, which ballooned into a \$350 billion digital ad industry, is being dismantled. Driven by online privacy fears, Apple and Google have started revamping the rules around online data collection. *Apple, citing the mantra of privacy, has rolled out tools that block marketers from tracking people. Google, which depends on digital ads, is trying to have it both ways by reinventing the system so it can continue aiming ads at people without exploiting access to their personal data.* If personal information is no longer the currency that people give for online content and services, something else must take its place. *Media publishers, app-makers and e-commerce shops are now exploring different paths to surviving a privacy-conscious internet, in some cases overturning their business models. Many are choosing to make people pay for what they get online by levying subscription fees and other charges instead of using their personal data.* Jeff Green, CEO of the Trade Desk, an ad-technology company in Ventura, California, that works with major ad agencies, said the behind-the-scenes fight was fundamental to the nature of the web.

But Google executives have suggested that Apple has turned privacy into a privilege for those who can afford its products. For many people, that means the internet may start looking different depending on the products they use. On Apple gadgets, ads may be only somewhat relevant to a person's interests, compared with highly targeted promotions inside Google's web. Website creators may eventually choose sides, so some sites that work well in Google's browser might not even load in Apple's browser, said Brendan Eich, a founder of Brave, the private web browser. "It will be a tale of two internets," he said. Businesses that do not keep up with the changes risk getting run over. Increasingly, media publishers and even apps that show the weather are charging subscription fees. Apple declined to comment, but its executives have said advertisers will adapt. *Google said it was working on an approach that would protect people's data but also let advertisers continue targeting users with ads. Facebook is now developing ways to target people with ads using insights gathered on their devices, without allowing personal data to be shared with third parties.*

MEETING EYES

When two people converse, their eyes meet in moments of "shared attention", with their pupils dilating in synchrony, according to a Dartmouth study (PNAS). *According to lead author Sophie Wohltjen at Dartmouth, when two people converse, eye contact signals that shared attention is high — that they are in peak synchrony. As eye contact persists, that synchrony then decreases. "We think this is also good because too much synchrony can make a conversation stale. An engaging conversation requires at times being on the same page and at times saying something new.* Eye



contact seems to be one way we create a shared space while also allowing space for new ideas,” she said in a release. According to this study, eye contact is made when two people in conversation are already in sync, and, if anything, eye contact seems to then help break that synchrony. *Eye contact may usefully disrupt synchrony momentarily in order to allow for a new thought or idea.* The researchers studied pairs of Dartmouth students who were in conversation for 10 minutes by making them wear eye-tracking glasses. The conversation was audio and video recorded. The researchers looked at how pupillary synchrony increases and decreases around instances of eye contact. They found that people make eye contact as pupillary synchrony is at its peak. Pupillary synchrony then immediately decreases, only recovering again once eye contact is broken. The data also demonstrated a correlation between instances of eye contact and higher levels of engagement.

WINGED MICROCHIP IS ‘SMALLEST HUMAN-MADE FLYING STRUCTURE’

Northwestern University engineers have created an *electronic microchip with the capability of flight. About the size of a grain of sand, the new flying microchip (or “microflier”) does not have a motor or engine. Instead, it catches flight on the wind — much like a maple tree’s propeller seed — and spins like a helicopter through the air toward the ground.* A release by Northwestern University described these microflier as the “smallest-ever human-made flying structures”. The research has been published in Nature and is featured on the cover of the journal. *By studying maple trees and other types of wind-dispersed seeds, the engineers optimised the microflier’s aerodynamics to ensure that it — when dropped at a high elevation — falls at a slow velocity in a controlled manner. This behaviour stabilizes its flight, ensures dispersal over a broad area and increases the amount of time it interacts with the air, making it ideal for monitoring air pollution and airborne disease. These microfliers also can be packed with ultra-miniaturised technology, including sensors, power sources, antennas for wireless communication and embedded memory to store data, the release said. “Our goal was to add winged flight to small-scale electronic systems, with the idea that these capabilities would allow us to distribute highly functional, miniaturized electronic devices to sense the environment for contamination monitoring, population surveillance or disease tracking,”* the release quoted John A Rogers, who led the device’s development, as saying. The team designed and built many different types of microfliers, including one with three wings, optimised to similar shapes and angles as the wings on a tristellateia seed. To pinpoint the most ideal structure, they led full-scale computational modeling of how the air flows around the device to mimic the tristellateia seed’s slow, controlled rotation. Based on this modelling, the team then built and tested structures in the lab.

WHAT IS THE HAVANA SYNDROME, SAID TO BE TARGETING US OFFICIALS

A US intelligence officer travelling with CIA director William Burns has reported symptoms of Havana Syndrome while the two were in India earlier this month. The development, as reported by the US media, has apparently angered the CIA director and could lead to an “egregious escalation” in case an adversarial power was found to be involved in the “attack”. This is the first instance of the phenomenon being reported in India, at least on record, and could have diplomatic implications.



What is Havana Syndrome?

Havana Syndrome refers to a set of mental health symptoms that are said to be experienced by US intelligence and embassy officials in various countries. It typically involves symptoms such as hearing certain sounds without any outside noise being present, nausea, vertigo and headaches, memory loss and issues with balance. As the name suggests, it traces its roots to Cuba. In late 2016, about a year after the US opened its embassy in Havana, some intelligence officials and members of the staff at the embassy began experiencing sudden bursts of pressure in their brain followed by persistent headaches, feeling of disorientation and insomnia. According to a 2018 report by The New Yorker, between December 30, 2016, and February 9, 2017, at least three CIA officers working under diplomatic cover in Cuba had reported troubling sensations that seemed to leave serious injuries. When the agency sent reinforcements to Havana, at least two of them were found with similar symptoms. *The New Yorker article said specialists studied the brains of the victims and determined that the injuries resembled concussions, like those suffered by soldiers struck by roadside bombs in Iraq and Afghanistan. But there were no signs of impact. As the mental health of its officials began to be impacted, the US withdrew them, dramatically reducing the strength in its embassy in Havana. The Havana Syndrome has had lasting impact on mental health of some US intelligence officials with at least one officer being compulsorily retired for his inability to coherently discharge his duty and another needing a hearing aid.*

Has Havana Syndrome been reported anywhere else?

Since the Cuban incident, American intelligence and foreign affairs officials posted in various countries have reported symptoms of the syndrome. *In early 2018, similar accusations began to be made by US diplomats in China. The first incident reported by an American diplomat in China was in April 2018 at the Guangzhou consulate. The employee reported that he had been experiencing symptoms since late 2017. Another incident had previously been reported by a USAID employee at the US Embassy in Tashkent, Uzbekistan, in September 2017.* In 2019 and 2020, such incidents have been reported from within the US — particularly in Washington DC. One incident was even reported at The Elipse, a lawn adjacent to the White House. According to US media reports, in the past few years US officials have reported around 130 such attacks across the world including at Moscow in Russia, Poland, Georgia, Taiwan, Colombia, Kyrgyzstan, Uzbekistan, and Austria, among others. According to a New York Times report last month, Vice-President Kamala Harris was delayed for three hours as she was about to fly to Hanoi, Vietnam, after a US official in Vietnam reported Havana Syndrome symptoms.

What are the causes of Havana Syndrome?

No one is entirely sure. But, initially during the Cuban experience, being in a country that had been hostile to the US for over five decades, the suspicion was on Cuban intelligence or a section within the Cuban establishment that did not want US-Cuba relations to normalise. *It was initially speculated to be a "sonic attack". However, further study by scientists in the US and medical examination of the victims began to suggest that the victims may have been subjected to high-powered microwaves that either damaged or interfered with the nervous system. It was said to have built a pressure inside the brain that generated the feeling of a sound being heard. Greater exposure to high-powered microwaves is said not only to interfere with the body's sense of balance but also impact memory and cause permanent brain damage. It is suspected that beams of high-powered*



microwaves are sent through a special gadget that Americans have begun calling “microwave weapon”. There are also theories that perhaps an adversarial power is using these weapons to actually either interfere with US surveillance systems in various countries or glean information from the same, with human victims being collateral damage. After all, use of microwaves as a counter-intelligence tactic has been experimented with since the Cold War and both Russia and the US have made attempts to weaponise it. There have been reports of US embassy officials in Moscow experiencing mental health issues due to suspected use of microwaves in the 1970s. A BBC report this month quoted James Giordano, an adviser to the Pentagon and Professor in Neurology and Biochemistry at Georgetown University, saying that China and Russia have been both engaged in microwave research and could have repurposed tools developed for industrial use. However, after almost five years of data collection, experiments and medical examination of victims, the US has as yet not been able to come up with any conclusive evidence suggesting the “microwave weapon” is a reality. No one seems to yet have an idea what the mechanics of this weapon is and how it functions. *There is also a question mark on how the so-called weapon is able to specifically target individuals and not affect all the people in its range. Some medical experts in the US have begun to completely debunk this theory, calling the syndrome a psychological illness amplified by widespread fear of being targeted. The BBC report quoted Robert W Baloh, a Professor of Neurology at UCLA, calling it “a mass psychogenic condition” where as opposed to the Placebo effect a mass of people when struck with anxiety of being targeted begin to feel sick.*

Who is doing this in India?

Sources in the Indian security establishment say they are not aware of any such weapon being in the possession of an Indian agency. *Even if there was one, it is unlikely the government would admit to having acquired such counter-espionage technology given the sensitive nature of intelligence work. “But why would an Indian agency target the US? Given the geopolitics of today, they are our closest friends,” an intelligence official said. So, could a foreign country use Indian soil to target US officials? Sources say it is highly unlikely. “Even if we were to assume that the Russians or the Chinese have been able to bring in such equipment without our knowledge, once such a thing comes out, it negatively impacts relations between our country and theirs.* Why would they risk that unless they want to hurt us as well?” another intelligence official said. Sources in the security establishment said as yet there has been no reporting of Havana Syndrome in Delhi. “We have not come across this in the past five years or earlier. None of our intelligence officials have either reported being a target of such a thing,” a senior intelligence official said. A former R&AW officer, who was in service at the time Havana Syndrome was first reported, said, “At that time, or even after that, there were no reports of Indian officials suffering this at any of the embassies.” Without discounting US anxieties over it, another former R&AW officer said, “If a foreign power is doing it, why will they target the US alone. Why aren’t other countries reporting the same? Barring the Canadian embassy in Havana, there have been no such reports from officials of any other country anywhere in the world. This is not to say that the US assertions may not be true. But it’s a curious case.”

WHAT IS VISHNUONYX?

Between 12.5 million and 14 million years ago, *members of a genus of otters called Vishnuonyx lived in the major rivers of southern Asia. Fossils of these now extinct otters were first discovered in*



*sediments found in the foothills of the Himalayas. Now, a newly found fossil indicates it had travelled as far as Germany. The discovery has been described in the Journal of Vertebrate Paleontology. Researchers from the Universities of Tübingen and Zaragoza have discovered the fossil of a previously unknown species, which they have named *Vishnuonyx neptuni*, meaning 'Neptune's Vishnu'. The species was discovered from a 11.4-million-year-old strata in the area of Hammerschmiede, which is a fossil site in Bavaria, Germany that has been studied for about 50 years, the University of Tübingen said in a press release. **This is the first discovery of any member of the *Vishnuonyx* genus in Europe; it is also its most northern and western record till date. *Vishnuonyx* were mid-sized predators that weighed, on average, 10-15 kg. Before this, the genus was known only in Asia and Africa (recent findings show that *Vishnuonyx* reached East Africa about 12 million years ago, according to the release). *Vishnuonyx* depended on water and could not travel long distances over land. How did it travel as far as Europe? According to the researchers, its travels over 6,000 km were probably made possible by the geography of 12 million years ago, when the Alps were recently formed.** These Alps and the Iranian Elbrus Mountains were separated by a large ocean basin, which would have made it easier for the otters to cross it. Researchers believe 'Neptune's Vishnu' first reached southern Germany, followed by Ancient Guenz and eventually, the Hammerschmiede.*

HUMBOLDT PENGUIN

Last week, Mumbai's Byculla Zoo announced the addition of two new Humboldt penguin chicks this year. *Oreo was born to Flipper and Mr Molt on May 1; and an as-yet-unnamed chick to Daisy and Donald on August 19. The two join seven adult Humboldt penguins at Byculla Zoo — Popeye, Flipper, Bubble, and the new parents. Humboldt penguins are a medium-sized species among at least 17 species. The exact number of distinct species is debated, but it is generally agreed that there are between 17 and 19 species, according to the Smithsonian Institute.* The largest, the Emperor penguin, stands at over 4 ft tall while the Little penguin has a maximum height of 1 ft. Humboldt penguins have an average height of just over 2 ft. Penguins are divided into six genera (see table). *The Humboldt penguin (*Spheniscus humboldti*) belongs to a genus that is commonly known as the 'banded' group. Humboldt penguins are endemic to the Pacific coasts of Chile and Peru. They are so named because their habitat is located near the Humboldt Current, a large oceanic upwelling characterised by cold waters. Humboldt penguins have large, bare skin patches around their eyes, an adaptation to help keep them cool, according to the Smithsonian Institute.* Their breeding season in the wild is either March-April or September-October depending on the location of the colony. "The Humboldt is one of the most popular zoo penguins due to its ability to withstand warmer climates," the Institute says on its website. At Byculla, the seven adult penguins were brought to the zoo in 2016 from Seoul. The unnamed chick is being looked after by its parents Flipper, the oldest female penguin at the zoo, and Mr Molt, the youngest among the males, through a process called 'brooding'. Its sex is yet to be known.