



## Current Affairs, 24th to 30th November, 2019

### International

#### Why Russia Faces International Sports Ban

- A World Anti-Doping Agency (WADA) panel has suggested that Russia be banned for four years from competing in international events, including next year's Tokyo Olympics. The move stems from new revelations in a doping programme that Russia has been accused of. A look at what the alleged programme is about:

#### How Did These Allegations Unfold?

Over the last five years, whistle-blowers and investigators have accused Russia of running a doping programme so sophisticated that it forced international federations to stop its athletes from competing in major events. In September 2018, after multiple investigations, WADA lifted the sanctions on the condition that Russia handover athlete data to doping regulators from its Moscow laboratory, which would help identify hundreds of athletes who may have cheated across various sports. Now, Russia has been accused of manipulating that database. This is what led to the WADA panel suggesting the four-year ban.

#### What Was Russia Originally Accused Of?

In 2014, 800m runner Yulia Stepanova and her husband Vitaly — a former employee of the Russian Anti-Doping Agency, RUSADA — appeared in a German documentary and lifted the lid on what was later described as one of the most “sophisticated doping programmes” in sports history. Two years later, another whistle-blower — Grigory Rodchenkov, a former head of the RUSADA — told The New York Times that Russia ran a carefully planned, state-sponsored doping scheme. Rodchenkov's claims were more damning. He accused a wider conspiracy, in which the **country's anti-doping and members of intelligence services substituted urine samples of the athletes through a hidden hole in the wall at the agency's laboratory during the 2014 Sochi Winter Olympics**. The lab, according to investigations, was guarded by members of Russia's state security services. Subsequently, the International Olympic Committee (IOC), WADA and other global federations launched a series of investigations.

#### What Did These Investigations Look At?

WADA launched an independent investigation led by Canadian lawyer Richard McLaren to look into the functioning of the Moscow lab. The IOC commissioned two inquiries — one of which looked into the evidence of manipulation of samples at the Sochi Games, and the other to find out the involvement of the Russian state. **The McLaren report laid out evidence of state-sponsored doping during the Sochi Olympics**. One IOC commission, too, found dozens of Russian athletes guilty of being involved in anti-doping rule violations at those Games. The other IOC investigation confirmed that Russian authorities had developed a system that



allowed the Moscow-based laboratory to change the test results and tamper with the samples collected during that event.

### What Happened Then?

Immediately after the allegations surfaced, the accreditation of Russia's anti-doping lab was suspended in 2015. After the preliminary investigations, the IOC removed 111 athletes, including the entire track and field team, from Russia's 389-member contingent for the Rio Olympics. Following a deeper inquiry, the IOC suggested a complete ban on Russia's participation at the 2018 Winter Olympics in Pyeongchang, South Korea. Ultimately, 168 athletes participated through special dispensations from the international federations. But the Russian Olympic Committee was barred from attending the event and the country's flag was not officially displayed at any of the venues. Russian athletes, too, were forced to wear neutral uniforms with "Olympic Athlete from Russia" printed on them.

### Why Did WADA Lift the Sanctions Later?

That was an unexpected decision in September 2018, taken despite an outcry from athletes and anti-doping officials from the world over after negotiations between Russian officials and leaders of international sports organisations. Initially, in an agreement with WADA, Russia was supposed to admit to the wrongdoings and turn over data and samples before it was reinstated. Later, however, WADA backed off on the demand and, according to The New York Times, "accepted the less harsh findings on the government's role" as evidenced by an IOC commission. WADA president Craig Reedie, however, said the reinstatement came with 'strict conditions', that included WADA getting access to the Moscow laboratory that held athlete data.

### Did Russia Give Access to And Submit the Athlete Data?

In January 2019, a three-member WADA team retrieved the 2,262 samples from the Moscow laboratory through its "various servers, instruments, computers and other electronic equipment", according to a WADA statement. The data were transported out of Russia for authentication and detailed analysis by the WADA. In July, WADA said its investigators were examining "some differences" between the data retrieved from the Moscow lab and a separate database provided to it by a whistle-blower in 2017, thus raising questions about the validity of data Russia submitted.

### Will There Be A New Punishment Imposed on Russian Athletes?

The WADA panel on Monday recommended that Russia face a four-year ban from global sports, including the Tokyo Olympics. The proposed sanctions include:

- ❖ Forcing Russian athletes to compete at a second straight Olympics in neutral uniforms. If they win medals, the country's flag won't be raised and national anthem won't be played.
- ❖ Russian athletes be allowed to compete in major events only if they demonstrate that they are clean and meet a number of other strict conditions.
- ❖ Preventing Russia from bidding for new championships, and moving the tournaments the country was set to host during this period to other nations.



- ❖ Barring Russian government officials and representatives from attending major events or from serving on the board of any organisation that has signed the global anti-doping code.

### What Happens Next?

Russia has denied all allegations. The IOC, in a statement on Tuesday, called for “toughest sanctions” for those responsible for “manipulating the data” and demanded “the Russian authorities deliver the raw data on which this case is based”. On December 9, WADA’s executive committee will meet to discuss these recommendations. If these are accepted, a formal notice will be sent to RUSADA. In case Russia rejects the panel’s suggestion, the matter will be referred to the Court of Arbitration for Sport (CAS). If CAS upholds the recommendations, they will be binding and must be enforced by all international federations.

### The PM In His Labyrinth

- ➔ The Pakistan Supreme Court’s decision to grant six months’ conditional extension to Chief of Army Staff Gen. Qamar Javed Bajwa has averted an immediate crisis in the country, but the whole affair is still an embarrassment for Prime Minister Imran Khan’s government. The government’s ineptitude and incompetence, if not complete disregard for procedural formalities and the Constitution, were on display from the day the notification on extension was issued. It was first issued, on August 19, by the Prime Minister, while Article 243 of the Constitution clearly states that the authority to appoint the Army Chief rests with the President. When the President also issued the notification, extension became reappointment of Gen. Bajwa, whose term was otherwise set to end on Thursday night. When the Supreme Court pointed out these inconsistencies and raised questions about Cabinet approval, the government called an emergency Cabinet meeting and issued another notification, stating that the General’s term was being extended according to Army Regulation 255. The court didn’t accept this notification either, saying Army Regulation 255 doesn’t apply to the Army Chief. Finally, the government argued that the Army Chief can be reappointed by the President in accordance with Article 243. The Supreme Court wanted the government to issue another notification in this regard and give an undertaking that Parliament would pass legislation to avoid legal ambiguities on the issue. It is after the government produced these documents that the three-member bench agreed to the extension. The Supreme Court stated that it could not find any provision relating to the tenure or reappointment of the Army Chief “under the Constitution or the law”. Therefore, it left the matter to Parliament to specify the terms and conditions of service of the Army chief through legislation in six months. This is another challenge to Mr. Khan. It’s hardly a secret that the current government and the military establishment are close. Mr. Khan must have wanted the extension to come into effect without any controversy so that he can continue to enjoy the confidence of the establishment and vice versa. But now, Gen. Bajwa’s continuing at the top of the military beyond six months from Thursday is dependent on what Parliament decides. In effect, the court has enabled Parliament to clearly define the Army Chief’s tenure, which is a critical issue in a country known for civil-military conflicts. Mr. Khan would do well to tread cautiously on the legislation. He should reach out to the Opposition and try to build a consensus in Parliament as this is a historic opportunity for the civilian class to uphold its authority and ensure, as the Constitution states, that the federal government has control and command over the Armed Forces.



## Hong Kong's Protest Vote

→ The Hong Kong administration led by Carrie Lam suffered a stinging setback on Sunday when voters rejected outright establishment candidates in elections to the city's 18 district councils. Ms. Lam herself had indicated that the vote would be a proxy referendum on the way she handled months-long street protests, saying that a silent majority backed her administration. The protesters asked voters to express their support for the agitation through the vote to the district councils, the only authority in the city being selected by full universal suffrage. They seem to have listened to the protesters. A record 2.94 million voters turned up, representing 71.2% of the total registered electorate, up from 47% in the 2015 election. The initial results suggest that pro-democracy parties captured 17 of the 18 councils from the establishment parties. In the 452-member district council, pro-democracy parties have won 392 seats, while the strength of the establishment parties, which controlled 292 seats before the polls, was reduced to a historic low — 60 seats. Hong Kong's city council elections are otherwise a sleepy affair. The councils have limited powers, mainly pertaining to local issues such as waste collection and maintaining public spaces. What drew international attention to this year's election was the violent street protests. **And with their overwhelming mandate to the pro-democracy parties, Hong Kong voters have made it clear where they stand on the issue.** Protests broke out almost six months ago when the city government pushed a legislation that would have allowed the extradition of Hong Kongers to mainland China. Both the government and the protesters have committed a series of mistakes ever since. The government initially refused to withdraw the extradition Bill despite mounting public anger. When the protests snowballed, the administration backed off on the Bill, but it was too little and too late. The protesters now demand Ms. Lam's resignation, an investigation into the way the police handled the protests, more democracy and electoral reforms. The city government rejected these demands as "wishful thinking" and adopted an increasingly aggressive approach to quell the agitation, which led to pitched battles between the protesters and the police. Both sides used force (the protesters shut down the city's main airport briefly, occupied a university and used Molotov cocktails and bricks to attack the security personnel, while the police fired hundreds of rounds of rubber bullets and tear gas shells to control the crowd) and the prolonged demonstrations have disrupted city life and pushed its once-thriving economy into recession. The crisis has entered into a stalemate. The question is whether the election results would sway the government to take a more conciliatory approach to resolve the problem. Ms. Lam has said that she would respect the mandate. One way of doing that is offering to talk to the protesters, seeking common ground to end violence and restore order in the city.

## Why Has China Put Uighur Muslims In Camps, And What Happens Inside?

→ For some months now, international concern has been growing about what China is doing to its Uighur population, a Muslim minority community concentrated in the country's north-western Xinjiang province. Reports have emerged of China 'homogenising' the Uighurs, who claim closer ethnic ties to Turkey and other central Asian countries than to China, by brute — and brutal — force. Around a million Uighurs, Kazakhs and other Muslims have been bundled into internment camps, where they are allegedly being schooled into giving up their identity, and assimilate better in the communist country dominated by the **Han Chinese**. Children have been separated from their parents, families torn apart, an entire population kept under surveillance and cut off from the rest of the world. The few survivors who have



managed to escape the country have been reported to speak of physical, mental and sexual torture at these camps. China resolutely denies all such allegations, claiming the camps to be 'educational centres' where the Uighurs are being cured of "extremist thoughts" and radicalisation, and learning vocational skills. Recently, however, a set of leaked government documents have reached The New York Times, giving a behind-the-scenes look into how and why the camps were set up, what is happening there, and what the government seeks to achieve from them.

### What Exactly Are These Documents?

According to The New York Times, "the papers were brought to light by a member of the Chinese political establishment who requested anonymity and expressed hope that their disclosure would prevent party leaders, including [President] Xi [Jinping], from escaping culpability for the mass detentions." The newspaper says the leaked papers consist of 24 documents, which "include nearly 200 pages of internal speeches by Xi and other leaders and more than 150 pages of directives and reports on the surveillance and control of the Uighur population in Xinjiang. There are also references to plans to extend restrictions on Islam to other parts of China."

### Why Is China Targeting the Uighurs?

Xinjiang is technically an autonomous region within China — its largest region, rich in minerals, and sharing borders with eight countries, including India, Pakistan, Russia and Afghanistan. The Uighurs are Muslim, they don't speak Mandarin as their native language, and have ethnicity and culture that is different from that of mainland China. Over the past few decades, as economic prosperity has come to Xinjiang, it has brought with it in large numbers the majority Han Chinese, who have cornered the better jobs, and left the Uighurs feeling their livelihoods and identity were under threat. This led to sporadic violence, in 2009 culminating in a riot that killed 200 people, mostly Han Chinese, in the region's capital Urumqi. In 2014, President Xi visited Xinjiang. On the last day of his trip, a suicide bombing at a railway station in Urumqi killed one person and injured nearly 80. Weeks previously, Uighur militants had gone on a stabbing spree at a railway station, killing 31. The following month, in May, 39 people were killed in a blast in a vegetable market in the region. The government had anyway been cracking down on the Uighurs. After this spell of violence, retaliation hardened. With terror attacks in other parts of the world and the US withdrawal from Afghanistan, a local militancy was viewed as something that could grow into a terrorist-secessionist force, determined to break away from China to form an independent "East Turkestan". The Chinese policy from here on seems to have been one of treating the entire community as suspect, and launching a systematic project to chip away at every marker of a distinct Uighur identity.

### What Is Happening in These Camps?

People could be sent to the government's "deradicalization camps" for showing any signs of extremism, with the government deciding what was "extremism" — sporting beards, fasting during Ramzan, dressing differently from the majority, sending Eid greetings, praying "too often", giving up smoking and drinking, or not knowing Mandarin. The brighter of the Uighur children were sent to boarding schools and colleges so they could be honed into civil servants loyal to China. In three years, the government is estimated to have put one million people in



the “re-education” camps, making them leave behind their jobs, property — and their children. The building of the internment camps has been accompanied by a hectic building of boarding schools and kindergartens. Children whose guardians have been taken away are being put in these facilities, where one of the things they will be taught is loyalty to China. From inside the internment camps have come reports of torture. A former inmate told the BBC: “They wouldn’t let me sleep, they would hang me up for hours, and they would beat me. They had thick wooden and rubber batons, whips made from twisted wire, needles to pierce the skin, pliers for pulling out the nails. All these tools were displayed on the table in front of me, ready to use at any time. And I could hear other people screaming as well.” A woman has spoken of how she saw a fellow inmate die for want of medical attention to menstrual bleeding, and how the camps were so crowded they had to stand and sleep in shifts. The documents leaked to The NYT speak of the official line prepared for the children of inmates who have returned from colleges — “elite” children with connections to social media and other parts of China. They are told they should be grateful the government is taking pains to reform their relatives “infected by the virus” of radicalism. Those who still persist with questions are told there is a credit system in place to decide when the inmates can leave the camps, and their behaviour will impact their relatives’ credit. Because the inmates have not been charged for any crime, there is no question of a legal fight against their detention. But even those who are not in the camps are not quite free. The government has put in place a surveillance system that includes face recognition cameras, software to monitor Uighurs’ phone activities, QR codes on homes that tell authorities how many members are inside the house, QR codes on any domestic tool that can be used as a weapon, such as a knife. Contacting people outside China is one of the surest ways to be sent to a camp. The government claims it is providing the inmates vocational skills, but many of those detained are professors, doctors, skilled professionals, so it is not clear what are these “skills” are supposed to achieve.

### What Is the Role Played by The Chinese Leadership?

The NYT leaked documents claim there is a large personal footprint of President Xi in his country’s Uighur policy. The NYT report says: “President Xi Jinping, the party chief, laid the groundwork for the crackdown in a series of speeches delivered in private to officials during and after a visit to Xinjiang in April 2014... Setting aside diplomatic niceties, he traced the origins of Islamic extremism in Xinjiang to the Middle East and warned that turmoil in Syria and Afghanistan would magnify the risks for China. Uighurs had travelled to both countries, he said, and could return to China as seasoned fighters seeking an independent homeland, which they called East Turkestan.” Xi’s predecessor, Hu Jintao, who was general secretary of the Chinese Communist Party from 2002-12 and President of the People’s Republic from 2003-13, believed in economic development alongside a state crackdown to wean people off violence, and to integrate them better with China. According to The NYT report, the state took a dim view of allowing people too many human rights. “...A 10-page directive in June 2017 signed by Zhu Hailun, then Xinjiang’s top security official, called recent terrorist attacks in Britain “a warning and a lesson for us”. It blamed the British government’s “excessive emphasis on ‘human rights above security’ and inadequate controls on the propagation of extremism on the internet and in society,” The NYT report says. Local officials had had misgivings about the government’s tough policy, fearing it would exacerbate the ethnic divides in the region. **But officials perceived as too kind to Uighurs were punished, swiftly and publicly.**



### What Has Been China's Stand Officially?

Over the past year, Turkey has spoken up for the Uighurs, and the United Nations and the United States have made some noise. China has maintained it is only de-radicalising some of its errant citizenry, and has asked the world to "respect its sovereignty" in dealing with its internal matters. However, in January this year, after reports of torture and abuse by some human rights organisations and media houses, the Chinese government invited a few journalists and diplomats to visit the camps. The inmates told the journalists they had seen the error of their ways, were glad the government was reforming them, and also danced to "If You Are Happy And You Know It Clap Your Hands." After The NYT documents were made public, Hu Xijin, editor-in-chief of China's Global Times, tweeted: "I don't know if the documents NYT reported is true or false. But I am certain Xinjiang has seen dramatic changes: Peace, prosperity and tourism are back. Xinjiang borders Pakistan and Afghanistan, China's de-radicalization efforts have made Xinjiang different from them." A day later, China's foreign ministry accused the NYT of ignoring the reasons the camps were built. Spokesman Geng Shuang said: "It [NYT] is hyping up these so-called internal documents to smear China's efforts in Xinjiang. What is the agenda? Xinjiang's continuing prosperity, stability, ethnic unity and social harmony are the strongest refutation to the allegations by certain media and individuals."

### Why A Pacific Island Is Voting for Independence?

- Approximately 30 years after a decade-long brutal civil war in Bougainville, a tiny island in the Pacific, is going to the polls to vote on its independence from Papua New Guinea. *If Bougainville's people vote for its independence in the historic referendum, the world will get its newest and possibly smallest nation.*

### What Is the Referendum About?

Between 1988-1998, political factions in Bougainville were involved in an armed conflict with the government of Papua New Guinea, in an attempt to force Papua New Guinea to divest control of the resource-rich island. According to Edward P. Wolfers, Foundation Professor Emeritus of Politics, University of Wollongong, Australia, who has conducted long-term research on Bougainville politics and history, the civil war was the "most destructive and deadly conflict in the Pacific since World War II," says Wolfers in an interview with indianexpress.com. *This historic referendum is a result of one of the three provisions of the Bougainville Peace Agreement, signed in 2001 and enacted through an amendment of the Papua New Guinea Constitution, the other two provisions being weapons disposal and autonomy, says Wolfers. The peace agreement of 2001 brought an end to the violent conflict between the people of Bougainville and the government of Papua New Guinea. Voters in Bougainville get to choose between 'greater autonomy'—a greater degree of autonomy than current arrangements within the framework of the Papua New Guinea Constitution—or independence for Bougainville from Papua New Guinea control, explains Wolfers. However, the referendum is not binding and would still have to be passed by the Government and the Parliament of Papua New Guinea, in consultation with the Autonomous Bougainville Government, before a final decision is made.*



### Why Is Bougainville An Autonomous Region of Papua New Guinea?

To understand Bougainville's links with Papua New Guinea, some historical context is required. Although the island's indigenous population had inhabited it for centuries, **it got its name after French colonizer Louis-Antoine de Bougainville**, a scientist who undertook sea voyages, particularly to the Pacific in 1776, to colonise new territory for France. Interestingly, **despite having the island named after him, Bougainville never actually set foot upon it.** According to some resources that deal with Bougainville's history, the nomenclature for the tropical flower Bougainvillea can also be attributed to Louis-Antoine de Bougainville. **In 1885, during Germany's period of colonisation, the island of Bougainville came under the German protectorate of German New Guinea. The outbreak of WWI changed the power structure in the Pacific and in 1914, Bougainville and other islands nearby, including what is now Papua New Guinea, fell under the control of Australian forces. The League of Nations controlled the island till 1942 when during WWII, American, Australian, New Zealand and Japanese military forces battled for its control. The battle resulted in the Japanese withdrawing from the island and Australia taking over its administration. This arrangement lasted till 1975, ending with Papua New Guinea gaining independence.** "There have been previous attempts to declare Bougainville independent—when Papua New Guinea became an independent country in 1975, and again in 1990," says Wolfers. In the late 1970s, a decentralised system of provincial government was introduced in Bougainville and the current autonomy arrangements were implemented following the constitutional enactment of the Bougainville Peace Agreement in 2001.

### Why Does Bougainville Want Complete Independence from Papua New Guinea?

"There has subsequently been dissatisfaction among Bougainvilleans over implementation of the agreed arrangements for Bougainville autonomy, particularly in regard to the constitutionally guaranteed financial grants to which the Autonomy Bougainville Government (ABG) is legally entitled, but which the (Papua New Guinea) National Government has not provided in accordance with the ABG's calculations," explains Wolfers. **The conflict in Bougainville and the desire of Bougainvillean people for independence is rooted in the historic plunder of the resource-rich island that has large deposits of copper and the unequal distribution of wealth that followed.** After the discovery of copper during the 1960s deep in the **Crown Prince Ranges in the centre of the island**, mining conglomerate Rio Tinto's Australia subsidiary, Conzinc Rio Tinto, set up the Panguna mine, also known as the Bougainville Copper Mine, that holds **some of the world's largest reserves of copper and is the world's largest open cut copper mine.** According to various data sources, the export of copper extracted from the Panguna mine contributed significantly to Papua New Guinea's economy, with some figures estimating its contribution upto 45 per cent of the country's export revenue. Researchers say the **protests that later inflated into a civil war were started by a local leader named Francis Ona who had witnessed foreign interests engage in wide-scale plunder of indigenous lands. Ona went on to become the leader of the Bougainville Revolutionary Army, a secessionist group that waged war against the Papuan New Guinea Defence Forces during the civil war.** The mine created job opportunities for people from Papua New Guinea and Australia seeking their own fortunes, leading to conflicts with Bougainvillean locals who also reported discrimination and racism at the hands of foreigner mine workers. Mining activities over the years also caused environmental degradation of Bougainville's lands and water. The bloody civil war that followed, resulted in the deaths of thousands of people along with displacement, disease and starvation. In the aftermath of





the civil war, the Panguna mine was closed in May 1989, with the total withdrawal of Bougainville Copper Limited employees by the following year. The long-drawn civil war in Bougainville was brought to a halt only due to the Bougainville Peace Agreement.

### What Is Most Likely to Happen in The Referendum?

Papua Guinea has much to lose if Bougainville gains independence, especially in terms of access to Bougainville's natural resources. However, a lesser known consequence of Bougainville gaining independence would be the impact it may have on Papua New Guinea's territories. According to Wolfers, there is a consensus among observers of Bougainville and Papua New Guinea that full independence will receive very strong majority support. "Though in this regard it is important to note that the previous conflict included armed conflict between Bougainvilleans who preferred to remain with Papua New Guinea and supporters of secession," adds Wolfers.

### What Is Papua New Guinea's Stance on The Independence Referendum?

"The current National Government is committed to holding the referendum. Prime Minister James Marape has said publicly that he believes that Papua New Guinea will be stronger if Bougainville remains part of Papua New Guinea," says Wolfers. Prime Minister Marape's comments, Wolfers believes, is less about Bougainville's contribution to the national economy and is more about Bougainvilleans who have formed part of Papua New Guinea's educated elite, administration, and have contributed to other aspects of public life. "While the current (Papua New Guinea) government can be expected to respect the process and the result of the vote, it seems unlikely that a separate independence will receive overwhelming public support elsewhere in Papua New Guinea and that the National Parliament will simply agree," says Wolfers. What will possibly follow, according to Wolfers, are multi-level discussions about ongoing areas of co-operation. "Such as are common in relations between former colonial powers and neighbouring countries on the one hand and independent countries on the other. For example, New Zealand with Cook Islands and Niue."

### What Happens If Bougainville Does Not Gain Independence?

According to Wolfers, the precise scope of the option of greater autonomy has still to be defined. "Clear arrangements would need to be negotiated to provide adequate funds, administrative support and policy-making capacity for the Bougainville Government. So further negotiations and arrangements for ongoing cooperation would need to be defined, agreed, and put in place," he explains.

### What Is at Stake for Australia, China, The United States?

Due to shifting powers, diplomacy and developing military and economic interests in the Asia-Pacific, the Bougainville referendum is going to have consequences not just for immediate neighbours. "The stability of the region of which Bougainville is part is clearly important to Australia – and by virtue of the relationship with other ANZUS members (Australia, New Zealand), with the USA," explains Wolfers. "There are certainly prominent Bougainvilleans who see a great deal of unrealised potential in developing relations with China." The voting in the Bougainville referendum that begins on November 23 will proceed over the next two weeks, due to "the challenging nature of the terrain," says Wolfers. The result of the referendum, likely to become known later in December, will either give the world



its newest nation or will present a new challenge for Bougainvillea's leaders who will have to ensure that their homeland doesn't fall prey to conflict once more. It isn't immediately clear whether the results of the referendum will lead to the reopening of the Panguna copper mine that started it all. It would be however, in the best interests of Bougainvilleans, if this time around, they get to have a say in their own future.

## Foreign Affairs

### Neighbourhood

#### Completion of Projects

In the Eastern Province, little progress has been made on projects that former Prime Minister Ranil Wickremesinghe had signed through MoUs in New Delhi in April 2017. Completion of these should become a priority, including India's plan to develop **Trincomalee port and oil tank farms**, and **LNG terminals near Colombo**. Finally, India's plans to counter Chinese investment will be tested by the pace of the joint India-Japan agreement to develop the **East Container Terminal at Colombo harbour**, and other projects like the offer to operate the **Mattala Airport**. Not just in Sri Lanka, but also across the subcontinent, India has lagged behind in investment figures, as data collated from the Central Bank of Sri Lanka, Bangladesh Bank and Nepal Rastra Bank showed in a recent study by the Observer Research Foundation ("Looking back, looking ahead: Foreign policy in transition under Modi"). According to the report, while India's Foreign Direct Investment in Sri Lanka, Bangladesh and Nepal was more than that by China in 2014-2015, the order was reversed by 2017-2018. This is also true of the Maldives, where despite the ouster of the pro-China regime a year ago, and a four-fold increase in New Delhi's aid to Male since then, no Chinese project has yet been cancelled (Mr. Solih, during his campaign, had originally promised to cancel some of these projects). In Sri Lanka, while Mr. Gotabaya has suggested that the lease that gave Beijing control of **Hambantota port** will be renegotiated, there is little indication that any other loan or project will be reversed. Nepal has, in fact, stepped up its engagement with China after President Xi Jinping's recent visit, with a number of roads, rail, infrastructure projects and dry port access in the works. Bangladesh, arguably India's closest partner in the region, saw \$3.6 billion in FDI from China last year, along with 'Belt and Road promises' of \$50 billion. As these figures climb, it will be harder for New Delhi to tough-talk leaders in the neighbourhood, as it once did, on investments from China, especially as the government itself seeks to attract the same into India. Most importantly, Mr. Modi's government is likely to lead much more by the power of example, than by any wise counsel it gives. India's internal issues like the dilution of Article 370, the Citizenship Amendment Bill, the National Register for Citizenship and detention centres for illegal residents, and cases of mob lynching are all being discussed intensely in capitals in the neighbourhood, from Male to Dhaka and Naypyitaw, and will impact their conversations with New Delhi. **Mr. Jaishankar's statement that India "expects" Mr. Gotabaya to keep constitutional promises to bring "equality, justice, peace and dignity" to the minorities in Sri Lanka may, hence, not be taken seriously, amidst concerns over the treatment of India's own minorities. Similarly, protests that India made in the past with the Maldives over political arrests or efforts pushing for elections in Afghanistan will hold less water in the future, given the Modi government's failure to hold elections in Jammu and**

**Shatabdi Tower, Sakchi, Jamshedpur**



Kashmir and the prolonged incarceration of the Valley's political leaders. And, it will be hard for New Delhi to lecture Nepal on constitutional rights for Madhesis; Pakistan and Bangladesh on treatment of their Hindu and Sikh minorities; and Myanmar on Rohingya, when the government is not seen upholding those ideals itself. On most of these issues, strongmen (and women) in the region are likely to do not as New Delhi says, but as New Delhi does.

### Australia To Return 3 Idols to India

- When Australian Prime Minister Scott Morrison visits India in January 2020, he will not only bring with him the goodwill of his country, but also three priceless cultural artefacts. The sculptures, including a pair of dwarapalas or door guardians from Tamil Nadu and one nagaraja or serpent king from either Rajasthan or Madhya Pradesh, will come back to their place of origin after the National Gallery of Australia (NGA) voluntarily deaccessioned and returned them to India after establishing that they were, in fact, stolen. This 'cultural repatriation' comes in the wake of a similar, if more extensive return of idols in 2016, when Washington handed over around 200 sculpture pieces valued at \$100 million to India during Prime Minister Modi's U.S. visit. Increasingly, it has become evident that India's historical artefacts, a treasure-trove of a rich cultural legacy and religious significance, are strewn across far-flung lands, the result of decades of trafficking. At the heart of the most extensive and ruthless of smuggling rings is one man, Subhash Kapoor, who allegedly has taken the illicit trade in antiquities to a truly global scale. The NGA, like many U.S. museums and art galleries, had obtained artefacts from Kapoor in good faith, yet rigorous provenance research had proved that their acquisition was a mistake. Today, Kapoor sits in a Tamil Nadu jail, awaiting prosecution and a full trial. Yet, how much progress have authorities made, first, to crack down on the continued operations of idol thieves who are looting ancient temples, and second, to advocate for foreign institutions collecting art to conduct a far greater degree of due diligence before acquiring any Indian idols? In part, the problem is complicated by the fact that even among Indian institutions, the inventory documentation of idols is poor. Southern Tamil Nadu, for instance, has many ancient temples, most situated in small, abandoned premises of a village, where even local residents have no recollection of what idol was originally within the temple, leave alone questions of safeguarding the structure. Further, investigative reports, including by The Hindu, have revealed the extent to which certain sections of law enforcement have tacitly abetted the loot. Major institutional reforms are therefore required to end the operations of smugglers. Meanwhile in the global arena, India would do well to leverage the power of the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. Most major western nations are signatories and Mr. Modi would be well within his rights to demand that they institute stricter vetting protocols for international trade in historical artefacts. Unless such multi-pronged action is taken by the government, targeting loopholes in domestic legislation and enforcement, idol trafficking will continue to erode India's invaluable cultural heritage.



## Nation

### A Revival of Battles Already Fought and Lost (Suhrit Parthasarathy - An Advocate Practising at The Madras High Court)

- Last year, on September 28, the Supreme Court of India delivered a momentous verdict in **Indian Young Lawyers Association v. The State of Kerala**. There, a majority of 4:1, in ruling in favour of women's entry into the Sabarimala temple in Kerala, presented to us the most attractive portrait of what the Constitution really means. But today that vision stands threatened. In early November, a sharply divided bench, in Kantaru Rajeevaru, with two out of five judges dissenting, has decided to keep review petitions filed against the original judgment pending, and, in the process, has virtually unfastened the brilliance of the court's transformative verdict.

#### Contours of First Ruling

There is no doubt the initial ruling could well have been rendered on narrow and technical grounds. But each of the three judges who wrote opinions for the majority of four chose to read the Constitution expansively, by leaving their respective imprints on the verdict. Their definitive and collective findings, though, are easily deductible. **First, they ruled that the devotees of Lord Ayyappa did not constitute a separate religious denomination. Second, they held that the bar enforced on women aged between 10 and 50 years from entering the Sabarimala temple infringed the equal rights of those women to freedom of religion. And third, they found that Rule 3(b) of the Kerala Hindu Places of Public Worship (Authorisation of Entry) Rules, 1965, on which the ban was grounded, violated not only the Constitution but also Section 3 of its parent law, which promised free access to temples for all classes of Hindus. What is more, these findings apart, three of the judges on the majority also expressly ruled that the exclusion of women was, in any event, not an essential religious practice, and was, therefore, undeserving of any constitutional protection (a fourth judge, Justice R.F. Nariman, proceeded on the assumption that the practice was essential but still found it unlawful).**

#### On the Ground

The verdict helped burnish India's grandest constitutional guarantees, but it also provoked strong criticism. Many felt the court had erred by wading deep into theological waters. At the same time, though, the resistance to the judgment went too far. Not only were protests held across the country but efforts made by women to access the temple were thwarted in open defiance of the judgment. Simultaneous with these acts of disobedience, pleas were filed in the Supreme Court, in some cases, seeking a review of the judgment, and, in others, seeking an issuance of a writ to once again forbid the entry into the shrine of women of menstruating age. The aim of these petitions was simple: to quench the flames of freedom that the court had helped light up. **Article 137 of the Constitution confers an express power on the Supreme Court to review its own decisions. But this authority is subject to both parliamentary law and to rules of procedure framed by the court. These rules, as the court's own prior judgments make plain, allows a bench the power of review only when the earlier judgment is likely to result in a miscarriage of justice on account of any manifest error that is clear on the face of its record.** In other words, the court's capacity to review its own orders is confined within



narrow boundaries: it can neither rehear formerly concluded arguments nor can it reappraise the evidence on record. There is a lambent logic to this tenet. At stake when a judgment is sought to be reviewed is not only the court's authority — in that its carefully considered decisions are meant to be final and binding — but also, as Justice V.R. Krishna Iyer once wrote, its "precious public time", which can scarcely accommodate a revival of battles already fought and lost.

### Speculative Line

However, the majority's judgment in Kantaru Rajeevaru simply does not grapple with these considerations. Instead, it offers a welter of 'ifs', 'buts', and 'maybes'. It begins by admitting that the petitioners' endeavour is to resuscitate a debate about what constitutes a practice essential to religion. This finding, one would have thought, would have served as sufficient cause for dismissing the claims for review. **But, inexplicably, the opinion proceeds to refer to a series of other, unconnected cases where a similar debate might arise for consideration. This therefore necessitates, the judgment holds, an "authoritative enunciation" by a "larger bench of not less than seven judges" of a judicial policy that will "put at rest recurring issues" concerning the right to freedom of religion.** This holding, though, is baffling for many reasons, not least the fact that the court has already carved a rich jurisprudence touching upon the engagement of religious rights with other constitutional promises. The court then says there is a "prospect" of the issues arising in the other cases — including cases concerning the entry of Muslim women into mosques, the conscientious rights of Parsi women married to a non-Parsi, and the validity of the practice of female genital mutilation in the Dawoodi Bohra community — "being referred to a larger bench". Having conjectured thus, the court stops short of framing issues for a referral and instead speculates, once again, on what some of these "issues could be". As Justice Nariman points out, in a coruscating dissenting opinion that Justice D.Y. Chandrachud concurs with, these findings are entirely beyond the remit of the court's authority in determining a plea for review. "What a future constitution bench or larger bench... may or may not do when considering the other issues pending before this court," he writes, "is, strictly speaking, not before this court at all." The majority's opinion then highlights a seemingly illusory conflict between the court's judgments in the Shirur Mutt's case (1954), which was decided by a seven-judge bench, and Durgah Committee, Ajmer (1961), which was decided by a bench of five judges. It is of no consequence to it, though, that this point of supposed divergence made no material difference to the original judgment in Indian Young Lawyers Association. **Indeed, the opinion fails to draw attention to a single error made in the judgment under review, let alone a manifest error apparent from the face of its record.**

### A Diminished Ideal

Each of us is free to formulate our own views on the court's original judgment. But the court itself can act on a review petition only within those limits prescribed by law. **For the majority to order that the pleas for review be kept pending until the determination of a set of vague and unenumerated questions by a larger bench is, on any reading, extraordinary.** Had the court found demonstrable errors in the original judgment, it ought to have allowed the review petitions and rescinded its earlier verdict. But it displayed neither the confidence to do this, presumably because it could not find any such errors, nor, more worryingly, did it show the moral courage to dismiss these petitions and make impregnable its previous ruling.



It is difficult to understand how this irresolution can at all be helpful. In the ultimate analysis, the court's ruling in Kantaru Rajeevaru only denudes it of its authority and allows people to believe, as Justice Nariman notes in his dissent, that compliance with the law is a "matter of option". The majority's decision to open up for abuse the limited jurisdiction for review of its own orders that the court has hitherto permitted also has the potential to produce a miasma of public mischief. Only a swift dismissal of the review petitions can help reinvigorate some belief in the now diminished ideal of the rule of law.

### On What Grounds Can A Petitioner Seek A Review of An SC Verdict?

In a 2013 ruling, the Supreme Court itself laid down three grounds for seeking a review of a verdict it has delivered — the discovery of new and important matter or evidence which, after the exercise of due diligence, was not within the knowledge of the petitioner or could not be produced by him; mistake or error apparent on the face of the record; or any other sufficient reason. In subsequent rulings, the court specified that "any sufficient reason" means a reason that is analogous to the other two grounds. In another 2013 ruling (Union of India v. Sandur Manganese & Iron Ores Ltd), the court laid down nine principles on when a review is maintainable. "A review is by no means an appeal in disguise whereby an erroneous decision is reheard and corrected but lies only for patent error," the court said. It added that the mere possibility of two views on the subject cannot be a ground for review.

### Who Can File A Review Petition?

It is not necessary that only parties to a case can seek a review of the judgment on it. As per the Civil Procedure Code and the Supreme Court Rules, any person aggrieved by a ruling can seek a review. However, the court does not entertain every review petition filed. It exercises its discretion to allow a review petition only when it shows the grounds for seeking the review.

### What Is the Procedure the Court Uses to Consider A Review Petition?

As per 1996 rules framed by the Supreme Court, a review petition must be filed within 30 days of the date of judgment or order. **While a judgment is the final decision in a case, an order is an interim ruling that is subject to its final verdict.** In certain circumstances, the court can condone a delay in filing the review petition if the petitioner can establish strong reasons that justify the delay. **The rules state that review petitions would ordinarily be entertained without oral arguments by lawyers. It is heard "through circulation" by the judges in their chambers. Review petitions are also heard, as far as practicable, by the same combination of judges who delivered the order or judgment that is sought to be reviewed.** If a judge has retired or is unavailable, a replacement is made keeping in mind the seniority of judges. **In exceptional cases, the court allows an oral hearing. In a 2014 case, the Supreme Court held that review petitions in all death penalty cases will be heard in open court by a Bench of three judges.**

### What If A Review Petition Fails?

As the court of last resort, the Supreme Court's verdict cannot result in a miscarriage of justice. In Roopa Hurra v Ashok Hurra (2002), the court itself evolved the concept of a curative petition, which can be heard after a review is dismissed to prevent abuse of its process. A



curative petition is also entertained on very narrow grounds like a review petition, and is generally not granted an oral hearing.

## A Blow to Disclosure Norms (M. Sridhar Acharyulu - Former Central Information Commissioner and Dean, School of Law, Bennett University)

- The Supreme Court's November 13 judgment on Right to Information (RTI) reduced the scope of 'information' and widened that of 'restrictions'. The RTI Act would never be the same after this verdict. Deviating from earlier decisions that said that 'restrictions' should be interpreted strictly and 'information' liberally, the five-judge Bench expanded the power, length and depth of exceptions under Section 8 of the Act. The verdict also restricted the understanding of the terms 'held by' and 'under the control' of a public authority, making several classes of information inaccessible to the public. **If the Chief Information Commissioner's stature and autonomy were reduced by the recent parliamentary amendment to the Act, the Supreme Court judgment amounted to a direct instruction to the Central Public Information Officers (CPIOs) on how not to give information on various counts.** Still, the decision is welcome for two reasons. One, it did not deny that the apex court is a public authority and answerable under the RTI Act. Two, judicial independence will only be strengthened with greater transparency.

### The 'Indicative' Paragraph

However, the real issue with the verdict lies in the carefully worded paragraph 59, which could potentially be used by bureaucrats to shoot down many RTI applications during the first request. Instead of empowering citizens with greater access to information, the court has instead armed public servants to kill access requests. Here, it needs to be recalled that **the Supreme Court's 2012 judgment in Girish Ramchandra Deshpande v. Central Information Commissioner was hitherto being used as a precedent by the Department of Personnel and Training and various CPIOs to deny information on records of public servants.** The case pertained to a Special Leave Petition on an RTI request related to the service record and assets of a serving bureaucrat. The Supreme Court held that such information could not be revealed unless there was a larger public interest demonstrated. In this case, the court held that the applicant was not able to show a bona fide public interest element and hence denied information to the person. The November 13 verdict could in effect supersede the Girish Ramchandra Deshpande verdict. To cite paragraph 59 of the recent decision: "Reading of the aforesaid judicial precedents... would indicate that personal records, including name, address, physical, mental and psychological status... are all treated as personal information. Similarly, professional records, including... evaluation reports, disciplinary proceedings, etc. are all personal information. Medical records... information relating to assets, liabilities, income tax returns... are personal information. Such personal information is entitled to protection from unwarranted invasion of privacy and conditional access is available when stipulation of larger public interest is satisfied. This list is indicative and not exhaustive." The last sentence of this paragraph, which makes the restrictions "indicative", could become another tool in the hands of public servants to deny access requests.



### Restrictions Under Section 8

The Bench's long list contradicts the provisions for disclosure available under Sections 8(1)(j) and 8(2) of the RTI Act. One, personal information can be disclosed if it has any relationship with public activity or interest. Two, even if such details have no relationship with public interest, they can be given if the disclosure does not cause an unwarranted invasion of privacy. Three, even if the information causes unwarranted invasion of privacy, it could still be given if the larger public interest justifies the act. Finally, even if there is no larger public interest, it could still be shared if the public interest in disclosure outweighs the interest in its protection. The only points the Supreme Court Bench was asked to consider pertained to assets report and appointment criteria of public servants. Its declaration in the form of the above-cited paragraph was uncalled for. For instance, how can the court declare educational qualifications, performance report or disciplinary proceedings pertaining to public servants as being outside the ambit of disclosure? If a specific educational degree is 'qualification' for a post, is it not related to public activity? Similarly, if the cost of medical treatment is reimbursed by the state, how can medical record become personal information? Every time, the applicant will now be made to prove public interest, a concept which has been made further complex and ambiguous by the court.

### Gubernatorial Restructuring (Manuraj Shunmugasundaram - Advocate at The Madras High Court and Spokesperson, DMK)

- The actions of the Maharashtra Governor over the last few days have invited scrutiny. From the early morning swearing-in ceremony to the unceremonious pre-floor test resignation of Devendra Fadnavis and Ajit Pawar, Raj Bhavan has found itself in the centre of controversy. Soon after the Karnataka Assembly elections earlier this year, the actions of the Karnataka Governor were also subjected to judicial scrutiny on aspects of the discretionary powers of the Governor with regard to formation of government. Nevertheless, this week, the Supreme Court had another occasion to reaffirm the law. However, it is unlikely that these controversies will be resolved until there is a constitutional restructuring of the office of the Governor.

### The Centre and Its Governor

In April 1948, the Drafting Committee of the Constitution insisted on omitting all references to the discretionary powers of the Governor. On May 31, 1949, B.R. Ambedkar said in unequivocal terms that the Governor "is required to follow the advice of his Ministry in all matters". However, it is trite that the Governor is required to exercise discretion in deciding the formation of government when there is no clear post-poll majority. Here, the cases of S.R. Bommai v. Union of India, Rameshwar Prasad v. Union of India, and Nabam Rebia v. Deputy Speaker provide unambiguous judicial guidance to how the office of the Governor must encounter tricky post-poll claims to form government and stay immune to political bias. Unfortunately, the appointment process of Governors has made the office vulnerable to the influence of the Union government. Over the years, occupants of this office have continued to look towards New Delhi for guidance. The dangers of this habit are cautioned by lawyer and constitutional expert A.G. Noorani, who argued that a "state's autonomy comes to naught if its people's mandate can be defied or ignored by a central appointee." In the Karnataka and Maharashtra cases, it is evident that the Governors invited the leader of the BJP when they did not have the support of the majority in the respective Legislative





Assemblies. It begs the question what claims of support were made by the BJP leaders to the Governors and how the Governors satisfied themselves of these claims when there was verifiable, adverse information available in public. The Raj Bhavan in Mumbai also witnessed a curious swearing-in ceremony which happened with little or no public notice. Such actions create a reasonable apprehension that the office of the Governor is open to be manipulated and misused in furtherance of political partisanship. This strengthens a call to review and restructure the office of the Governor if its constitutional values are to be safeguarded.

### Constitutional Correction

There is little doubt that the appointment and tenure of Governors need to undergo radical reform. **The Justice P.V. Rajamannar Committee, which was tasked by the Tamil Nadu government to look into Centre-State relations in 1969, recommended that State governments be included in the appointment process of Governors to drastically reduce their discretionary powers. The call to rectify the imbalance in Centre-State equations must begin with such a reform.** Furthermore, for too long, Governors have enjoyed a legal immunity, granted by the Constitution, on account of their sovereign functions. Over the years, the Supreme Court has confirmed its powers to review the actions of the Governors. Any decision of the Governor can be subjected to judicial scrutiny, including the materials placed to arrive at that decision. However, there is a compelling case that the Westminster model of sovereign and symbolic head of state is past its expiry date. The powers and privileges that are attached to the office of the Governor must be accompanied by answerability, transparency and accountability. Governors and their offices must be scrutinised as much as any other public office. The court must lay down guidelines in this regard.

- Until the resignation of Maharashtra's newly sworn in Deputy Chief Minister Ajit Pawar on Tuesday, followed by that of Chief Minister Devendra Fadnavis, the focus of attention had been on a floor test the government would have faced on Wednesday. The Supreme Court had ordered the floor test on Monday. In its order, it referred to cases in the past where it had directed the holding of a floor test to establish whether the political party/alliance that staked a claim for government formation had the requisite majority. Here is a recap of these cases from various states and the circumstances that led to the Supreme Court court's intervention.

### S R Bommai V Union of India (1994)

The concept of floor test was first established by the Supreme Court in 1994 in the landmark case of S R Bommai. In this case, it was alleged that the Janata Party government led by Bommai did not enjoy a majority in the Karnataka legislature. The court held that, wherever a doubt arises whether the Council of Ministers has lost the confidence of the House, the only way of testing it is on the floor of the House.

### Jagdambika Pal V Union of India (1999)

The events that led to this case coming before the Supreme Court were less than pleasant. In 1996, the Uttar Pradesh Assembly elections resulted in none of the contesting parties winning a clear majority. President's Rule was imposed for some time and thereafter, the BJP and the BSP formed a coalition government. The understanding between the two parties was that each party would have its Chief Minister for six months. Consequently, Mayawati of BSP became the Chief Minister for six months. When Kalyan Singh of the BJP occupied the CMs



chair, BSP withdrew support to the government. A trust vote was called on the floor of the House, which witnessed some of the most violent scenes in any Legislative Assembly. MLAs threw mikes, chairs and sound boxes not only at each other but also at the Speaker. While Kalyan Singh won the trust vote, his government was later dismissed by Governor Romesh Bhandari. The Governor swore in Jagdambika Pal, whose appointment was challenged by Kalyan Singh. The Supreme Court then ordered a composite floor test to determine who enjoyed a majority in the UP Assembly. The court also gave specific instructions about how the test should be conducted.

### Anil Kumar Jha v Union of India (2005)

The next instance of a composite floor test being ordered by the Supreme Court happened in Jharkhand. This time the contest was between Jharkhand Mukti Morcha's Shibu Soren and the NDA's Arjun Munda. The Governor had invited Soren to form the government while Munda claimed that he commanded a majority in the House. The Supreme Court advanced the date of the floor test and again issued detailed instructions with regard to recording of the proceedings of the floor test and regarding the orderly conduct of the test.

### Union of India v Harish Chandra Singh Rawat (2016)

The case in Uttarakhand was a little different. Here the controversy regarding a majority did not occur after the elections to the state legislature. The Congress government led by Harish Rawat had been in power since 2012. It was towards the end of its tenure in 2016, that controversy erupted on the floor of the House. A few rebel MLAs from the Congress party alleged that an appropriation Bill was passed without the government enjoying a majority in the legislature. Thereafter, President's Rule was imposed in the State. In response, Rawat approached the Supreme Court, which ordered an immediate floor test, after suspending President's Rule for two hours. Again, the Supreme Court ordered video recordings of the floor test proceedings and also asked that the result of the floor test be brought before it.

### Chandrakant Kavlekar V Union of India (2017)

This case from Goa was a result of the Governor inviting Manohar Parrikar of the BJP to form the government in the State. The BJP had won 13 of the 40 seats in the Goa legislature and had claimed the support of smaller parties for forming the government. The Supreme Court, while ordering a floor test in this case, held, "The holding of the floor test would remove all possible ambiguities, and would result in giving the democratic process the required credibility."

## Preventing Political Coalitions of Convenience (Anmolam Runs A Non-Profit Organisation Called BDLAAW, And Farheen Ahmad - Research Scholar at The South Asian University, New Delhi)

### → Treating Coalition as A Unit

In a multiparty parliamentary arrangement like India, coalitions have become almost an inevitable reality. Apart from the formal institutional arrangements, for all practical purposes, pre-poll alliances function as a single consolidated unit. The partners do not contest elections



against each other. Their cadres and volunteers work for the coalition and not just their individual parties. The voters, arguably, vote for a set agenda and political ideology on whose premise the edifice of both the party and the coalition rest. Democracy is not just about making choices; it is about making 'informed choices'. The coming together of two or more parties and the agenda set by them is something which a voter considers before casting her/his vote. Therefore, **it is argued that until and unless the cases of coalition are covered under the legal scheme of anti-defection, the real object and purpose of the 10<sup>th</sup> Schedule will not get accomplished.** Even the Law Commission of India, in its 170<sup>th</sup> report on 'Reform of the electoral laws', had opined that a 'pre-election front/coalition' of political parties should be treated as a 'political party' for the purposes of the anti-defection law.

### Demeaning to Voters

The political manoeuvring by parties in Maharashtra appears demeaning to the aspirations of the State's people. To check post-poll 'alliances of convenience', wherein even parties with diametrically opposite election manifestos and promises came together to share power, a suggestion can be made. If, for the proper functioning of democracy, disclosure of, inter alia, criminal antecedents, educational qualification and wealth of the candidate is needed, isn't it pertinent to ask the political parties and individual candidates to disclose a list of 'probable post-poll alliances' under a legal framework drafted by Election Commission? This might help the electorate to gauge the level of ideological and political commitment of the parties and candidates. The voters might be in a better position to understand the veracity of the supposed rivalry among different parties. Situations like those in Maharashtra, Haryana and Karnataka post election can possibly be avoided wherein the biggest rivals, after results, become allies by overriding conviction for convenience. **As noted by B.R. Ambedkar in his famous Constituent Assembly speech, "The working of a Constitution does not depend wholly upon the nature of the Constitution. The Constitution can provide only the organs of State... The factors on which the working of those organs of the state depend are the people and the political parties they will set up as their instruments to carry out their wishes and their politics."** Democracy cannot be restricted to mere casting of votes and formation of government; it is also about the trust among the voters of an electorate that the mandate given by them will be reflected in the government formed after elections.

### Changing the Stripes

- The Common Minimum Programme (CMP) announced by the Maha Vikas Aghadi (MVA), the new ruling coalition in Maharashtra of the Shiv Sena, the Congress and the Nationalist Congress Party (NCP), foregrounds development and pledges fidelity to secularism. Taking over as Chief Minister, Uddhav Thackeray's primary challenge is not to live up to, but to undo and outgrow, the legacy of Bal Thackeray, his father, who founded the Sena 53 years ago. The late Thackeray was the fomentor of a chauvinistic politics that targeted religious and linguistic minority groups in Maharashtra. Mr. Thackeray's statement as CM was unambiguous that "nothing would be allowed that makes the common man feel terrorised". He also has a haunting history of words and deeds, but the pressures of the new alliance might make him adopt a more sober approach to governance. Parties and leaders evolve over time depending upon changed circumstances and new social realities. The burden of proof is on the Sena, but it is only fair that Mr. Thackeray be given a chance to remake the street politics of the party organisation. The Sena's estranged ally in the Hindutva tent, the BJP, is licking its wounds and waiting in ambush. The Sena has a reputation to lose and a

**Shatabdi Tower, Sakchi, Jamshedpur**



reputation to make. For Mr. Thackeray, who would not be remote controlling the government as his father did, being the CM would be more difficult than leading the party. The CMP seeks to bridge the ideological and temperamental gulf between the Congress and the Sena by focusing on some pressing issues faced by the commoners, particularly farmers. Mr. Thackeray has promised to address the crisis in the agriculture sector in a comprehensive manner. Provisions to improve health care, education, tourism and a range of issues are also part of the CMP. **The new government is likely to halt the Mumbai-Ahmedabad bullet train project whose financial viability is doubtful and ecological impact is significant.** The MVA must focus on raising rural incomes and demands, which will have a positive effect on the economy in general. Regional pride and cultural assertion are not necessarily divisive. The announcement of a special development grant for Raigad, associated with the history of Chhatrapati Shivaji Maharaj and the promise of reservation of 80% of jobs to domiciles of the State indicate a thrust towards regionalism. As Congress president Sonia Gandhi said in her letter to the new CM, this unlikely alliance is the outcome of extraordinary circumstances. There is potential, however, for it to outgrow that status and aspire to become a new template for pro-people, non-sectarian politics and governance.

- The Centre invoked **Rule 12 of the Transaction of Business Rules, 1961** that empowered it to revoke the proclamation of President's rule in Maharashtra without the prior approval of the Union Cabinet. Rule 12 pertaining to "Departure from Rules" says the "Prime Minister may, in any case or classes of cases permit or condone a departure from these rules, to the extent he deems necessary." On November 12 when the President's Rule was imposed, the Union Cabinet headed by Prime Minister Narendra Modi had met on an urgent basis, minutes before the PM was to leave for Brazil to attend the BRICS summit, to approve the Central rule. The Cabinet did not meet to revoke the proclamation as the government used its power under the Rule, said a senior government official. President Ram Nath Kovind revoked the proclamation through a notification issued that was signed by Union Home Secretary Ajay Kumar Bhalla. The notification was digitally signed by the official concerned at 5.47 am on Saturday before being uploaded on the official gazette portal — [egazette.nic.in](http://egazette.nic.in). An official said a notification can only be digitally signed once the physical copy has been signed by the President. The timeline suggests that the Union Home Ministry had worked overnight to prepare the notification and the President signed it before 5.47 am on Saturday. Last time when the proclamation imposing the Central rule was issued, the Home Ministry officials waited for Mr. Kovind to return from Punjab. After he signed the proclamation, Central rule was formally imposed around 5.30 pm on November 12 though the Governor sent a report around 12 noon the same day recommending it.

### Govt. Plans to Merge Daman & Diu, Dadra & Nagar Haveli

- Union Minister of State for Home G. Kishan Reddy introduced a Bill in the Lok Sabha to merge the Union Territories of Daman and Diu and Dadra and Nagar Haveli. **The Dadra and Nagar Haveli and Daman and Diu (Merger of Union Territories) Bill, 2019**, seeks to provide "better delivery of services to the citizens of both Union Territories by improving efficiency and reducing paper work." The statement of objects and reasons says: "Having two separate constitutional and administrative entities in both Union Territories leads to lot of duplicacy, inefficiency and wasteful expenditure." "In view of the policy of the government to have Minimum Government, Maximum Governance, considering the small population and limited geographical area of both Union Territories, and to use the services of officers efficiently, it has been decided to merge the Union Territories of Dadra and Nagar Haveli and Daman and



Diu into a single Union Territory," it said. The move comes three months after the State of Jammu and Kashmir was bifurcated into the Union Territories of Jammu and Kashmir and Ladakh. India now has nine Union Territories; with the merger of Daman and Diu and Dadra and Nagar Haveli, the number will come down to eight. "The Union Territories share a lot in terms of administrative set-up, history, language and culture," the statement said.

### Logo, Motto Introduced for Lokpal

- Lokpal Chairman Justice (retired) Pinaki Chandra Ghose launched the new logo for the apex anti-corruption ombudsman. A new motto, ' Ma Gridhah Kasyasvidhanam (Do not be greedy for anyone's wealth)', was also adopted. Earlier, an open competition was conducted, inviting entries for the logo and the motto. A total of 2,236 entries for the logo and 4,705 entries for the motto were received. A logo designed by Prashant Mishra, a resident of Prayagraj in Uttar Pradesh, was finally selected. "The logo symbolises how Lokpal protects and cares for the people of India by establishing justice as per law," said an official release. "The logo figuratively symbolises the essence of Lokpal, with the inclusion of shapes such as the ombudsman [Judges' Bench], the people [three human figures], vigilance [an Ashoka Chakra forming an eye], the law [a shape of a book] and the judiciary [two tri-color hands placed below, forming a unique balance]," it said. For the motto, none of suggestions made were found suitable. "The Lokpal has decided its motto/slogan based on their own inputs and discussions held on October 17, 2019," said the body, adding that the Bench unanimously decided the motto. The Lokpal became functional after the appointment of its Chairman and members in March.

### FASTag: What, Why, How

- From December 1, lanes on national highway toll plazas across India will accept toll only through FASTag — fitted in a vehicle that pays toll automatically when the vehicle crosses the boom barrier of the toll plaza. (One hybrid lane will continue to accept cash in addition to being tag-enabled.) All new vehicles bought over the last few years, in fact, already come with FASTag pre-installed. So, from next month, all 560-odd plazas under the control of the National Highways Authority of India (NHAI) will collect toll without human intervention, and vehicles need not stop to pay toll. The objective is to remove bottlenecks and capture all toll electronically.

#### How Does FASTag Work?

The device employs **Radio Frequency Identification (RFID)** technology for payments directly from the prepaid or savings account linked to it. It is affixed on the windscreen, so the vehicle can drive through plazas without stopping. RFID technology is similar to that used in transport access-control systems, like Metro smart card. If the tag is linked to a prepaid account like a wallet, or a debit/credit card, then owners need to recharge/top up the tag. If it is linked to a savings account, then money will get deducted automatically after the balance goes below a pre-defined threshold. Once a vehicle crosses the toll, the owner will get an SMS alert on the deduction. In that it is like a prepaid e-wallet. A FASTag is valid for five years, and can be recharged as and when required.



### How Can I Buy It?

E-commerce portals like Amazon and PayTM sell these tags issued by various banks. They are available at 27,000 points of sale set up by 22 banks (see box) and the NHAI. At NHAI counters, mostly at toll plazas, the tag is free until December 1. Places where these counters are set up include Road Transport Authority offices, transport hubs, bank branches, and selected petrol pumps. A FASTag bought from NHAI comes with a one-time fee of ₹100 besides a refundable security deposit of ₹150. Apart from the currently free tags at NHAI booths, there is also a cashback of 2.5 per cent on FASTag transactions as an offer. In the tag taken from NHAI, the ₹150 security deposit, which the government is bearing as a promotion, comes back to the user as wallet value if the FASTag is linked to the NHAI e-wallet in the “My FASTag app” mobile app. So, in this particular scheme, the user gets ₹150 back without even paying it.

### What Do I Need to Buy A FASTag, And What If I Don't?

A copy of the vehicle registration certificate and a photo of the vehicle are enough to get a FASTag from NHAI, said officials. Banks may seek certain additional documents. Vehicles entering FASTag lanes without FASTag will be charged twice the toll amount.

### Will Those Living Close to Toll Roads Not End Up Paying More Frequently?

As per a government notification, users living within 10 km of a toll plaza can avail a concession on toll to be paid via FASTag. They need to submit proof of residence and nearest point-of-sale location to validate. Once the address is verified, the concession is ensured via FASTag affixed on the vehicle.

### Is It Working Smoothly?

The tags sold by banks are not “bank-neutral”. A FASTag bought from one bank can be recharged through that particular bank only and not through other banks. However, tags sold/distributed by NHAI are bank-neutral as one can use any bank account to recharge/top up the value in the tag. NHAI has set up a toll-free helpline number, “1033” for tag-related complaints. The website for individual bank helplines is at ihmcl.com. Additionally, the My FASTag app has a customer-care link.

### How Did the Idea Come About?

A brainchild of Road Transport & Highways Minister Nitin Gadkari, the idea picked up after Prime Minister Narendra Modi's call for a “Digital India” post demonetisation. The government has been trying to make FASTag popular for years. Now, it has decided that the only way to bring vehicle owners on board was by making FASTag mandatory for toll payment. Sales have indeed picked up in the last few days. This has been helped in no small measure by the announcement by Gadkari on November 21, that till December 1, the government will bear the security deposit of ₹150, making the physical tag virtually free. The average daily sale of these tags grew 4 times from 8,000 in July to around 35,000 by the third week of November. On November 26, 1.35 lakh FASTag were issued, up from 1.05 lakh the day before. Average daily transactions processed through FASTag have grown from 8.8 lakh in July this year to 11.2 lakh in November, while the average daily electronic toll collection has grown from ₹11.2 crore to ₹19.5 crore for the same period. After the recent thrust, around 70 lakh FASTag have been issued so far and the number is growing.



### What About State Highways?

Under a new “One Nation One FASTag” scheme, the NHA is trying to get states on board so that one tag can be used seamlessly across highways, irrespective of whether it is the state or the Centre that owns/manages it. Recently as part of a pilot, Karnataka, Andhra Pradesh and Haryana signed MoUs with the Centre to accept FASTags in state highways also.

### Getting Organ Donation to Tick Again (Dr. J. Amalorpavanathan - Former Member Secretary, Transplant Authority Government Of Tamil Nadu (TRANSTAN) And C.E. Karunakaran Is Trustee, National Network For Organ Sharing (NNOS) Foundation, Chennai)

- Organ donation day is observed with the primary objective of promoting organ donation and transplantation so that a number of persons suffering from organ failure, such as the kidneys and liver, can get a new lease of life using organs gifted by others who have lost their lives (such as in road accidents or other reasons).

### Undermining Altruism

As the country honours the donation process, and distributes awards to donor families — Indian Organ Donation Day is observed by the Government of India on November 30 — it also needs to reflect on certain **negative perceptions that appear to be growing and undermining the altruistic donation mindset of donor families**. A classic example of this is the steep drop seen in Kerala — from 76 deceased donors in 2015 to eight in 2018 — due to a perceived, however unfounded, scandal that **private hospitals were declaring persons brain dead when they were not really so, in order to harvest their organs and profit from them**. The underlying factor is the highly privatised health-care system in India and the growing trust gap between patients and doctors trapped in the profit-seeking business of tertiary care; seeking second and third opinion on patient treatment is commonplace today. While an organ comes free, as donated to society, transplanting it to another person costs anywhere between ₹5 lakh and ₹25 lakh, including profit to the hospital. Hence the unavoidable suspicion that unethical practices may take place — as highlighted in a recently published book, *Healers or Predators? Healthcare Corruption in India*. There is one more factor. The reality that a majority of accident victims who become donors are lower middle class and below, while the majority of organ recipients are from the small number of persons who can afford transplant surgery and costly lifetime medication thereafter. The cost factor is the key reason why more than three quarters of donated hearts and lungs do not get taken.

### Public Hospitals Cannot Help

A common solution to this, advocated by many, is that public hospitals should chip in and help the poor. Very few public hospitals in the country do kidney transplants and less than five do liver and heart transplants. Should they get involved much more? The answer is, no. In a country where public spend on health care remains an abysmal 1.2% of GDP — less than a third of what even some developing countries spend — priority should be on spending the limited allocation on areas that would benefit the greatest number of persons. Which is why a World Health Organisation Consultative Group in its 2014 report points to a study in Thailand which finds that money spent on dialysis can save 300 times more healthy life years



if spent on tuberculosis control. It considers expansion of low- and medium-priority services before near-universal coverage of high priority services as an “unacceptable trade-off” and does not include dialysis or organ transplantation even in the low-priority category. A given amount, if spent on organ failure prevention will save many more lives than if spent on organ transplant.

### Fault lines And Solutions

Are there any solutions to these issues of trust gap and inequality? Only steps to moderate are possible in these deep-rooted societal fault lines. One usual approach is to regulate hospitals through acts and rules. In the 25<sup>th</sup> year of the Transplantation of Human Organs Act, 1994, it is time to revisit its effectiveness. Substitution of bureaucratic procedures for hospital and transplant approval by self-declaration and mandatory sample verification involving civil society will improve compliance — as proved in other countries — and will also help get more hospitals involved. Further amendment is needed to ensure full State autonomy in this area, avoiding the Central government’s interference in organ distribution, which is now demotivating many hospitals. Apart from this, all State organ distribution agencies need to make their operations fully transparent. Steps such as making online organ distribution norms and the full details on every organ donation will help build public confidence in the system. As for “organs from poor to rich” some moderation of the inequality in our country is called for, especially as India figures in the top 10% of unequal countries in the world and among the top 10% of high proportion population spending more than a tenth of their income on health. This must also be considered in light of the fact that the organ comes totally free to a hospital from a donor. One approach could be to mandate that every third or fourth transplant done in a private hospital should be done free of cost to a public hospital patient. This will amount to cross-subsidisation, with the hospital, the doctor and the recipient footing the bill for free surgery to the section of the population that donates a majority of organs. This may not please present stakeholders in this field but they need to avoid the tendency to sweep inconvenient issues under the carpet and discuss seriously how to address the trust gap and inequality that are factors impacting family consent for organ donation.

[India’s Food Basket Must Be Enlarged \(C. Thomson Jacob - Former Consultant At CEBPOL, National Biodiversity Authority; N. Anil Kumar Is Executive Director, M.S. Swaminathan Research Foundation. These Insights Were Generated Under CEBPOL, A Bilateral Programme Between India And Norway Focusing on Biodiversity Studies\)](#)

- India is ranked 102 in the Global Hunger Index (GHI) out of 117 qualified countries. Hunger is defined by caloric deprivation; protein hunger; hidden hunger by deficiency of micronutrients. Nearly 47 million or four out of 10 children in India do not meet their potential because of chronic undernutrition or stunting. This leads to diminished learning capacity, increased chronic diseases, low birth-weight infants from malnourished parents. The global nutrition report pegs 614 million women and more than half the women in India aged 15-49 as being anaemic.





### Nutrition Garden

Recently, the Ministry of Human Resources Development brought out school 'nutrition garden' guidelines encouraging eco-club students to identify fruits and vegetables best suited to topography, soil and climate. These gardens can give students lifelong social, numerical and presentation skills, care for living organisms and team work, besides being used in the noon-meal scheme. Students also learn to cultivate fruits and vegetables in their homes and this could address micronutrient deficiencies. **Agrobiodiversity — relating to diversity of crops and varieties — is crucial in food security, nutrition, health and essential in agricultural landscapes. Out of 2,50,000 globally identified plant species, about 7,000 have historically been used in human diets. Today, only 30 crops form the basis of the world's agriculture and just three species of maize, rice and wheat supply more than half the world's daily calories.** Genetic diversity of crops, livestock and their wild relatives, are fundamental to improve crop varieties and livestock breeds. We would not have thousands of crop varieties and animal breeds without the rich genetic pool. **India is a centre of origin of rice, brinjal, citrus, banana, cucumber species.** Across the world, **37 sites are designated as Globally Important Agricultural Heritage Systems (GIAHS), of which three are Indian — Kashmir (saffron), Koraput (traditional agriculture) and Kuttanad (below sea-level farming).** In India, over 811 cultivated plants and 902 of their wild relatives have been documented. Our promising genetic resources include rice from Tamil Nadu (Konamani), Assam (Agni bora) and Kerala (Pokkali), Bhalia Wheat and mushroom (Guchhi) from Himachal Pradesh and rich farm animal native breeds — cattle (42), buffaloes (15), goat (34), sheep (43) and chicken (19). Agrobiodiversity helps nutrition-sensitive farming and bio-fortified foods. **For instance, moringa (drumstick) has micro nutrients and sweet potato is rich in Vitamin A. There are varieties of pearl millet and sorghum rich in iron and zinc.**

### Development Goals

The UN Sustainable Development Goal 2 advocates for Zero Hunger and the *Aichi Biodiversity Target* focuses on countries conserving genetic diversity of plants, farm livestock and wild relatives. It emphasises that countries develop strategies and action plans to halt biodiversity loss and reduce direct pressure on biodiversity. The Centre for Biodiversity Policy and Law (CEBPOL), a policy advocacy unit of the National Biodiversity Authority, came out with recommendations to increase India's agrobiodiversity in 2019. These include a comprehensive policy on 'ecological agriculture' to enhance native pest and pollinator population providing ecosystem services for the agricultural landscape. It suggested promotion of the bio-village concept of the M.S. Swaminathan Research Foundation (MSSRF) for ecologically sensitive farming; conserving crop wild relatives of cereals, millets, oilseeds, fibres, forages, fruits and nuts, vegetables, spices etc. for crop genetic diversity healthier food; providing incentives for farmers cultivating native landrace varieties and those conserving indigenous breeds of livestock and poultry varieties. The recommendations also include encouraging community seed banks in each agro-climatic zone so that regional biotic properties are saved and used by new generation farmers; preparing an agrobiodiversity index, documenting traditional practices through People's Biodiversity Registers, identifying Biodiversity Heritage Sites under provisions of the Biological Diversity Act, 2002; and strengthening Biodiversity Management Committees to conserve agrobiodiversity and traditional knowledge. Developing a national level invasive alien species policy is required to identify pathways, mapping, monitoring, managing, controlling and eradicating the invasive species and prioritising problematic species based on risk assessment studies. Loss of crop



genetic resources is mainly a result of adopting new crop varieties without conserving traditional varieties. Similarly, there are concerns on high output breeds for production of meat, milk and egg. The consumption pattern and culinary diversity must be enlarged to increase India's food basket. To conserve indigenous crop, livestock and poultry breeds, it is recommended to mainstream biodiversity into agricultural policies, schemes, programmes and projects to achieve India's food and nutrition security and minimise genetic erosion.

## Global Warming Alters Rainfall Pattern

- Global warming has altered a key weather system and that may be whetting cyclones in the Bay of Bengal, decreasing winter rain in north India and altering global rainfall patterns, a study by a team of Indian and U.S. researchers has found. **The Madden-Julian Oscillation (MJO), as it's called, is a moving band of rain clouds that travels around the globe spanning 12,000-20,000 km across the tropical oceans. In its journey, it interacts with surface waters of the Indo-Pacific Ocean, the largest pool of warm water in the globe, and due to this — the authors say — the lifecycle of the MJO gets affected. The MJO clouds on average are spending only 15 days, instead of 19, over the Indian Ocean. Over the west Pacific, it increased by five days (from an average 16 days to 23 days). "It is this change in the residence time of MJO clouds that has altered the weather patterns across the globe," according to the research paper that appears in the latest edition of the journal Nature. When the MJO appears in the Indian Ocean during the monsoon months of June-September, it can increase rains over India. This year, India was poised to receive below normal monsoon rainfall in April but ended up with excessive rain partly due to the MJO.** The study, led by Roxy Mathew Koll, a researcher at the Indian Institute of Tropical Meteorology, Pune doesn't delve into the impact of the MJO during the monsoon months. However, Mr. Koll told The Hindu, the change in the MJO could drift warmer surface water towards the Bay of Bengal and increase cyclones. "The MJOs haven't been as extensively studied as say the El Nino. This study shows that we need better observation of the Indian Ocean and improve forecasts that can warn us about a cyclone."

### Ocean Temperatures

To compute the reduction in the number of MJO days over the Indian Ocean, the researchers — they included scientists from the U.S. National Oceanic and Atmospheric Administration (NOAA), the University of Washington and the University of Tokyo — compared ocean temperatures from 1981-2018 to compute the changes. **Global warming has been expanding the size of the warm pool on average by 2,300 sq. km. annually from 1900-2018 and at an accelerated average rate of 4,000 sq. km. per year during 1981-2018. The changes in MJO behaviour have increased the rainfall over northern Australia, west Pacific, Amazon basin, southwest Africa and southeast Asia (Indonesia, Philippines and Papua New Guinea). At the same time these changes have brought a decline in rainfall over central Pacific, along the west and east coast of U.S. (e.g., California), north India, east Africa and the Yangtze basin in China.** The frequent California fires, droughts in Africa and East Asian floods and cyclones in the Bay of Bengal may be linked to these changes in global weather, the study noted.

## Stubble Burning Is Not the Only Culprit (T. Nanda Kumar - Former Food and Agriculture Secretary, Government of India)

- Air pollution in Delhi has always been a topic of discussion during Deepavali. Almost everyone gets into the "act", the Supreme Court of India and top echelons of the Government not

[Shatabdi Tower, Sakchi, Jamshedpur](#)



excluded, while children are forced to breathe polluted air. Airwaves are filled with immediate “band-aid” type solutions and television experts finally come around to just one issue — stubble burning by farmers in Punjab. Therefore, the solution also gets simplified; prosecute those who burn stubble (the stick) give them happy seeders by the thousands (the carrot). All is well till the next Deepavali.

### An Oversimplification

If the problem was that simple, it would have been solved long ago. The intention is not to justify stubble burning, but to point out that it is not the only culprit (though it is an important one) and other factors need to be attended to as well. The simplification of the narrative to stubble burning and the argument that all that smoke that comes out of Punjab’s paddy fields lands in the National Capital Region (NCR), particularly in the capital city of Delhi, may not stand scientific scrutiny considering the fact that wind speeds, dispersal rates and settling down of particles are governed by laws of science. Recently, there was a reference in a television programme about satellite observations on stubble burning from 2002-17. Reportedly, there has been an increase of 3% in aerosol loading attributable to crop residue burning during October and November every year. However, no data was presented on the impact of burning of biomass in urban Delhi, coal fired ovens (tandoors) and coal-based industries, coal-based power plants in the outskirts of Delhi, the exponential increase in sport utility vehicles, or SUVs, in the NCR and so forth. As for stubble burning, we need to stop this practice for sure. But how do we do it? Farmers do it out of economic compulsion. The “city centric” argument is that Punjab now produces 25% more rice than what it did 15 years ago, which is good for the country, but bad for Delhi. Others argue that the Punjab Preservation of Sub-soil Water Act 2009 is the main culprit. There are many who believe that a generous distribution of direct seeders (or “Happy Seeders” as they are called) should make the difference.

### Three Ways Out

Essentially, we come to three options: Reduce paddy area/production, allow farmers to plant/transplant paddy before June and distribute “happy seeders”. This will, according to many, address the problem of air pollution in Delhi during October and November. Let us start with reduction in production of paddy. Punjab was never a traditional rice cultivator. It took up rice cultivation in response to the national policy of food self-sufficiency. They achieved the highest productivity in the country and contributed maximum among all States to the central pool of rice procurement. In the process, the area went up from 2.6 million hectares in 2001 to 3 million hectares in 2017; production went up from 9 million tonnes to 12.5 million tonnes. Punjab dug deeper to get groundwater and caused long-term damage to itself. Attempts at diversification did not take off because of the difference in net farm returns and market risks. A rice farmer earns about ₹57,000 per hectare whereas maize in a maize-wheat combination would set them back by about ₹15,000-17,000. The farmer will not bear this burden. An estimate by agricultural economist Ashok Gulati suggests ₹12,000 per hectare (keeping power saving in mind) as an acceptable compensation. If the idea is to reduce area of common paddy by half a million hectares, resulting in a reduction of output of 2 million tonnes, the Central government has to step in and support this change for the next five years. This half-a-million hectare should be in water-stressed blocks and can be



encouraged to shift to maize or any other crop. Another one lakh hectare can shift to basmati production.

### Falling Water Levels

Coming to the more controversial argument about the Punjab Preservation of Sub-soil Water Act 2009, there exist strong arguments to prevent over exploitation of groundwater especially if farmers cultivate rice in April/May. Though strong evidence is necessary to establish improvement in groundwater levels, there is some evidence to show that the rate of deterioration has slowed down. If farmers are allowed to go back to the pre-2009 regime, what will happen to the groundwater in Punjab is anyone's guess. The elephant in the room, however, is **free power to tube wells**. Can this amount of about ₹6,000 crore be shifted to a direct benefit transfer as has been suggested by policy experts? Is there a political will? Are the large farmers the real opposition here? This shift could be a game changer. A bigger game changer will be a shift to cash transfer in lieu of grains in the public distribution system by the Centre. The "happy seeder" is the most talked about solution. Direct seeders do help but have limitations. **First, the seeder has to operate within about 4-5 days of the harvest. The effectiveness depends on the moisture (not too moist, not too dry) present in the soil at the time of seeding.** This requires a good understanding of soil conditions. The agronomic practices need to change particularly with regard to application of fertilizer and irrigation. **These machines may be used only during the 15-day window in a whole year. They will remain idle for the remaining 350 days. My reckoning is that Punjab will need about 20,000 of these machines if basmati areas (about 6 lakh ha) and rice-potato areas are excluded from the calculation.** The problem is complex and needs a solution. But the solution should take into consideration the economic condition of farmers, the scientific options available and the willingness of the Central government to change policy and fund a major part of the expenditure. Blaming the farmers alone will not do; citizens need to put in their bit too. We owe it to the children.

### Punjab Groundwater Crisis

- As the discussion around Punjab's massive groundwater crisis becomes more urgent, there is an increasingly stronger accent on diversification of crops, and a move away from water-guzzling paddy. At a meeting over the weekend, Punjab Agricultural University (PAU), Ludhiana, decided to strengthen maize — the most important alternative to rice — by working towards narrowing the gap in economic returns between the two crops. The idea is to nudge farmers towards increasing the area under maize. Over 70% of blocks in Punjab are in the dark zone on underground water stocks, according to central government estimates. At current rates of depletion, Punjab's entire subsurface water resource could be exhausted in a little over two decades. To conserve the resource, the Punjab government brought a law in 2009 to mandatorily delay transplantation of paddy beyond June 10, when the most severe phase of **evapotranspiration** is over. This law has been blamed for creating the bad air crisis of North India — especially Delhi — by delaying harvesting to end-October and early November, when atmospheric and wind conditions cause particulate matter and gases from burning paddy stubble to hang close to the surface.



### So How Area Is Under Maize Cultivation?

Of the 42-odd lakh hectares under cultivation in Punjab, maize was grown on 1.60 lakh hectares this year — just 3.8%. Since 2000, the area under maize has varied between 1.09 lakh and 1.63 lakh hectares every year. **The area under maize in Punjab is only 1.6% of the total area under the crop in India (98 lakh hectares). Nearly 46% of India's maize area is in the peninsular states of Karnataka, Telangana, and Andhra Pradesh.** Madhya Pradesh and Maharashtra too, have large areas under maize. In Punjab, maize can be grown in three seasons — spring (March-June), rabi (December-April) and kharif (June-October). Kharif is the state's main maize season. There is need to increase the area under kharif maize, which is also the paddy season. Spring maize is grown on around 25,000 hectares, but the crop is not promoted due to its long duration, and because it consumes water during the hot summer days.

### And What Is the Minimum That Must Be Brought Under Maize If Punjab Wants to Effectively Diversify from Paddy?

Experts say the area under non-basmati paddy must be cut by at least 12 lakh hectares, and maize, basmati, and cotton must be grown on this land — besides increasing the area under agro-forestry and vegetables. Non-basmati paddy is currently grown on 23-26 lakh hectares. At least 5.50 lakh hectares should pass under maize, the experts say — an addition of about 4 lakh hectares. Under its New Diversification Policy launched in the 2013 kharif season, the SAD-BJP government had, in fact, aimed to bring around 5.50 lakh hectares under maize by 2017-18. However, data from the agriculture department show that the area under the crop has remained largely stagnant. Fluctuating prices of maize have been a disincentive for farmers.

### Will the Strengthening of PAU's Maize Programme Help In Diversification?

Sixteen PAU-recommended high-yield varieties are already sown in Punjab. Long-duration varieties take 95-100 days, and short-duration ones 80-85 days. Farmers also grow several hybrid varieties developed by various companies. "All these varieties give high yields of around 25 quintals per acre in the kharif season. More high-yield varieties can be developed, but that won't guarantee an increase in area under maize unless government policy supports the marketing of the crop," a senior PAU scientist said. **Unlike paddy and wheat, which are procured by the government, maize is sold in the open market and is subject to the actions of private players. Maize is one of 24 crops for which the government fixes a minimum support price, but procurement is not its responsibility;** this is because maize is primarily a "feed" crop — of the 28 million tonnes produced in India, only 13% is consumed as food.

### What Can the Government Do in This Situation?

Agricultural scientists strongly feel that along with developing more high-yield and good varieties of maize for which there is a demand in the market, the **government must stop free power for paddy in order to disincentivise its cultivation and check the overexploitation of underground aquifers.** A very large number of tube wells (more than 14 lakhs in 2015-16) running on free power pump out virtually endless amounts of water across the state. According to the scientists, the government could also earmark a portion of the MSP budget for maize, so that a fund is created from which farmers can be compensated in case the price of maize falls below what has been fixed by the centre government. "Making such a policy is



not a big deal for the government," a senior scientist said. "The budget will remain the same, it will only be apportioned better." Agricultural economist Sardara Singh Johl, however, argued for creating conditions for farmers to move voluntarily away from paddy rather than the government making policy. "The government does not need to make any policy for diversification if it gets a market for low water-consuming crops, and a good price for such crops. Farmers will themselves go for such crops without the government's efforts," Dr Johl said. Efforts to fix area for diversification have failed in the past, he said.

### Lok Sabha Passes SPG Bill Amid Opposition Walkout

- The Lok Sabha on Wednesday passed the Special Protection Group (Amendment) Bill, 2019 which will now protect the Prime Minister and members of his immediate family residing with him at his official residence. It will also provide security to former Prime Ministers and their immediate family members staying with them at the residence allotted for a period of five years from the date on which they cease to hold office. Replying to the debate in the House, Home Minister Amit Shah said that with this amendment, his government would restore the original intent of the Act, which was to provide security for the Prime Minister. He said: "The people of the country should know that the security of Congress president Sonia Gandhi and her children Rahul and Priyanka has not been withdrawn but changed to 'Z-plus' with advance security liaison and ambulance that will be given across the country." The Opposition walked out during the voting on the Bill. Refuting any charges of the move being a "political vendetta", Mr. Shah said: "The BJP does not carry out any action with a vindictive approach. It was the Congress which took many such decisions in the past. The term 'special' indicates its [SPG's] special purpose. Many countries have such elite cover exclusively for their respective heads of state."

### Transgender Persons Act

- The Transgender Persons (Protection of Rights) Bill, 2019 was passed by Parliament, with the Rajya Sabha passing it after a motion to refer it to a select committee was defeated. Passed by the Lok Sabha on August 8 and introduced in the Rajya Sabha by Union Social Justice and Empowerment Minister Thaawarchand Gehlot on November 20, the legislation was meant to end discrimination against transgender persons, the Minister said. Opposition MPs, however, raised concerns about certain provisions including the **requirement of getting a transgender certificate from a District Magistrate**, terming them regressive. DMK MP Tiruchi Siva, whose private member's Bill for protecting transgender rights was passed by the Rajya Sabha in 2015, moved a motion to refer the Bill to a select committee. The motion was defeated with 74 MPs voting against it and 55 in favour of it, and the Bill was passed by voice vote. Mr. Siva said the Bill did not address the needs for protection of the transgender community, which, he said, had called the Bill "regressive and half-hearted". Mr. Gehlot said the concerns raised by the MPs would be looked into while drafting the rules. He said the Bill had already been sent to the Parliamentary Standing Committee and passed by the Lok Sabha twice before being introduced in the Upper House.

### For These Moms, Operation Blackboard Comes Home

- Over 41,000 women in Telangana's **Sangareddy district** can now feel the power of the written word after learning the alphabet for the first time. What is more, they were home-schooled by their own children. The women have cleared the examination conducted by the National



Institute of Open Schooling (NIOS). The NIOS exam is normally taken by 4,000 to 5,000 neo-literates from each district annually, but that number exceeded the norm ten times, thanks to the Sangareddy programme for female literacy initiated by the then District Collector, Manicka Raj Kannan, in 2017. The district was carved out from Medak. The Saakshar Bharat Mission (SBM) imparts functional literacy and numeracy, but faced a shortage of coordinators. Mr. Kannan then decided to rope in school children. In 2017, **the district administration developed 'Ammaku Akshara Mala' (alphabet garland for mother) and roped in students in Classes VII to X.** They were asked to teach their mothers to read and write the Telugu alphabet at home. Most women were part of Self-Help Groups but not literate. The administration identified 52,000 women as eligible to take the exam and sent the list to the Central government. The women got books developed by the district administration. Of 48,000 women who took the exam in March 2018, 41,000 passed in writing, reading and numerical skills. In a 15-day literacy module, the women were taught four letters of the Telugu alphabet in a day. Mr. Kannan, now Collector of Hyderabad, says the effort could be tried in Hyderabad and other districts.

### Mannequins with Cameras to Scan Bengaluru Traffic

- The understaffed and overworked Bengaluru Traffic Police have come up with yet another novel initiative to get motorists to follow traffic rules and observe lane discipline. They have installed as many as 200 life-sized mannequins at troublesome junctions in Bengaluru. The hope is that the mannequins, dressed as traffic police, will deter repeat offenders. The idea is along the lines of farmers using scarecrows to discourage birds from destroying their crops. The mannequins have been outfitted with standard police uniforms, reflector jackets, hats, boots, masks and even sunglasses, in an attempt to trick motorists into believing that it is a real cop. Unlike scarecrows, however, these mannequins will soon be more than just for show. The police are planning to install CCTV cameras on them to record violations. "The behaviour of motorists changes automatically when they see a traffic policeman. Studies show that there are fewer violations in manned junctions compared to unmanned junctions. However, the police cannot be deployed everywhere, and so we decided to put up mannequins," said B. R. Ravikanth Gowda, Joint Commissioner of Police (Traffic). "The mannequins will be replaced with real policeman the next day, to ensure that motorists follow rules."

### Why India's Children Are Anaemic

- Last month, during the festive season, an ad campaign urged Indian women to invest in iron-rich food and focus on whether they were anaemic. Around the same time, a Lancet Global Health report noted that **23% of Indian men suffered from anaemia.** Adding to these findings, now a paper published in Scientific Reports points out that about **58.5% of children below five years of age in India are anaemic.** The team from Harvard TH Chan School of Public Health analysed over one lakh children using the National Fertility and Health Survey (2015-16) data. They write that socio-demographic factors including wealth of the family, maternal education, maternal age, type of residence are the main reasons behind the incidence of childhood anaemia. As the mother's education level increases, the tendency of the child to be anaemic decreases significantly. **The report notes that even the richest households had anaemic children. While 52.9% of children in the rich households were marked anaemic, the number was 63.2% in the poorest households.** Overall, vitamin A and iron intake was also



lower than the recommended level. Dr. Onyeneho explains that nutritional and iron deficiencies top the list of factors that predispose children to anaemia in India and these should be prioritised in any intervention. Dr. Onyeneho says that the most shocking find for her was the inverse relationship between the age of mothers and the incidence of anaemia in children. The study showed that children of younger mothers are more anaemic. "While one may understand the powerlessness of mothers 15-19 years [old] in ensuring the children get the right food. It also reveals the power dimension in the household allocation and use of resources." The team has now planned to study gender power relations in household and how it influences childhood anaemia in India. The paper notes that though India has an anaemia control programme which recommends iron intake and folic acid supplements, the results show that the programme has not been a success. The researchers urge immediate work be carried out to bridge the gap between policy and practice. They also call for a broader health strategy, to effectively address this issue.

### Google Warned 500 Indians On Phishing

- Google sent out over 12,000 warning to users globally, including about 500 in India, during the three-month period from July to September this year, alerting them on "government-backed" phishing attempts against them. The news comes close on the heels of Facebook-owned WhatsApp disclosing that an Israeli spyware — Pegasus, was used to spy on journalists and human rights activists globally, including 121 people in India. In a blog post, Google said its Threat Analysis Group (TAG) works to counter targeted and government-backed hacking against Google and its users. The TAG tracks more than 270 targeted or government-backed groups from more than 50 countries, it added. "These groups have many goals including intelligence collection, stealing intellectual property, targeting dissidents and activists, destructive cyber-attacks, or spreading coordinated disinformation," it added. Stating that the company had a long-standing policy to send users warnings if it detects that they are the subject of state-sponsored phishing attempts, Google stated that from July to September 2019, it sent more than 12,000 warnings to users in 149 countries that they were targeted by government-backed attackers. "This is consistent (+/-10%) with the number of warnings sent in the same period of 2018 and 2017," it said.

### Online Consumer Behaviour May Be Risky

- Even as consumers in India are warming up to digital payments driven by convenience, some aspects of their 'behaviour' may make them vulnerable to financial fraud, as per a new report by NortonLifeLock. According to the 'India Digital Wellness Report,' 68% (7 out of 10) of responding consumers making financial transactions online are willing to save their personal bank details on websites they trust, even as a majority of 83% respondents understand that financial fraud and data theft are the biggest threats to online banking. "Our cyber safety is inherently tied to trust. Most consumers are aware their data is being captured by the websites they visit, the social media posts they share and the apps they use, and trust their information is being properly secured. However, these same consumers are often unaware of how the companies that they have trusted are using this data," Ritesh Chopra, country director, NortonLifeLock, India, told The Hindu. He added that while consumers want greater control over their privacy and action taken against those that mishandle personal data, they want this control to come without hassle or cost and are willing to take risks in favour of convenience. "The realities of cybercrime can seem daunting, with convenience being





preferred over risks like identity theft and breach of personal privacy. We strongly advise users to tread [as] carefully in the digital world as one would in the real world," Mr. Chopra said. The survey highlights that convenience (83%) and time-saving (90%) are the top motivators for making online transactions as consumers make the maximum online financial transactions for shopping (91%), closely followed by bill payments (88%) and ticket booking (87%). However, it found that **women and Generation X [people aged 35-54 years], are most complacent about security.**

## Business & Economics

### Govt. Extends 15th Finance Panel Term

- The Union Cabinet approved the extension of the term of the 15<sup>th</sup> Finance Commission, which will now submit two reports. The term had been extended till October 30. **The first report, for financial year 2020-21, will be submitted in the coming months before the Union Budget, and the second report for the period 2021-26 will be presented by October 30, 2020. This will effectively mean the 15<sup>th</sup> Finance Commission's recommendations will be applicable for six years and not the conventional five-year period.** "The extension of the term will enable the Commission to examine various comparable estimates for financial projections in view of reforms and the new realities to finalise its recommendations for the period 2020-2026," the government said in a release. "The Commission, on account of the restrictions imposed by the model code of conduct, completed its visit to States only recently," the release added. "This has had a bearing on the detailed assessments of States' requirements." According to a former chairman of a previous Finance Commission, it is not unprecedented for the term of a Commission to be extended when there is a restructuring of States, or if the terms of reference for the Commission have been significantly expanded. "This Commission has seen its terms of reference expanded and the reorganisation of J&K, and so, an extension of the term is not unusual," the former chairman said. "It happened before in the 14<sup>th</sup> Finance Commission when Andhra Pradesh and Telangana were split." In a situation where the number of States has changed, the former chairman explained, the Commission then has to alter its calculations for every State and this takes time. The 9<sup>th</sup> Finance Commission under the chairmanship of N.K.P. Salve also saw its recommendation period extended to six years from the conventional five.

### What Is the Push Behind the Strategic Disinvestment Move?

- On November 20, the government announced that it would sell stakes in several public sector undertakings (PSUs) and even give up management control in some. The Central government will cede full management control to buyers in the case of oil marketing company **Bharat Petroleum Corporation Ltd. (BPCL), Shipping Corporation of India (SCI) and Container Corporation of India Ltd (CONCOR).** The government will transfer its 74.2% stake in **THDC India Limited (formerly Tehri Hydro Development Corporation of India)** and its 100% stake in **North Eastern Electric Power Corporation Limited (NEEPCO)** to another public sector unit and power distribution major, **NTPC Ltd.**



### Why Do Governments Divest Stake in Public Sector Undertakings?

Some political parties that come to power believe that “the government has no business being in business”. That is, the government’s role is to facilitate a healthy business environment but the core competence of a government does not lie in selling fuel or steel at a profit. That is one reason that divestment is often a priority item in the election manifesto of such parties. Two, with governments always having to spend more than they earn through taxes and other means, additional income from the proceeds of a stake sale is always welcome. This is especially so in the case of India now, where it has fallen to the government to spend higher amounts on infrastructure to boost economic growth, along with its commitments on health and education. It is true that this is like selling the family silver and that at some point there would be nothing left to sell and cushion the fiscal deficit with, but the argument is, the government should not have been funding these companies in the first place.

### What Is A Strategic Sale?

A **strategic sale** by a government is one where the management control is ceded to the buyer. **A divestment could be stake sale to a buyer, via an initial public offering or a direct deal, but in which the government still retains majority and management control. A strategic sale is also different from cases where the government transfers majority stake but only to another PSU over which it has control, as happened recently with HPCL (bought by Oil and Natural Gas Corporation) and with Tehri Hydro and NEEPCO in the latest round.**

### What Is the History of Disinvestment in India?

Since liberalisation began in India in 1991 under then Prime Minister P.V. Narasimha Rao, the country saw a steady flow of disinvestment decisions. However, privatisation, where buyers took over management control, began later under the National Democratic Alliance governments. Arun Shourie, the country’s first Disinvestment Minister, gave an impetus to the exercise. He is credited with the privatisation of Maruti, Bharat Aluminium Company Ltd., Videsh Sanchar Nigam Limited and Hindustan Zinc through the strategic sale process.

### Why Sell A Profitable Public Sector Unit?

One counter to this question would be: why would a buyer pay a premium, or even be interested in a loss-making unit? Air India is a case in point. The government has been unsuccessfully trying to sell the debt-laden and loss-ridden airline for a while now. Bharat Sanchar Nigam Limited, which made a loss of ₹7,500 crore for the first half of this fiscal, may not find a buyer easily, even if it were on the block.

### What Does the Government Get Out of Divestment?

In the latest round, the government stands to get a sum in the region of ₹80,000 crore from a stake sale in the five aforementioned units, which would take the total disinvestment value for the fiscal close to the ₹1.05 lakh crore amount it had planned. India is currently facing an economic slowdown in which indirect tax collections are below par. The government has cut corporate tax rates hoping that companies will use these savings for price cuts or dividend pay-outs, or for investments that create jobs. As consumption is highly muted, the Central government may look to place more disposable cash in the hands of the taxpayer through lowering personal income tax rates. As a result of cut and to-be-cut tax rates, the government



would have less and less cash for its own expenditure in infrastructure and the social sector. Further, if the fiscal deficit goes out of hand, the sword of Damocles — of global rating agencies lowering the country's investment grade — could fall on India's neck. This would make any future foreign currency loans costlier, both for the country and for large Indian conglomerates whose fortunes rise and fall with the local economy. Here is where proceeds from strategic sales give the government extra spending cushion. This fiscal has been a year without precedent for the government on the fiscal front. The Reserve Bank of India gave the Central government a record dividend payout of about ₹1.76 lakh crore. The joy over this would have been short-lived as the government has had to execute a corporate tax cut — to mitigate the effects of a slowdown — and will suffer an annual loss of ₹1.45 lakh crore. So at least meeting the year's disinvestment target, if not exceeding it, would give the government some respite from the string of bad fiscal news that has been flowing its way.

### Reserve Bank Flags Rising Bad Assets from Mudra Loans

- The Reserve Bank of India (RBI) has expressed concern over rising bad loans from Pradhan Mantri MUDRA Yojana (PMMY), a scheme announced by Prime Minister Narendra Modi in April 2015, which offers faster credit, with ticket sizes starting from ₹50,000 and going up to ₹10 lakh, to small businesses. With stress in such loans increasing, the central bank is set to ask bankers to monitor such loans closely as unsustainable credit growth in the sector could risk the system. The government had in July informed Parliament that total NPA in the Mudra scheme of over ₹3.21 lakh crore has jumped to 2.68% in FY19 from 2.52% in FY18. Since the inception of the scheme, over 19 crore loans have been extended under the scheme up to June 2019, it had said. Of the total, 3.63 crore accounts are in default as of March 2019. However, according to an RTI reply, the bad loans in the scheme soared a whopping 126% in FY19, jumping by ₹9,204.14 crore to ₹16,481.45 crore in FY19 over the previous year.

### How SEBI's New Default Disclosure Norm Works

- Securities market regulator Sebi last week asked listed companies to publicly disclose any default in repayment of principal or interest on loans from banks and financial institutions beyond 30 days. "Such disclosure shall be made promptly, but not later than 24 hours from the 30<sup>th</sup> day of such default," Sebi said in its circular of November 21. On August 4, 2017, Sebi had issued a similar circular, requiring all listed entities to make such "disclosures within one working day from the date of default at the first instance of default", but had deferred the implementation of that rule hours before it was to kick in on October 1 of that year. The new default rule will come into force on January 1, 2020.

#### Why the New Rule

Sebi says the change was necessary to address information asymmetry — or a gap in the availability of information to different classes of investors — on defaults on loans by listed companies. Investors come to know of such defaults much later — whereas a similar default on repayment of a bond or a similar instrument issued by a company has to be disclosed immediately, in line with SEBI's regulations. An early disclosure can act as an early warning system, which can help investors make considered decisions on whether to stay on or sell the stock and exit, cutting their losses. In the current scenario, a meltdown such as those at IL&FS, DHFL, or PMC Bank, can leave many investors flatfooted. It is also expected that the move will lead to greater credit discipline in the banking industry.



### How Change Came

The mountain of bad loans especially with state-owned banks, and their non-disclosure, nudged regulators towards addressing the root cause rather than merely the symptom. In July 2015, the Reserve Bank of India launched Asset Quality Review (AQR) to assess the true state of bank loans. **Many lenders — including large private banks — were in the habit of “evergreening” loans, i.e., providing fresh funds to borrowers just before the repayment date in order to ensure that loans were not classified as bad. For Sebi, the concern was the grant of frequent waivers on its own rules to government-owned banks when they raised money from institutional investors through Qualified Institutional Placements or QIPs.** These weren't genuine placements of securities to investors — rather, it was the LIC or the government putting in money, as many investors remained unaware of the real state of the banks. And there was little incentive for the banks or the government to correct this.

### From A Day To 30 Days

SEBI's August 4, 2017 circular made it mandatory for listed corporates to disclose default within a day of the event. It can be argued that had the circular been implemented, investors would have been made aware of the troubled state of some of India's top corporate groups and firms, which were referred to the insolvency court in 2018. The pushback by powerful groups led to the regulator jettisoning the rule without giving reasons. In internal discussions before the original circular was issued, some Sebi officials had pointed out that 30 days was the norm for corporate bonds. The other argument in favour of 30 days could be uniformity in regulatory rules. In its famous circular of February 12, 2018, the RBI had directed banks to start the process of resolution or restructuring of a loan even if the default was for only a day. After the April 2, 2019 ruling of the Supreme Court striking down the circular, the RBI revised its rule in June — offering a 30-day window to classify an account as a Non-Performing Account. SEBI's November 21 circular could be seen either as a sign of regulatory synergy with the RBI, or as a nod to a more pragmatic approach.

### The Challenge Now

In 2017, Sebi backed off at the last minute on implementing the disclosure norms on default. However, 2018 and 2019 have seen the collapse of several storied corporates. Much of what was known before they went into bankruptcy was based on anecdotal evidence with credit rating agencies way behind the curve. The erosion of faith could be detrimental to fuelling fresh investment. In India, the tightening of rules often happens in the aftermath of a scam or under public pressure, after investors have been short-changed. Last time, the regulator blinked; this time the challenge for both Sebi and the government is to hold firm. If they do that, they will at least be able to tell investors and other stakeholders from January next year that they had been forewarned.

### How Karvy Stock Broking Bypassed SEBI Regulations, Diverted Investors' Money

- On November 22, the Securities and Exchange Board of India (Sebi) banned Karvy Stock Broking Ltd (KSBL) from taking fresh business for allegedly **misappropriating money and securities belonging to its investors in order to fund its real estate arm, Karvy Realty.** While Sebi says Karvy transferred ₹1,096 crore to its real estate business, market estimates say the sum involved could be around ₹2,000 crore. The regulator is learnt to be also looking into



similar manipulation involving thousands of crores by several other broking houses, which could potentially create a crisis of confidence in the stock market.

### What Has Karvy Done?

Sebi has moved against Karvy for violating norms, including transferring client shares to itself, and pledging client shares to raise money, which it diverted to its real estate arm. Many of Karvy's over 2.40 lakh clients have complained to the regulator about money and securities not coming to their trading accounts. Karvy allegedly misused client accounts without informing them, or reporting to the depository or the stock exchange. **Securities lying in Depository Participant (DP) accounts belong to clients, who are their legitimate owners. KSBL had no legal right to create any pledge on those securities. If at all client securities are pledged, it should be done only in order to meet the obligations of the respective clients. In a report submitted to Sebi, the National Stock Exchange of India (NSE) said that KSBL misused the power of attorney given by its clients to clandestinely sell client securities through entities controlled by it, and used the funds for its own purposes.** To hide its misdeed, KSBL did not report the DP account (No. 11458979) in its submissions to the NSE from January to August 2019. This was detected only during inspection, the NSE said.

### How Much Money Was Involved?

The Sebi order said a net amount of ₹1,096 crore was transferred by Karvy Stock Broking to Karvy Realty. However, the scam is likely to be worth about double that amount, or even more — the NSE's preliminary probe of August 19, was carried out with a limited purpose, and covered only the period from January 1, 2019 onward. While customers are looking to the stock exchanges for the money and securities allegedly siphoned off by Karvy from their accounts, Sebi is reportedly investigating similar diversions of funds from client's accounts by other broking houses. The Sebi (Stock-Brokers and Sub-Brokers) Regulations, 1992 specify that the stock broker must "segregate his own funds or securities from the client's funds or securities", and must not use "the securities or funds of the client for his own purpose or for purpose of any other client".

### So, How Does This System Work?

Big stockbrokers such as Karvy, finance companies, and banks offer online trading on both the NSE and the Bombay Stock Exchange. These brokers have trading platforms that allow their customers to trade online in equities, buy debt papers, mutual funds, commodities, and currencies, and participate in public issues. The client opens a demat account with a depository and a bank, and in some cases gives power of attorney to the broking firm to act on their behalf. The securities received in pay-out, against which payment has been made by the client, should be transferred to the Demat account of the client within one working day of the pay-out. Securities kept in the 'client unpaid securities account' should either be transferred to the Demat account of the client upon fulfilment of the client's funds obligation, or should be disposed of in the market within five trading days after the pay-out.

### Were There Any Regulatory Gaps?

Sebi tightened the relevant portions of its 1992 Regulations further through a circular on June 20, 2019. It said: "With effect from September 1, 2019, clients' securities lying with trading members/clearing members... cannot be pledged to banks/NBFCs for raising funds even



with authorization by client.” Also, clients’ securities already pledged shall be unpledged by August 31, 2019, and returned to the clients after fulfilment of pay-in obligation. The circular said that in case of default on payment by a client, brokers will have to hold the securities for up to five days, after which they can liquidate the securities. Both the stock exchanges and Sebi had, in fact, begun to tightening norms for brokers several months ahead of the June 20 circular. In December 2018, Sebi standardised books of accounts and records in order to make it easy to carry out inspections and compare. The following month, brokers were asked for weekly reports of day-wise securities and balances of clients, International Securities Identification Number (ISIN), and DP accounts. In March 2019, a reconciliation exercise of matching depository records and exchange records was started. Between April and June, Sebi directed the depositories — National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL) — and depository participants to provide pledged details of all brokers. A leading market expert said Karvy had carried out a “robbery” by breaking laws and norms. This expert likened Karvy’s action to a promoter of a bank withdrawing depositors’ money for personal use. Industry sources said it is no longer possible for brokers to pledge clients’ securities except with the Clearing Corporation of India (CCIL) and clearing members — that is, within the exchange system. Cases of pledging outside the system date from the period prior to SEBI’s June circular, they said.

### Will Investors Lose Money?

While Karvy allegedly misused securities of thousands of its investors, industry sources say as of now, there is no default — and the value of securities pledged is more than the money taken out by the broker. Government sources confirmed that investors’ money will not be lost. Market sources said in case the funds available with Karvy are insufficient, investors may get their money through **NSDL insurance, or from the Investor Protection Fund (IPF) set up to guard against default by members of exchanges (brokers)**. However, some exchange officials told The Indian express that the IPF cannot be used to make good investors’ losses, if any, in this case because, even though securities were taken out and pledged, there was no trade — and “IPF money can only be used in case a trade has happened”.

## Life & Science

### Sharp-Eyed Cartosat-3 To Take to The Skies

- The Indian Space Research Organisation’s successful launch on Wednesday of Cartosat-3, along with 13 other small U.S. satellites, marks a major technological milestone for India. Cartosat-3 is capable of unprecedented image resolution of nearly 25 cm on the ground as against the best global military-grade satellites that can provide a 10 cm resolution. **The best satellite images commercially available are between 25-30 cm.** Thus, as a commercial satellite, Cartosat-3 creates a wealth of applications. Military espionage is the lowest hanging fruit. It is believed that surveillance by the earlier Cartosat-2 satellite series — with a resolution, though coarser, of about 65 cm — was used to plan and execute military operations such as ‘surgical strikes’ across the Line of Control in 2016 and the Manipur-Myanmar border in 2015. For the government, such resolution can help monitor progress of road construction, coastal land-erosion, forest conservation, oceanic changes and infrastructure development. **Image resolution is good to have but secondary to image**



processing. That means unless and until there is sophisticated technology available to analyse the generated images, it will forever be inferior, and less valued, than coarser images scanned by better processing-software. While satellite launches make for a good spectacle, they are meaningful only in so far as they aid commerce and generate revenue and jobs. Indian regulations restrict access to satellite images sharper than one metre to the government. Other than for transponders, there is a long way to go for Indian private companies sending innovative payloads aboard ISRO launch vehicles. ISRO recently launched a company called New Space India Limited (NSIL), a competitor to Antrix, but like it, is another public enterprise meant to commercialise space products and satellite development deals with private entities. The deal for the U.S. satellites launched along with Cartosat-3 was formally inked by the NSIL. A good beginning, it should not be shackled by bureaucratic encumbrances, à la Antrix. The host of interesting electronics aboard Cartosat-3 should ideally inspire ISRO to explore collaboration with the private sector in improving high-technology manufacturing. While ISRO's key capability still lies in developing and launching small- and medium-sized satellites, it ought to be able to market the technology aboard Cartosat-3 globally and induce the farming out of satellite development projects to ISRO or its subsidiaries. While ISRO's credentials as a poster child for India's technological abilities have been fortified, it still has a long way to go in terms of its reputation as an enabler of local business.

- ➔ After Chandrayaan-2, it is back to business for the Indian Space Research Organization. ISRO will launch Cartosat-3, and 13 other foreign satellites, aboard a PSLV (Polar Satellite Launch Vehicle). This will be ISRO's fifth launch this year and the first since the July 22 launch of the Chandrayaan-2 Moon mission.

### The Payload

The main purpose of the mission is to place the 1,625-kg Cartosat-3 satellite, the third generation of Earth-observation remote sensing satellites that ISRO has been launching and using since 1988. These satellites provide high-resolution imagery of the Earth that are used for applications like 3-D mapping, disaster management, agriculture and water management, recording of changes in land use, and urban and rural infrastructure planning, and even border surveillance. The PSLV-C47 rocket is also carrying 13 commercial nano-satellites from the US. Twelve of them are Flock-4P satellites, also Earth-observation satellites, from the private company Planet, which has sent several such satellites on PSLV rockets earlier. In fact, it was an earlier version of these same Flock satellites that, in February 2017, had helped ISRO launch a world record 104 satellites at one go. Of the 104 satellites on board PSLV-C37, 88 were Flocks. Those Flocks were called doves, and the current bunch is known as super-doves.

### Earth Observation

The main payload in Wednesday's launch would be the next-generation Cartosat satellite. The Cartosat satellites, used mainly for large-scale mapping of the Earth through high-resolution cameras, are part of the large range of earth observation satellites deployed by ISRO, starting with the Indian Remote Sensing series of satellites. The Earth-observation satellites also include the Resourcesat and RISAT series, the Oceansat series and many more. These satellites now focus on generating theme-based user-friendly data that are in great demand. The Resourcesat and RISAT series of satellites, for example, provide imageries and data that are needed for land and water resources applications. The Oceansat series and the SARAL satellite, meanwhile, produce data on the oceans, while satellites like INSAT 3D, INSAT-



**VRR or Megha Tropiques study the atmosphere.** Data from Earth-observation satellites are in great demand, both from government agencies, which need it for planning and infrastructure development, as well as private companies looking to execute infrastructure and other projects.

### Cartosat, Then and Now

Cartosat-3 has been developed as an improvement over the Cartosat-1 and Cartosat-2 series satellites, though ISRO has not yet revealed the full specifications of this satellite. **Cartosat-1, launched in May 2005, was the first Indian remote sensing satellite capable of taking three-dimensional images. With a resolution of 2.5 metres, which meant it could identify a car on the ground from space, Cartosat-1 helped in creating new digital maps of over 150 towns and cities in the country at a scale of 1:10,000. Earlier maps were of a scale of 1:50,000 or even lower.** Data from this satellite were also used to do an inundation vulnerability assessment of the Indian coastline in the event of a tsunami or a major cyclone, and even for estimating the status of irrigation potential created by the large number of projects under the Accelerated Irrigation Benefit Programme. **The first of the Cartosat-2 series was launched in 2007 and these have been substantially advanced versions of Cartosat-1. Seven of them are in orbit, each with the capability of taking images of resolution better than 1 metre.** The last three Cartosat-2 series satellites are also placed in a lower orbit — 505 km from the Earth's surface compared to the 640 km earlier — thereby increasing their resolution further. ISRO has not revealed the quality of the camera on **Cartosat-3** or the resolution of the images it would be able to take. But it is likely to have the **capability to take images with resolution better than 0.25 metres.** "There is great demand for reliable high resolution data because these are needed for a very wide range of applications. It is needed by the government, private companies, and also academics who are studying earth, ocean or atmosphere systems. We need to know how the forest or vegetation cover is changing for example, or how urbanisation is spreading. Cartosat satellites come back to the same place after every few months, so that they are able to capture the change that is happening on the ground. And this is valuable for a number of user agencies. ISRO is therefore only catering to the increased demand by deploying more such satellites," said a retired space scientist.

### The Rocket

Wednesday's mission will fly on a **four-stage PSLV rocket** that has been the most consistent of ISRO's launch vehicles. This would be the PSLV's 49<sup>th</sup> flight. All but two of them have been successful. Apart from Chandrayaan-2, which flew on a GSLV rocket, the other three launches this year have all used PSLV variants.

### Ketamine

- Anaesthetic, antidepressant and party drug? A synthetic compound called ketamine is all of those, and now it emerges it can also help reduce alcoholism. Ketamine, used by medical practitioners as an anaesthetic as well as antidepressant, is also used illegally as a recreational drug. Now it has been found that just **one shot of ketamine could reduce alcohol intake among heavy drinkers for at least 9 months.** University College London report in a study published in Nature Communications. Ketamine is known to target and block the receptor in the brain called NMDA, which prevents the brain from re-stabilising a memory. The experiment involved 90 individuals with "harmful drinking behaviour", who were given





intravenous ketamine shots after their drinking-related memories were “re-activated” by showing them photographs of beer and some non-alcoholic beverages while rating their anticipated pleasure. The researchers claim that the method was successful in reducing the amount of alcohol the participants consumed over a period of time.

### New Snake Species Found in Arunachal

- Researchers have discovered a new species of non-venomous burrowing snake in Arunachal Pradesh, named *Trachischium apteii*. It was found under fallen logs inside a thickly forested area of the **Tally Valley Wildlife Sanctuary** near the town of Ziro in Arunachal Pradesh during a field expedition by researchers in July 2019. Mr. Mirza said that the newly discovered species belongs to a group of fossorial snakes that live mostly underground, and surface mainly during or after a heavy monsoon shower. Experts behind the discovery suggested that **due to the burrowing habits of species of this genus, snakes belonging to the group are seldom seen and hence remain poorly studied**. This could have been one of the reasons that the species had eluded the researchers. *Trachischium apteii* was named so to honour the contribution of Deepak Apte, well-known marine biologist and Director of the BNHS. *Trachischium* species are commonly called slender snakes, and are currently known by seven species that are distributed across the Himalayas, and the Indo-Burma and Indo-China regions. Large-sized members of the genus measure about 293 mm to 299 mm (measuring less than a foot, that is 300 mm or 30 cm). Researchers behind the discovery, who covered large tracts of forested land in northeast India, said that they have documented more species from the forests of Arunachal Pradesh, which is likely to yield new species. Work is underway to describe them. Underlining that forests across northeast India have not been well-explored for their biodiversity, especially reptiles, amphibians and most invertebrate groups, the authors have said that “anthropogenic pressures like road widening, construction of dams and hydropower plants threaten the forest and biodiversity across Arunachal Pradesh”.

### Singapore Shows Off Rare Philippine Raptors

- Singapore showed off two critically-endangered eagles that were loaned from the Philippines as part of a breeding programme to reverse the dwindling numbers of the feathered giants. Destruction of tropical rainforest and relentless hunting have decimated the population of the Philippine Eagle — one of the world’s biggest and most powerful birds whose wingspan can reach 2 metres with only around 800 believed left in the wild, conservationists say. The birds, *Geothermiza* and *Sambisig*, are the first breeding pair ever to be sent outside the Philippines and arrived in Singapore in June on a 10-year loan from Manila. The creatures are being cared for at the city-state’s main aviary and were shown to the media, as part of events marking 50 years of diplomatic relations between the countries. “Any future offspring of the eagles will be returned to the Philippines to contribute to the sustainability of the species’ population,” said Wildlife Reserves Singapore, which runs the aviary.

### What is Polydactyly?

- Several news organisations in India and overseas reported the story of a 63-year-old woman in a village in Odisha who, according to the reports, had been ostracised by the community as a “witch” because she was born with 12 fingers and 20 toes. **The woman’s condition is known as polydactyly/polydactylism or hyperdactyly, a birth defect in which humans and**  
**Shatabdi Tower, Sakchi, Jamshedpur**



animals have **supernumerary fingers or toes**. In other words, a person suffering from the congenital anomaly of polydactyly will have more than five digits in a particular hand or foot — a condition opposite to **oligodactyly, in which the sufferer has fewer than five digits in a hand or foot**. Polydactyly is reported in perhaps one or two children per 1,000 live births, and could be the most common abnormality of development seen in new-borns worldwide. The defect develops during the sixth or seventh week of gestation, when an irregularity occurs in the splitting of the fingers from the hand or foot, creating an extra digit. **Causes are believed to be genetic, in some cases hereditary. The defect is also seen in cats, dogs, cattle, sheep, pigs, chickens, geese, and sometimes horses.** The extra digit is only rarely fully functional; most often it is a small piece of soft tissue that sometimes also has a bone and, in a small number of cases, a bone with a joint. **In most cases, the extra digits can be surgically removed;** the procedure gets more challenging if there is bone with the skin and tissue, and most difficult when the bone has a joint. Stories of stigma associated with the condition are often reported; the stigma is most commonly seen among poor and less literate communities. In December 2018, a new born baby girl died in a tribal hamlet in Khandwa, Madhya Pradesh, after her mother allegedly cut off the extra fingers and toes with which the child had been born, apparently for fear that no one would marry her when she grew up.

### Scientists Measure Blue Whale's Heart Rate

- Using a bright orange electrocardiogram machine attached with suction cups to the body of a blue whale, scientists for the first time have measured the heart rate of the world's largest creature and came away with insight about the renowned behemoth's physiology. **The blue whale, which can reach up to 100 feet (30 meters) length and weigh 200 tons, lowers its heart rate to as little as two beats per minute as it lunges under the ocean surface for food, researchers said. The maximum heart rate they recorded was 37 beats per minute after the air-breathing marine mammal returned to the surface from a foraging dive.** "The blue whale is the largest animal of all-time and has long fascinated biologists," said Stanford University marine biologist Jeremy Goldbogen, who led the study published in the journal Proceedings of the National Academy of Sciences. Generally speaking, the larger the animal, the lower the heart rate, minimizing the amount of work the heart does while distributing blood around the body. The normal human resting heart rate ranges from about 60 to 100 beats per minute and tops out at about 200 during athletic exertion. **The smallest mammals, shrews, have heart rates upwards of a thousand beats per minute.** The researchers created a tag device, encased in an orange plastic shell, that contained an electrocardiogram machine to monitor a whale's heart rhythm swimming in the open ocean. The device had four suction cups to enable them to attach it to the whale non-invasively. The researchers obtained nine hours of data from an adult male whale about 72 feet (22 meters) long encountered in Monterey Bay off California's coast. During feeding dives, the whale exhibited extremely low heart rates, typically of four to eight beats per minute and as low as two. After surfacing to breathe following foraging dives, the whale had heart rates of 25 to 37 beats per minute.

### What is Golden Rice?

- In the late 1990s, German scientists developed a genetically modified variety of rice called Golden Rice. It was claimed to be able to fight **Vitamin A** deficiency, which is the leading cause of blindness among children and can also lead to death due to infectious diseases such as measles. The claim has sometimes been contested over the years, with a 2016 study from



Washington University in St Louis reporting that the variety may fall short of what it is supposed to achieve. Now, **Bangladesh could be on the verge of becoming the first country to approve plantation of this variety.** The Dhaka Tribune recently quoted visiting Nobel Laureate Sir Richard John Roberts as saying that Bangladesh would take a decision on the release of Golden Rice. Advocates of the variety stress how it can help countries where Vitamin A deficiencies leave millions at high risk. **In Bangladesh, over 21 per cent of the children have vitamin A deficiency. The Golden Rice that is being reviewed in Bangladesh is developed by the Philippines-based International Rice Research Institute. According to the institute, this rice variety will not be more expensive than the conventional variety. Rice is naturally low in the pigment beta-carotene, which the body uses to make Vitamin A. Golden rice contains this, which is the reason for its golden colour.**

## Coming: A Rulebook, Bill of Rights And 'Contract' For The World Wide Web

- ➔ Sir Tim Berners-Lee, inventor of the World Wide Web, has announced a “Contract for the Web” — aimed at saving the future of his invention, which is now almost an essential condition for human existence. The Web is at a tipping point, Berners-Lee wrote in an op-ed for The New York Times, and needs radical intervention from all stakeholders — governments, companies, civil society groups, as well as individual users.

### What Is the Contract for The Web?

Berners-Lee announced plans for this “Contract” nearly a year ago, and the World Wide Web Foundation, a non-profit he has founded, worked on it. The idea is to create a global plan of action for all stakeholders to together commit to building a “better” Web. The Contract consists of nine principles — three each for governments, private companies, and individuals and civil society to endorse — with 76 clauses each. Emily Sharpe, Director of Policy at the World Wide Web Foundation, said the Contract was not meant to be “simply aspirational”, or just a “declaration”. “It’s actually meant to be implemented, and it’s meant to be a plan of action.

### And Who Has Created This Contract?

Representatives from over 80 organisations, including governments, companies, civil society activists, and academics. The goal was to create a standard policy for a Web that benefits all. The nine principles emerged after a series of discussions over almost a year. Participants included the governments of France, Germany, Switzerland, Italy, and Ghana; tech majors Google, Facebook, Twitter, Microsoft, NordVPN, Reddit, Github, and DuckDuckGo. The Contract allows individuals to endorse it on the official website.

### What Are the Principles in The Contract?

- ❖ Governments will “Ensure everyone can connect to the Internet”, “Keep all of the Internet available, all of the time”, and “Respect and protect people’s fundamental online privacy and data rights”.
- ❖ Companies will “Make the Internet affordable and accessible to everyone”, “Respect and protect people’s privacy and personal data to build online trust”, and “Develop technologies that support the best in humanity and challenge the worst”.



- ❖ Citizens will “Be creators and collaborators on the Web”, “Build strong communities that respect civil discourse and human dignity”, and “Fight for the Web” so that it “remains open and a global public resource for people everywhere, now and in the future”.

### How Will the Contract Be Implemented?

The principles are lofty, and implementation will not be easy. Sharpe said companies that do not implement the Contract would be delisted from it — which may not be the strongest deterrent. However, she pointed out that companies had themselves reached out to be active participants in the Contract. “This was an opportunity for them to have conversations with governments and civil society instead of shouting at each other. It was an opportunity for dialogue. So, they’re going back to their engineers and saying, ‘We’ve committed to all these other stakeholders that we’re going to fight hate speech, that we’re going to respect privacy.’ We hope they will actually do that now,” Sharpe said. **Even so, the ‘Contract for the Web’ is not a legal document, or a United Nations document — though the organisation is in talks with the UN.** It cannot currently bend governments or companies — even those that are on board — to its will. Citizen action is an important part of the Contract, and the organisation hopes citizens would hold governments and companies accountable for violations of its terms.

### Contract Is Ready, What Happens Now?

The idea, Sharpe said, is to build “concrete solutions that support the goals that were set out in the Contract”. A clause for companies, for example, calls on them to invest in research to ensure they’re not designing services that manipulate people. “Currently there’s no real accepted standard of best practices for even designing user interfaces, to make sure that people actually understand what they’re consenting to, what information is being collected. That’s still work that needs to be done,” she said. The World Wide Web Foundation says it will work with all stakeholders to build some of these standards, which could help the Web stick to the principles of the Contract. It will measure the progress of the Contract’s endorsers, and work with regulators around the world to ensure that companies comply with national laws that support the Contract’s goals. The organisation also hopes to persuade more governments across the world to come on board the Contract.

### How We Learn New Languages

- We humans have used other animals as models to understand our own biological features and their mechanisms. The common fruit fly has been used for identifying several genes and how mutations in them are related to physiological and biochemical defects. Many of the genes in the transparent worm called *C. elegans* have functional counterparts in humans. Mice, rats and rabbits are somewhat “higher” animals and have offered us even greater insights. Such model organisms are easy to maintain and breed in the lab and can be studied right from their birth, adulthood and through their lifetime in short spans of time. But when it comes to understanding the brain and the neurological basis of some actions, in particular, how we speak, sing, imitate and learn foreign words and languages, the above models are not the best. Some have tried using our closest ancestors, such as chimpanzees, in order to understand how they speak, sing or learn other words, but alas, with little success. **Two psychologists (C & K Hayes) adopted a baby chimpanzee at their home, brought it up as a Shatabdi Tower, Sakchi, Jamshedpur**



child and tried to teach this little girl chimp (called Viki) to speak human language. Alas, besides trying to say “mama”, “papa”, “up” and “cup”, Viki could do nothing more. The gradual shaping of her jaw and lips (as she tried hard) allowed her to utter these words, nothing more. It appears that the neural and physiological set up which she had, Viki could only utter chimp sound but not imitate humans. Likewise, another couple (the Gardners) had bred a chimp (called Washoe) at home, and she did a little better than Viki, in that she could do learn a ‘foreign’ language (not spoken but gestural), namely the American Sign Language (ASL), in which she could learn as many as 350 ASL signs and respond to some questions in this non-verbal language. It would thus appear that the necessary anatomical vocal ‘hardware’ is inadequate here, though the ‘software’ to learn is developed somewhat in chimps. We, their descendants, are blessed with the right hardware and software.

### Animal Models

Thus in looking for animal models for understanding how we speak, sing, imitate and learn ‘foreign languages’— and such brain-based activities — we need to go back in evolution and see which animals have been doing these activities, and which parts of their brains are involved in these, and look for similar features in the human brain. And the best animals models used so far are songbirds such as parrots, mynahs, finches, hummingbirds and such. For example, some of us keep parrots as pets at home and find that they not only utter their own words, calls and species songs, but also learn to mimic our sounds and words, and “talk” human language. This shows that, these songbirds have parts in their brain which play a key role not only in the normal vocal development which helps them in learning to speak/sing their own ‘species’ language (the normal genetically programmed ones from their parents), but also to imitate those of others. This has offered some insight and parallels with our own vocal development of learning to speak, sing and so forth. While all animals, cats or chimps are programmed to learn and vocalise their own species language (grunts, gestures and such), learning and imitating is done by songbirds which arose 250 million years ago, and us humans, who came on earth only 2-3 million years ago.

### How Songbirds Learn

Songbirds learn their species language, just like other animals do, by imitating the sounds of older members of their own species. This they do by modifying their voices such that they match what they have memorised. A new-born songbird starts with a babbling voice and sounds, which in a few weeks, turns to the language of the species; in other words, this “subsinging” becomes the “song” of the species language. Note, too, how a new-born human infant babbles, which turns into human language — the language spoken at home by its parents and family members. F. Nettlebohm, in his review article on the neural basis of birdsong points out that there is a group of discrete brain areas (called nuclei) and their connecting pathways, referred to as the song system or song nuclei. In hummingbird brains (likewise in other songbirds, such as parrots) there are 7 discrete structures which are active during singing, showing that these are the anatomical and functional ‘vocal nuclei’. In such vocal learning birds, the brain’s forebrain region appears divided into two sub-pathways: in a vocal motor pathway used to produce learned vocalization, and the other, a loop, that allows the modification of these ‘songs’. We humans too have similar forebrain pathways. An interesting work, in this connection, has appeared from a Japanese group in Hokkaido, this month. They studied the singing pattern of two finches — zebra finches (abbreviated as z)



and owl finches (o), and studied the genes that are expressed in the song nuclei of each of them. There was about 10% difference in the expression of the genes, leading to different species songs that they sing. Next, they crossed the two species and produced two hybrids (zo, and oz, depending on which male crossed with which female), and recorded their songs. The zo hybrid sang both her parents' species songs, the zebra finch song and also the owl finch song; likewise, the hybrid oz sang the owl finch species song, plus the z song! More such inter-species hybrids would offer additional insights, though we cannot do so with humans (ethical considerations)!

### Music Is Humankind's Universal Language

- Songs spanning different languages and ethnic groups across the world exhibit common behavioural patterns, according to a first-of-its-kind study which suggests that human culture everywhere is built from common psychological building blocks. The study, published in the journal *Science*, reports the first comprehensive scientific analysis of the similarities and differences in the types of music produced by various ethnicity around the world. It looked at more than a century of research on the historical and cultural context of music, or ethnomusicology, of more than 300 societies across the globe. The researchers from Harvard University in the US collected hundreds of music recordings in libraries and private collections of scientists half way across the world, culminating in around 5,000 song descriptions from 60 cultures spanning 30 distinct geographic regions globally. The researchers also added reel-to-reels, vinyl, cassette tapes, CDs, and digital recordings, and the private music collections of anthropologists and ethnomusicologists -- who study the cultural context of music -- into a database they called *The Natural History of Song*. They coded the cultural roots and music types making up the database into dozens of variables. To this, the researchers also added details about singers and audience members, the time of day, duration of singing, the presence of instruments, and more details for thousands of passages about songs in the ethnographic corpus. They analysed the discography in four different ways — machine summaries, listener ratings, expert annotations and expert transcriptions. The results of the study revealed that **across societies, music is associated with behaviours such as infant care, healing, dance, love, mourning and warfare**. According to the researchers, these behaviours are not too different between societies. While examining lullabies, healing songs, dance songs, and love songs, they found that songs sharing similar behavioural functions had common musical features. "Lullabies and dance songs are ubiquitous, and they are also highly stereotyped," study co-author Manvir Singh said. "For me, dance songs and lullabies tend to define the space of what music can be. They do very different things with features that are almost the opposite of each other," Singh said. According to Singh, the distinct similarity in the music produced by different societies is evidence that human culture everywhere is built from common psychological building blocks. The researchers said the study may also help unlock the governing rules of "musical grammar."

### Pesticide Exposure Among Tea Estate Workers Could Affect Their DNA

- In the lush tea gardens of northern West Bengal, hundreds of men and women go about their daily business. But lurking here is a hidden danger they are unaware of — pesticide exposure, which is a growing global concern today. Susmita Dutta from the University of North Bengal, set out to investigate this problem in the tea gardens of Darjeeling foothills as



a part of her doctoral research. Two reports recently published by the team points out that chronic exposure to the mixture of pesticides has led to changes in the DNA and also decreased certain enzyme activity. The team collected blood samples from over 200 individuals which included estate workers, controls who didn't smoke or drink and two more control groups who either smoked or consumed alcohol. Detailed analysis showed that the estate workers both men and women, irrespective of whether they smoked or consumed alcohol, showed decrease in enzyme activity, especially enzymes AChE and BuChE. "AChE is known to be target of most organophosphates. AChE terminates synaptic (neuron to neuron) transmission, preventing continuous nerve firings at nerve endings. Organophosphorous pesticides bind to this site and inactivate the enzymes. In the long run, these may even cause other neurological complications. Some studies have pointed out that herbicide and fungicide exposure is associated with Parkinson's disease too," explains Dr. Dutta, the first author of the paper published in Biomarkers. Another paper published by the team in Mutation Research - Genetic Toxicology and Environmental Mutagenesis, shows that pesticide exposure led to DNA damage. The team used a special study called *comet assay* which helps assess DNA damage and found that individuals exposed to pesticides had significantly higher value of certain parameters which suggest damage compared to control subjects. The paper notes that the damage might be the due to single strand DNA breaks, or any disorder of the DNA or DNA-DNA or DNA-protein cross-links. This damage was found to be independent of sex, age, or duration of exposure. The researchers note that the workers were not wearing any protective gear such as masks, gloves and boots. The men who were mostly sprayers inhaled and also contacted the pesticide through their skin. The female workers also came into direct skin contact and has residues on their clothes. The team also warns of second-hand contact where the family can also be exposed if the workers don't clean up properly before going home. Dr. Dutta adds that this problem is prevalent in all plantations across the country and to prevent further health problems for this workforce they need to be educated to take safety precautions.

### Infants Become Susceptible to Measles Infection Earlier Than Thought

- Contrary to the common notion that maternal antibodies against measles protect infants for the first six months of age, a small study involving 25 infants once again shows that antibodies from the mother almost disappear by the end of three months. Hence, infants become susceptible to measles infection at the end of three months and not six months as earlier thought. Currently, as per the World Health Organization (WHO) recommendation, children in countries like India with ongoing transmission of measles are vaccinated only at 9-12 months of age. In countries with no ongoing transmission, the first dose is administered when the baby is 12-15 months of age. This would mean that babies would remain susceptible to measles infection for a longer period of time before they get vaccinated with the first dose. The study was carried out on 25 infants in a single tertiary hospital in Toronto, Canada. All the 25 infants had no underlying medical condition and were born at 37 weeks or more of gestation to mothers who were, on average, 32 years old. Measles is a highly infectious acute viral illness that can lead to severe complications, such as pneumonia, encephalitis and death. Children younger than five years who get infected with measles have higher rates of complications, hospitalisation and even death. The study published in the journal Paediatrics found that of the 25 infants studied, 20% (five of 25) infants had antibodies below the protective threshold even by the end of the first month after birth. And 92% infants had maternal antibodies below the protective threshold by the end of three months. By six



months all the babies had antibody levels below the protective threshold. Based on statistical modelling, the authors found that in Canada the probability of infants getting infected increased with maternal age. This is because pregnant mothers remain protected through vaccination and not through natural infection. They predict that a one-month-old infant has 25% probability of getting infected with measles if the mother is 25 years old but the probability increases to 40% if the mother is 40 years old. **Babies are considered to be protected against measles through maternal antibodies for the first six months based on studies carried out in measles-endemic settings. In these settings, as in the case of India, many mothers gain immunity through natural infection and are also continually exposed to the virus, leading to "repeated immunologic boosting and more robust antibody levels". But in countries where measles has been eliminated or is close to elimination, mothers gain immunity through childhood vaccination, which has been associated with lower antibody levels compared with natural infection.** Infants born to mothers in countries where measles virus has been eliminated have lower maternal antibodies and these antibodies quickly fall below the threshold of protection leaving them to susceptible to infection before they receive the first measles vaccination dose, the authors note. However, in the case of India, the virus is in circulation and causes many infections each year (there were nearly 72,000 cases in India during October 2018-2019, the third highest in the world). Also, the vaccine coverage with two doses is less than 95% to offer protection to infants who are yet to be vaccinated. **Hence, infants in India who are too young to receive the first dose of the vaccine are at greater risk of getting infected. The authors note that pregnant mothers cannot be administered measles vaccine as the vaccine uses live, weakened virus.** According to an Opinion piece published alongside the paper, vaccine-induced protection would be less in infants if the vaccine is given earlier than recommended. Also, early vaccination may "alter response" after the second dose of vaccine, leading to "lower levels of the antibody" compared with children who are vaccinated as per schedule. "Therefore, the best strategy for protecting infants against measles is adequate community protection delivered through high coverage (over 95%) of two doses of measles-containing vaccine," the authors of the paper write.

### Action to Combat Global Warming Inadequate

- The UN's Emissions Gap Report comes as a sharp warning to countries preparing to meet in Madrid in December, under the aegis of the UN Framework Convention on Climate Change, that every year of inaction is jeopardising the main goal of the Paris Agreement: to keep the rise in global temperature over pre-industrial times well below 2°C, and ideally at 1.5°C. **Emissions gap represents the difference between current actions to reduce greenhouse gases (GHGs) and what is needed to meet the target. In quantitative terms, the UN report estimates that there would have to be a 2.7% average annual cut in emissions from 2020 to 2030 for temperature rise to be contained at 2°C, while the more ambitious 1.5° C target would require a 7.6% reduction.** But countries with large emissions, such as the U.S., China, the European Union (EU) nations and India, will face more challenging demands if corrective measures to decarbonise are not implemented now. Climate warnings issued over the years have failed to impress most politicians, but the EU is considering an emergency declaration, and the British Parliament adopted a resolution earlier this year. What the emissions gap findings make clear, however, is that symbolism can do little to mitigate the effects of dangerous climate change. Hundreds of millions of people could face the extreme impacts. In the U.S., the Trump administration has initiated the process of withdrawing from the Paris Agreement, but there is considerable sub-national support for climate action. The EU, where





public pressure to act on climate change is high, is working on legislation to bring about net zero emissions. **The U.K., responsible for a large share of historical emissions, has turned its net zero 2050 goal into a legal requirement.** For these rich nations, the road to lower emissions is mainly through innovation and higher efficiencies in energy use. China and India, on the other hand, have to reconcile growing emissions with development needs. Their best options are a **scaling up of investments in renewable energy, leapfrogging to clean technologies in buildings and transport, and greater carbon sequestration.** Here, as the UN report points out, India could do much more. It needs to provide more consistent support for renewable energy, have a long-term plan to retire coal power plants, enhance ambition on air quality, adopt an economy-wide green industrialisation strategy, and expand mass transport. In the key area of buildings, the energy conservation code of 2018 needs to be implemented under close scrutiny. With a clear vision, India could use green technologies to galvanise its faltering economy, create new jobs and become a climate leader.

- Every year, the UNEP assesses the gap between anticipated emissions in 2030 and levels consistent with the 1.5°C and 2°C targets of the Paris Agreement. The report finds that greenhouse gas emissions had risen 1.5% per year over the last decade and emissions in 2018, including from land-use changes such as deforestation, hit a new high of 55.3 gigatonnes of CO<sub>2</sub> equivalent. Global temperatures have already risen about 1°C since pre-industrial times and negotiations, such as those under way at the COP, are aimed at preventing temperatures from rising more than a half-or one degree. Current commitments by countries — all voluntary — will see temperatures rise by 3.2°C over pre-industrial levels. India is the third-largest emitter behind the United States and China respectively, **though 28 developed countries of European Union, as a block, emit more than India. India's per capita emissions, however, are significantly below the United States, China, Russia, Japan and many countries.**
- Greenhouse gases in the atmosphere hit a new record in 2018, rising faster than the average rise of the last decade and cementing increasingly damaging weather patterns, the World Meteorological Organization (WMO) said. The concentration of carbon dioxide, a product of burning fossil fuels that is the biggest contributor to global warming, surged from 405.5 parts per million in 2017 to 407.8 ppm in 2018, exceeding the average rate of increase of 2.06 ppm in 2005-2015, the WMO report said. Irrespective of future policy, carbon dioxide stays in the atmosphere for centuries, locking in warming trends. "It is worth recalling that the last time the Earth experienced a comparable concentration of CO<sub>2</sub> was 3-5 million years ago," Mr. Taalas said. **Levels of methane — a much more potent greenhouse gas than CO<sub>2</sub> — and nitrous oxide also hit new records, the report said.**