

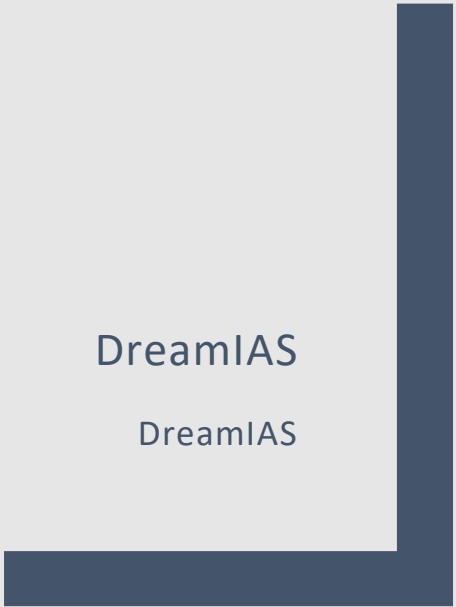


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INTERNATIONAL

WILL RUSSIA-UKRAINE DEAL EASE GLOBAL FOOD CRISIS?

The story so far: In their first major deal since the February 24 war began, Russia and Ukraine on Friday agreed to resume grain exports from Black Sea ports as part of a deal negotiated by the United Nations and Turkey. The UN had initiated talks in April to unblock the millions of tonnes of wheat and other food items stuck in Ukraine's Black Sea ports that have been blockaded by Russia. The breakthrough appeared to have come in Russian President Vladimir Putin's summit meeting with his Turkish counterpart Recep Tayyip Erdogan in Tehran last week. The agreement, signed separately by Russia and Ukraine with Turkey and the UN, is expected to ease a looming global food crisis.

Why is the agreement important?

Russia and Ukraine together account for more than a quarter of the world's wheat supplies. Russia's share in the global exports of wheat, the world's most widely grown crop, is some 20% according to 2020 figures, while Ukraine accounts for 8%. About 50 countries depend on Russia and Ukraine for more than 30% of their wheat imports. Besides wheat, Ukraine is the world's eighth largest producer and fourth largest exporter of corn, accounting for 16% of global exports. Further, Ukraine, which produces up to 46% of sunflower-seed and sunflower oil is the world's largest exporter of sunflower oil. The Ukraine war has therefore clearly hit one of the breadbaskets of the world. This heaped additional pressure on global food prices, which were already under strain due to climate shocks and the COVID-19 pandemic. The UN's Food Price Index averaged 154.2 points in June, 23% higher than its value a year ago. Food price inflation has soared across economies in recent weeks. The exports agreement, if implemented, would see Russian and Ukrainian grains flowing back into the market, easing prices.

How did the war impact grain exports?

Before the war, Ukraine had the capacity to export up to six million tonnes of food items a month, mainly through its Black Sea ports. The Russians have since captured some Ukrainian ports, including Mariupol and Berdyansk, and enforced a blockade on the ports that are still in Kyiv's control, including Odesa. According to Ukrainian authorities, more than 20 million tonnes of grain are stuck in warehouses and containers and they are not able to export them due to the Russian blockade. A new harvesting season began in June and the output is expected to be 60 million tonnes, a huge chunk of which are meant to be for exports. Ukraine would run out of warehousing capacity unless it immediately starts exports.

Russia has rejected criticism that its actions have caused the food crisis. It says Ukraine has heavily mined the waters around Odesa and Mykolaiv that have stopped vessels from anchoring in these ports. Russia also blamed Western sanctions for a fall in its exports that has also contributed to the food crisis. While the West says Russian food and fertilizer products were exempted from the sanctions, the financial sanctions have complicated payments.

What are the terms of the deal?

The agreement has sought to address the concerns of both countries while resuming grain exports. Ukraine has been wary of removing the sea mines because of the Russian threat. Russia has enforced the naval blockade on Ukraine's ports because it doesn't want Ukrainian ships to



smuggle in weapons via the waters. According to the deal, a joint coordination centre will be set up in Istanbul comprising officials and military personnel from Russia, Ukraine and Turkey, along with UN representatives. These officials will check the vessels going to Ukraine's ports to make sure that they don't carry any weapons. The agreement doesn't call on Ukraine to de-mine its southern waters. But specific routes from Odesa and other Ukrainian ports would be earmarked for the ships with grain to sail to Turkey's Bosphorus. And if necessary, a minesweeper can be brought in to clear the routes to the ports. The agreement reached at Istanbul's 19th century Ottoman palace Dolmabahce is for a period of 120 days, which can be renewed. The plan is to allow Ukraine to export five million tonnes of grain a month, close to its pre-war level. As part of the UN framework, Russia is also expected to ramp up its grain and fertilizer exports. The U.S. Treasury Department had said earlier this month that buyers, banks and insurers would be allowed to purchase Russian grain. Turkey, a NATO ally that hasn't joined Western sanctions against Russia, has called the deal a "path towards" peace. But the key to unblock the path lies in its implementation.

THE KILLING OF ACTIVISTS IN MYANMAR AND ITS AFTERMATH

The story so far: On July 25, Myanmar's junta executed four pro-democracy activists. The junta spokesperson called the executions "lawful" and said it was "justice for the people."

What has happened in Myanmar since the coup in 2021?

The military (Tatmadaw) seized power from the democratically elected National League of Democracy (NLD) party in February 2021. The junta led by Senior General Min Aung Hlaing formed the State Administrative Council (SAC). Following the coup, Aung San Suu Kyi and several other leaders of the NLD were detained immediately and are still in detention.

As mass protests, called the 'spring revolution', against the regime began, a parallel government — the National Unity Government (NUG) — was formed. It has an armed division known as the People's Defence Force (PDF), which is supported and trained by several armed ethnic groups.

However, they have not been able to make a dent against the junta's repressive measures.

Who were the executed activists?

Two of the executed activists have been identified — Ko Jimmy was a 53-year-old veteran of the "88 Movement" student uprising and Ko Phyo Zeya Thaw was a rapper, hip-hop artist and a member of the NLD party. They were arrested in November 2021, and sentenced to death in January 2022 by the military tribunal. They were convicted for devising and participating in anti-regime activities. Since the coup in 2021, the tribunal, according to Irrawaddy, has sentenced 113 people to death for their role in the armed resistance against the regime.

What led to the latest executions?

On July 22, when the two activists were allowed to meet their families, there was speculation about their execution. Quoting a UN spokesperson, Reuters reported at least 1,500 people killed and 11,787 detained by the junta. These repressive measures have failed to suppress the public hostility towards the regime. Perhaps there is growing restlessness within the junta for failing to establish control and legitimacy despite being in power since February 2021, which has led to these executions.



The second reason could be to boost the morale of the military leadership. A section within the Tatmadaw has questioned Senior General Min Aung Hlaing's leadership capabilities, compared to his predecessors Ne Win and Than Shwe. Some military and police officials have even joined the pro-democracy movement. The government is grappling with a resistance movement, ethnic conflicts, terror attacks and a failing economy. According to the World Bank, there had been an 18% economic contraction in the country by the end of September 2021. His promises of an election in two years, forming a caretaker government and declaring himself as a Prime Minister in August 2021 have failed to appease the people.

Third, perhaps the regime sees the global focus on Ukraine (and Sri Lanka) as an opportunity to carry out something in its own backyard.

Will the executions reduce hostility or lead to a flare up?

The opposition led by the PDF is likely to increase. Calling the executions unforgivable, the Deputy Foreign Minister of the NUG said: "the junta will have to pay the price legally. The executions have made us more determined to topple the regime." Both the activists were youth icons and prominent leaders of the pro-democracy movement. If Aung San Suu Kyi's freedom is a hope that helps the pro-democracy movement to sustain, these executions will act as a catalyst. In the coming days, the junta might face probable retribution.

Will the executions impact the ethnic conflict between the groups? Unlikely. The equation between the ethnic groups and the junta is likely to remain unstable; however, the equation between the ethnic groups is less likely to be impacted because of the executions.

Is the international response adequate?

The execution has been condemned by individual countries and international organisations. Regionally, the strongest voice has been from Cambodia, the chair of the Association of Southeast Asian Nations (ASEAN), of which Myanmar is a member. He had requested the Senior General "to reconsider" and "refrain" from such action as it was causing "great concern among the ASEAN members and its external partners." Neither these condemnations nor the earlier sanctions levied by countries and organisations, including the U.S., Canada, Australia, the U.K., the European Union and others, have made an impact on the regime.

Sanctions are not new to Min Aung Hlaing and his Ministers. Successive military regimes have resisted external pressure — both from within the region and the rest of the world. The Senior General did not budge to honour ASEAN's five-point consensus for the peace and stability of Myanmar, although he agreed to implement them in a regional meeting in April 2021. Besides, there is support for the regime from its allies. Russia has strongly supported the junta since the coup. The friendship has been well displayed by political and economic collaborations. China, the junta's oldest ally, was one of the first to give it de facto recognition after the coup. The support from Russia and China was also projected by the United Nations Security Council. China has a high stake in Myanmar due to its infrastructural projects and investments. It also wishes to avoid conflict within its borders. Among ASEAN members, Thailand's proximity to the junta is a known fact.

While there are regional and international sanctions on the regime, there is also support from crucial actors. The latter sustains the regime against the former.

So, what do these executions mean for democracy?

Democracy will remain a far-fetched dream for Myanmar. Although Min Aung Hlaing promised an election by 2023, it is unlikely to happen.

If the opposition continues despite executions, the junta will conduct a general election which will be a repeat of 2011. The Tatmadaw's proxy Union Solidarity and Development Party (USDP) may come back to power through a rigged election.



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NATION

ANOTHER MIG-21 CRASH: INDIA'S FLEET, PAST ACCIDENTS, AND FUTURE PHASE-OUT

A MiG-21 Bison aircraft of the Indian Air Force (IAF) crashed in Barmer, Rajasthan, on Thursday night (July 28), killing the two pilots aboard the trainer version of the fighter aircraft. A look at India's MiG-21 Bison fleet, the vintage of these aircraft, and the future of their service.

What is known about the cause of the MiG-21 crash?

As per information released by the IAF, this was a trainer version of the fighter aircraft with two pilots on board. As is the norm for training missions, there was one senior pilot, Wing Commander M Rana, on board along with a junior pilot, Flight Lieutenant Adivitya Bal. The typical mission in such sorties is to impart operational training to the junior pilots and also to test their skills in a constant effort to keep their skills and knowledge up to date and to suggest improvements if any.

The reasons behind the crash are still not known and a Court of Inquiry will look into it. In the past, Technical Defects, Human Error (Aircrew) and bird hits have been causes of some of the fighter aircraft accidents in IAF. Spatial disorientation during night sorties too can happen, but IAF pilots are trained to overcome such disorientations.

How many MiG-21 aircraft have crashed recently?

There have been six MiG-21 Bison crashes in the last two 20 months, with five crashes in 2021 and one in 2022. Five pilots have lost their lives in these crashes. However, this is the first fatal trainer aircraft crash of the MiG-21 Bison in a long time.

How many MiG-21 Bison aircraft are in IAF?

There are four squadrons of MiG-21 Bison aircraft currently in service in the IAF with each squadron comprising 16-18 aircraft, including two trainer versions. Out of these one squadron, Srinagar-based No 51 Squadron, is going to be retired from service or 'number plated' in IAF jargon on September 30 this year, leaving three squadrons in service. Out of these three squadrons, one will be number plated each year and, thus, MiG-21 Bison will be phased out of IAF by 2025. The IAF is looking towards reviving these squadrons back into service with the indigenous Light Combat Aircraft (LCA) Tejas.

How old is the MiG-21 Bison as compared to other versions?

The MiG-21 Bison is an upgraded version of the MiG-21bis which had been first inducted into service in 1976. The MiG-21 FL, which was an older version of the aircraft and which joined service in the early 1960s, had been phased out of IAF in 2013.

The IAF received the first upgraded MiG-21 Bison, which had a quantum leap of upgrade of avionics, in 2001 and the last of these upgraded fighters was received in 2008.

It was a Mig-21 Bison flown by Wing Commander (now Group Captain) Abhinandan Varthaman, which had reportedly shot down a F-16 aircraft, a vastly superior aircraft, of the Pakistan Air Force on February 27, 2019.



The Bison version of the MiG-21 has also seen the induction of women fighter pilots in the IAF with Flying Officer Avani Chaturvedi becoming the first woman pilot of the IAF to complete a solo flight on the aircraft in June 2016.

How did the MiG-21 aircraft get the name of 'Flying Coffin'?

The MiG-21 aircraft, with all its versions, formed the backbone of the fleet of fighter aircraft of the IAF, and the number of crashes that took place in the IAF were the highest in its category. Most of these versions had been licence-produced in India.

There were many inquiries into the crashes amidst allegations of poor safety record of these aircraft with more than 170 pilots having lost their lives in accidents, as per data put out officially by the Defence Ministry in the past. More than 20 aircraft have crashed since 2010 and 38 aircraft crashed between 2003 and 2013 in a period of ten years. The high rate of accidents earned the aircraft the nickname of 'Flying Coffin'.

What has been the representation of MiG-21 in popular culture?

In September 2001 a MiG-21bis crash in Suratgarh claimed the life of Flight Lieutenant Abhijeet Gadgil soon after take-off. There was a controversy when the pilot's mother, Kavita Gadgil, raised the issue of technical defects in the aircraft and said that her son was being wrongly blamed for the crash. She received a letter from the then Inspector General of Flight Safety of IAF, Air Marshal Ashok Goyal, accusing her of demoralising the IAF with her statements. The then Air Chief, Air Chief Marshal S P Tyagi, apologised for the tone of the letter and wrote to Kavita Gadgil withdrawing it and absolving her son of any blame.

HOW WILL SC RULING ON ABORTION IMPACT WOMEN?

The story so far: Last week, the Supreme Court of India allowed an unmarried woman to end her pregnancy at 24 weeks, after the Delhi High Court refused to allow it, citing the provisions of the Medical Termination of Pregnancy (MTP) Act. The top court said if a medical board assessed that the pregnancy could be terminated without any harm to the mother, then she could go ahead and have an abortion.

What was the Delhi High Court's position?

The 25-year-old unmarried woman came to the Supreme Court on appeal after the Delhi High Court turned down her plea to allow her to have a medical termination of her pregnancy because the terms of her relationship with her partner had changed.

Her plea was that she had had a consensual relationship with her partner, but he had refused to marry her after she discovered her pregnancy at about 22 weeks. Being unmarried and raising a child carries a stigma in society and therefore she would like to terminate her pregnancy, she said.

The Delhi High Court had taken the view that she was unmarried and since the Medical Termination of Pregnancy Act allowed only married women to terminate the pregnancy after 20 weeks, she would not be eligible to get an abortion. The Court said it would amount to killing the foetus, since she was in the 23rd week of her pregnancy. "As of today, Rule 3B of the Medical Termination of Pregnancy Rules, 2003 stands, and this court, while exercising its power under Article 226 of the Constitution of India, 1950, cannot go beyond the statute," it observed in its order on July 15.



The bench of Justices Satish Chandra Sharma and Subramonium Prasad suggested she give birth to the child and offer up the child for adoption. “We will ensure that she is kept somewhere in a safe hospital and she can deliver and go. There is a big queue for adoption... Everything will be looked after by the Government of India or (the) government of Delhi or some good hospital. If the government does not pay... I am there to pay,” Justice Sharma said.

What did the Supreme Court decide?

The Supreme Court, however, took an expansive view of the issue. A bench of Justices D.Y. Chandrachud, Surya Kant, and A.S. Bopanna said the MTP Act which was amended in 2021 has the word partner instead of husband, exhibiting the intention of the law of the land to not confine it to only marital relationships. The judges said that the petitioner cannot be denied the benefit of the law, on the ground that she was unmarried, and that doing so would be contrary to the ‘object and spirit’ of the legislation. The judges noted compassionately that the woman had also stated that she was the eldest of five siblings in a family of agriculturists, and had a B.A. degree without an adequate income. This would make it difficult for her to raise the child by herself.

Further, the bench directed the director of the All India Institute of Medical Sciences (AIIMS) to set up a medical board of two doctors to examine the woman (as per the provisions of the MTP Act) to determine if it was safe and not a risk to the life of the mother to terminate the pregnancy. If it is their opinion that it is safe to do so, then AIIMS can conduct the procedure on her.

What lies ahead?

While disallowing her petition, the Delhi High Court ordered notice to the government on the woman’s contention that not allowing an unmarried woman (3B of MTP Act) to get rid of her unwanted pregnancy was per se discriminatory.

As per the MTP Act, all women are allowed to get a medical termination of pregnancy before 20 weeks. But only certain categories of women are allowed to have an abortion between 20 and 24 weeks — survivors of rape, minors, and a married woman whose relationship status has altered during this period.

The Supreme Court’s expansion of the law to include unmarried women as part of the MTP Act has given women in similar circumstances an option now to access healthcare services without having to travel the long legal route to the top court every time.

THE LATEST GUIDELINES ON ARRESTS AND BAIL ORDERS

The story so far: On July 11, a division bench of the Supreme Court of India in Satender Kumar Antil vs CBI laid down fresh guidelines on arrests in order to have strict compliance with the provisions of Section 41 and 41A of the Code of Criminal Procedure, 1973. These guidelines are in addition to the earlier ones which the apex court had already laid down in the case of Armesh Kumar vs State of Bihar (2014). The Court in the present case has also emphasised upon separate legislation on the law relating to bail and has also issued specific directions in this regard. On July 16, even the Chief Justice of India (CJI) cautioned against “hasty and indiscriminate arrests”. He further commented on the delay in bails and the plight of undertrial prisoners.



How is a person arrested?

Arrest in its simplest form is defined as, “when one is taken and restrained from his liberty”. The police has wide powers to arrest under the Code of Criminal Procedure, 1973. In the Joginder Kumar (1994) verdict, the Court had stated that “arrest and detention in police lock-up of a person can cause incalculable harm to the reputation and self-esteem of a person”. Further, in the case of Arnesh Kumar, the apex Court had rightly observed that “arrest brings humiliation, curtails freedom and cast scars forever”. In recent times, there have been several controversies regarding the arrest and subsequent bail of accused persons.

With regard to the Satender Kumar Antil case, the Court has issued specific directions and has also called for a compliance report. The Court said that the investigating agencies and their officers are duty-bound to comply with the mandate of Section 41 and 41A and the directions issued in the Arnesh Kumar case.

What are Sections 41 and 41A of the Code of Criminal Procedure?

Section 41 of the Code provides for the circumstances in which arrest can be made by the police without a warrant and mandates for reasons to be recorded in writing for every arrest and non-arrest. Section 41A of the Code provides for the requirement of a notice to be sent by the investigating agencies before making an arrest in certain conditions prescribed by the Code. The Court stated that any dereliction on the part of the agencies has to be brought to the notice of the higher authorities by the court followed by appropriate action. The Bench further said that the courts will have to satisfy themselves on the compliance of Section 41 and 41A. Any non-compliance would entitle the accused for grant of bail.

What are the guidelines with respect to bail?

Regarding bail, the Court has made a specific observation in the form of an obiter that the Government of India may consider the introduction of a separate enactment, in the nature of a Bail Act, so as to streamline the grant of bails.

As part of the new guidelines, it is clearly stated that there need not be any insistence on a bail application while considering the application under Sections 88, 170, 204 and 209 of the Code. The Court said that “there needs to be a strict compliance of the mandate laid down in the judgment of this court in Siddharth” (Siddharth vs State of U.P., 2021). It is a clear direction of the Court that bail applications ought to be disposed of within a period of two weeks except if the provisions mandate otherwise — the exception being an intervening application. The Court also said that “applications for anticipatory bail are expected to be disposed of within a period of six weeks with the exception of any intervening application”.

What steps need to be taken for compliance of these orders?

The State and Central governments will have to comply with the directions issued by the Court from time to time with respect to the constitution of special courts. The High Court in consultation with the State governments will have to undertake an exercise on the need for special courts. The vacancies in the position of Presiding Officers of the special courts will have to be filled up expeditiously. The CJI has also raised the issue of vacant positions and infrastructural requirements in the judiciary.



What about undertrial prisoners?

The High Courts have been directed by the apex court to identify undertrial prisoners who cannot comply with bail conditions. After doing so, appropriate action will have to be taken in the light of Section 440 of the Code, facilitating their release. Under Section 440, the amount of bond shall not be excessive, and high courts and sessions courts may reduce the amount prescribed by the magistrate or a police officer. An exercise will have to be done similarly to comply with the mandate of Section 436A of the Code, under which a person imprisoned during investigation or trial shall be released on bail on completion of half of the jail term prescribed for that offence.

OUT OF BOUNDS

The Supreme Court has struck the right note by voicing its stern disapproval of the tendency among some courts to impose unusual conditions for bail. In the case of Samajwadi Party leader Azam Khan, the Allahabad High Court had granted interim bail in a 'land-grabbing' case, but made regular bail contingent on his fully cooperating with the measuring, walling and barb-wiring of a piece of property measuring 13.842 hectares. The allegation against him is that land vacated by a person who went to Pakistan at the time of Partition had been "grabbed" and a university built on it by a trust headed by him. However, in the interim bail order, the District Magistrate, Rampur, was asked to take possession of the property and, after putting up a boundary wall and barbed wire around it, deliver it to the Custodian, Evacuee/Enemy Property, Mumbai. The top court had taken exception to the proclivity among some judges to venture beyond the confines of a given case and imposing conditions that went beyond what were necessary to ensure the presence or attendance of an accused during the trial. It is fairly well-established that conditions for grant of bail have specific objectives: preventing the accused from fleeing justice and precluding any scope for tampering with evidence or influencing witnesses. These objectives are usually secured by directing them to stay in a particular place and asking them to record their presence before a police officer or a court at a specified frequency. Courts are normally not expected to impose any condition that may impinge on other freedoms of the accused or be too onerous for compliance.

It is not uncommon for bail courts to add some unusual conditions in some cases. Being asked to do a spell of community service, apologising to victims, reading a moral treatise or chapters from Mahatma Gandhi's autobiography are some recent examples. In 2020, the Madhya Pradesh High Court had ordered a man accused of molesting a woman to visit the victim at home and agree to her tying a 'rakhi', a condition that appalled the Supreme Court which denounced the attempt to convert a 'molester' into a 'brother' by judicial mandate. The top court's restatement of its disapproval in yet another case ought to have a salutary effect on courts below. Similarly, unusually harsh oral observations and the inclusion of personal opinions in judicial orders are also not unknown. Examples are legion of judges wading into matters of religion and culture and making controversial remarks. While sharp observations, whether oral or part of detailed orders, can often help in conveying a sense of the judicial conscience, their perfunctory use in a manner that undermines public confidence in the court's impartiality is best avoided. A judicial order can be trenchant and temperate at the same time, and it needs no unusual condition or gratuitous obiter dictum to prop up its reasoning.



DELHI HIGH COURT: PROTECT SATIRE, RIGHT TO COMMENT ON TV CONTENT PART OF FREE SPEECH

In the suit filed last year, TV Today Network had sought damages of Rs 2 crore (Rs 2,00,00,100) from them for “commercially disparaging” its commercial products and for “defaming” it, its news anchors, management and employees.

STATING THAT the “creative genre” of satire must be “encouraged and protected”, the Delhi High Court said on Friday that the “right to comment on content created on social media or TV channels also has to be recognised as a facet of the right to free speech and expression”.

Refusing to grant interim relief to TV Today Network in its plea against online news portal Newslandry, the court said it will “be in the interest of the public that every broadcaster has the right of fair comment on current events and of criticism and review, including of the programmes created by others”.

TV Today Network, which owns news channels like Aaj Tak and India Today, had filed a suit against Newslandry and its staff for allegedly tarnishing its reputation through its programmes. It had asked for the allegedly defamatory and commercially disparaging content to be removed from the website. It had also accused the online portal of infringement of copyrighted content.

Senior advocate Saurabh Kirpal, representing Newslandry, had argued that the online portal was raising the “defence of truth”, and fair criticism, even in harsh words, would not amount to defamatory statements. Satire was the flavour of the portal’s programmes, he had said.

Holding that opinions that threaten national security, law and order and are ex facie false, defamatory, derogatory or disparaging in content or presentation are possible exceptions to the right to free expression of opinion, the court said, “Other than that, the ability to express an opinion must be freely available for all who hold an opinion.”

Justice Asha Menon said the comment on the act of reporting itself would be covered under “criticism” or “review” under Sections 52 and 39 of the Copyright Act and would be protected against allegations of infringement. “But, it would be a question of fact whether the reproduction, which is alleged to be an infringing copy, is protected under Section 39 and/or Section 52 of the Act and is actually in the nature of review and criticism,” said the court.

The court said though a licence would be required from the owners to reproduce broadcast content, there are exceptions provided under the law. “Excerpts of a broadcast could be re-broadcast if the use is consistent with ‘fair dealing’ and is in respect of reporting of current events or for bona fide review or teaching or research. The broadcast reproduction right would not be infringed even on account of re-broadcast with any necessary adaptations and modifications, which do not constitute infringement of copyright under Section 52,” it said.

Justice Menon said the “defence of truth” would be available as an absolute defence to the plea of defamation or disparagement and is to be established during trial. While Newslandry had argued that unrestricted right to comment on each other’s content would steer the media into communicating and disseminating information correctly, the court said it cannot accept “self appointment” by Newslandry and its staff as a “regulator” of media content.

Observing that statutory or self-regulatory mechanisms exist for redressal of grievances relating to news and social media content, the court said, “Every individual or organisation cannot claim



authority to regulate – the chaos can be imagined – there will be only regulators and none willing to abide by regulations.”

On TV Today Network’s allegations that Newslaundry portrayed it in poor light, the court said the trial judge has to determine whether the comments and programmes were “fair comment”. That determination can be only after the conclusion of the trial, it said.

On Newslaundry’s argument that its content is satire, the court said the portal needs to explain which of its programmes are “satire” and which are “comment”. However, it also said that satire must be “encouraged and protected”.

“Satirists, at all times in our culture, have been greatly respected and there are several art forms in this country that allowed such criticism of even the rulers in the heydays of the monarchy, and which art forms still exist. Examples that come to mind are ‘Ottamthullal’ and ‘Chakyar Koothu’, both in Kerala. Sharp use of language conveys the message intended by the artists, but in a cultured and nuanced manner. Such creative genre must, without doubt, be encouraged and protected,” said Justice Menon.

Justice Menon said while some of the portal’s content was ex facie defamatory or disparaging of the programmes of TV Today Network, others appeared to be criticism and opinion. It cannot be denied that a prima facie case is disclosed but that alone will not entitle TV Today Network to interim injunction as the defendants have to be given an opportunity to prove their defence of justification and fair dealing during trial, the court said.

“The contents of the individual videos, articles, Facebook and Instagram posts will have to be looked into individually to determine if they contain malicious, dishonest, defamatory and disparaging statements or constitute honest and possible satirical opinion. In short, the decision has to be deferred till after the conclusion of the trial,” said the court, while ordering listing of the case before the roster bench.

ADDRESS THE SKEW

Data shared last week in Parliament by the Ministry of Education shows that India’s elite business schools and technology institutions are way short of fulfilling their social justice-related commitments in doctoral programmes. The number of students from Scheduled Caste, Scheduled Tribes and OBC communities accepted for the PhD programme in the IITs and IIMs in the past four years were below the constitutionally mandated norms. The Central Educational Institutions (Reservations in admission) Act, 2006 mandates 15 per cent, 7.5 per cent and 27 per cent quotas for SC, ST and OBC students. But many IITs maintain that since there is no fixed sanctioned annual intake for PhD programmes, they cannot follow the reservation policy. IIMs have a somewhat different explanation: Reserved category vacancies are not filled because of the dearth of suitable candidates. In both cases, the troubling spinoff of the deficits is that the faculties of these institutions do not reflect the country’s social diversity.

The number of PhD applications to IIMs from students of SC, ST and OBC communities increased only marginally in the past four years. In case of the IITs, this increase was more appreciable. But the pool of applicants continues to be shallow. This means that even though the percentage of accepted applications is roughly the same across the reserved and general categories, the intake of students from disadvantaged sections is way below the mandated norms. A job, not research, is usually the top priority for a large section of students from marginalised sections. But research,



whether in technology, economics, or any other field, is unlikely to make meaningful difference to the lives of India's weaker sections if students from these communities are not adequately represented in laboratories and classrooms. The government has been aware of this imperative. In 2017, in a letter to IIM Ahmedabad, it asked the institute to "focus on having more fellows from SC, ST and OBC communities so that they can become prospective faculty members". However, instead of instituting enabling measures, the IIMs, in 2019, requested the government to exempt them from reserving faculty posts for socially and economically weaker sections.

The government's 2019 data shows that 48 per cent of IIT dropouts were from reserved categories. In the case of IIMs, this was much higher — 62 per cent. A large body of scholarly literature points out the need for providing special assistance — in classrooms and outside them — to students from communities that have a long history of being discriminated against. But the introduction of such measures in India's elite academies remains patchy, at best. It's a neglect that a country aspiring to be a knowledge economy leader can ill-afford.

SUSPENSION OF MPS: THE RULES, AND THE POWERS OF PRESIDING OFFICERS

Over this week, the two Houses of Parliament have suspended 27 MPs between them, the latest being two AAP MPs and an independent MP from Rajya Sabha on Thursday. Lok Sabha has suspended four Congress MPs, and Rajya Sabha 23 MPs from the Trinamool Congress, DMK, TRS, CPI, CPI(M) and AAP, besides the independent. The Rajya Sabha suspensions are for the remaining part of this week, and those from Lok Sabha are for the rest of the session.

The two Houses suspended these MPs because they disrupted proceedings, demanding a debate on rising prices and increasing GST rates on essential commodities. The suspended MPs have started a fifty-hour dharna on the Parliament complex, and Opposition parties are demanding the revocation of the suspensions.

Why do MPs disrupt Parliament?

Over the years, the presiding officers of legislatures and political leaders have discussed and identified four broad reasons leading to disorder in legislatures. One reason is the lack of time available to MPs for raising important matters; a second is the "unresponsive attitude of the government and retaliatory posture by Treasury benches". The other two reasons are deliberate disruption by parties for political or publicity purposes, and the absence of prompt action against MPs disrupting parliamentary proceedings.

What has Parliament done to address these issues?

The government and not Parliament decides the parliamentary calendar. Therefore, the decision about the time available with Parliament for discussions rests with the government. Parliamentary procedure also prioritises government business over other debates that take place in the legislature.

In this regard, Parliament has not updated its rules over the last 70 years to give Opposition parties a say in deciding the agenda for discussion. The stance of political parties on uninterrupted parliamentary functioning depends on whether they belong to the ruling party/coalition or are in the Opposition. And in 2001, Lok Sabha amended its rules to give the Speaker more powers to discipline MPs who disrupt House proceedings.



In 2001, during Speaker G M C Balayogi's term, Lok Sabha changed its rules to give the Speaker more powers to deal with grave and disorderly conduct. As per this new rule, the Speaker can "name" an MP, who shall then automatically stand suspended for five days or the remaining part of the session. This rule removes the need for the House to pass a motion for suspension. Rajya Sabha has not incorporated this provision in its procedures.

Who can suspend MPs, and for how long?

Rules for ensuring the smooth functioning of Parliament have been unchanged since 1952. First, the presiding officers can direct an MP to withdraw from the House for any disorderly conduct. If the MP continues disrupting the House, the presiding officer can "name" the legislator. After that, the House can move a motion to suspend the MP until the end of the session. These powers are common to the presiding officers of both Houses. Can courts intervene in a matter of suspension of MPs?

Article 122 of the Constitution says parliamentary proceedings cannot be questioned before a court: "No officer or Member of Parliament in whom powers are vested by or under this Constitution for regulating procedure or the conduct of business, or for maintaining order, in Parliament shall be subject to the jurisdiction of any court in respect of the exercise by him of those powers".

In some cases, however, courts have intervened in the procedural functioning of legislatures. For example, the Maharashtra Legislative Assembly passed a resolution in its 2021 Monsoon Session suspending 12 BJP MLAs for a year. The matter came before the Supreme Court, which held that the resolution was ineffective in law beyond the remainder of the Monsoon Session.

CONGRESS LEADER'S USE OF 'RASHTRAPATNI' IS AN OPPORTUNITY TO TALK ABOUT THE INEQUALITIES LANGUAGE MIRRORS AND CREATES

When men are viewed as the human default and the human ideal, even compliments are not gender-neutral. Thus it was that the former prime minister, Indira Gandhi, was described by admirers as the "only man" among her cabinet colleagues. Several decades later, the failure of language to keep up with changes in society and politics is still evident. On Thursday, with Congress leader Adhir Ranjan Chowdhury's reference to President Droupadi Murmu as "rashtrapatni" —he later blamed it on his unfamiliarity with Hindi and has apologised to the President — it is welcome that the spotlight has been trained on how gendered language and linguistic imagination remain.

That Chowdhury's comment didn't go unremarked upon —indeed, it's led to much uproar in Parliament — presents an opportunity that must not be lost. A door has been prised open to a long overdue conversation, direly needed in India's highly masculinised public-political space: The language a society uses matters because it both reflects and creates inequalities. Only an overhauling of the imagination, which has been schooled by centuries of gender inequality, can help create new, more inclusive defaults and ideal types. Language is not a static entity: It can and should evolve in step with the times, and the use of words that draw attention to gender where it has no role to play must be questioned.

The question isn't what word can be used to describe a woman president or a male caregiver. It should be: How can we re-imagine our common usages, words and meanings so that they may contain all the diversity that exists? Progress is not only about enabling women and men to



assume responsibilities and seize opportunities that have historically been denied to them. It also consists of creating conditions – and language —that make gender irrelevant to access and opportunity.

WHAT IS THE MEANING OF THE 'JOHAR' GREETING USED BY PRESIDENT DROUPADI MURMU?

The 15th President of India, Droupadi Murmu, assumed office Monday with a 'Johar' greeting to the country.

'Johar', which essentially means 'salutation and welcome', is used within the tribal communities of Jharkhand, and in parts of Chhattisgarh and Odisha. According to several tribal leaders from Jharkhand, the word 'Johar' also means 'paying respect'. Tribal communities are nature worshippers and follow Sarna religion code, although it is not an official religion.

Do all tribal communities use the word 'Johar' for greeting?

There are 32 tribal communities in Jharkhand who speak different dialects. Almost all, including tribal Christians, use the word 'Johar' along with some other words for salutation. Johar, is predominantly used by Santhali, Munda and Ho communities that share some similarities. People belonging to the Oraon community use the word 'Jai Dharam', apart from Johar, as a salutation.

Is there only one form of 'Johar' salutation?

There are at least four types. One of them is 'Doboh Johar', which is used between people where one among them has a higher standing. Ratan Tikrey, a former member of Tribes Advisory Council (TAC) said that in 'Doboh Johar' there is a ritual where the person with a tumbler full of water bows in front of the person of higher standing.

"The person who bows will touch the earth and in return the other person will wash his/her hand (using water in the tumbler) and let the water drop on the earth. The entire exercise means that the hospitality being shown has been accepted."

Since when has the Johar greeting been used?

Leaders from the tribal communities say that the greeting has been in use since 'time immemorial', adding that it is hard to pinpoint when it actually began.

BEHIND BIHAR GOVT TEMPLE FENCING PUSH, NITISH TIGHTROPE BETWEEN SECULAR IMAGE, BJP HINDUTVA

The Nitish Kumar-led Bihar government recently decided to make the registration of all public temples, mutts, dharamshalas and their trusts in the state with the Bihar State Religious Trust Council (BSRTC) mandatory under the provisions of the Bihar Hindu Religious Trust Act, 1950, with state law minister Pramod Kumar saying that Bihar has become the first state to have done it.

To expand its existing move to fence temples – on the lines of fencing of cemeteries – to prevent encroachments and confrontations, the Bihar government also decided to conduct a survey of all registered temples that see the attendance of a sizeable number of devotees.



There are 2,499 registered temples and mutts with a total of 18,456 acres of land across the state. The government has been surveying them to determine, among other things, how many of them need to be fenced depending on public turnout and apprehensions of any trouble or dispute.

So far, the government's BSRTC has fenced 205 temples while 94 more are being fenced. This has been done as part of Chief Minister and Janata Dal (United) supremo Nitish's bid to "respond to his senior ally BJP's Hindutva posturings while maintaining his secular credentials", sources in the JD(U) said.

In a veiled attack on Nitish, Bihar BJP president Sanjay Jaiswal recently expressed concerns over "rising terror threats" in the state. Significantly, Nitish also holds the home portfolio.

BSRTC member and JD(U) MLC Neeraj Kumar told The Indian Express: "Our government has always worked for social cohesion and camaraderie. There has been no major communal incident under the Nitish Kumar-led NDA government since November 2005," adding that "Just as our government had fenced about 8,000 cemeteries over last decade or so, we have also been fencing temples as well to prevent any encroachment or confrontation".

The BSRTC said it had identified 355 temples from across 26 of Bihar's 38 districts for fencing so far, adding that "maximum fencing requests" had come from districts like Gopalganj, Nalanda, Jehanabad, Rohtas, Gaya and Madhepura.

The Nitish government has also taken another initiative to prevent illegal possession of lands belonging to temples or mutts by their individual trustees. "The BSRTC has recently written to all DMs that no temple or mutt land should be registered in any individual's name but only in the names of their trusts... It is being done to avoid illegal transfer of such temple or mutt land to any individual," he said.

There are 2,512 unregistered public temples and mutts with altogether 4,321 acres of land across the state, which need to be registered mandatorily now, following which there would be a survey to determine their fencing requirement on the basis of same parameters being followed in the cases of the registered temples and mutts.

The Nitish Kumar dispensation came up with the temple fencing proposal during Nitish's third CM term (2015-2020) to counterbalance its previous decision to ensure the fencing of cemeteries. It has now decided to scale it up for two reasons — to "prevent encroachment of temple and mutt lands" and to "give a response to the BJP over its charges of Muslim appeasement", sources said.

The principal Opposition RJD's national spokesperson Subodh Kumar Mehta told the Express: "Appeasement of either community will not work in times of development politics. There is little being done for employment generation and setting up centres of educational excellence. It is time to give drought relief than consider fencing of over 2,400 temples. These things may make political headlines but cannot be called development initiatives".

State BJP spokesperson Nikhil Anand, however, said: "We appreciate the decision by NDA government in Bihar to survey and fence the mutts and temples. We seriously feel that there is a need to protect the Hindu religious premises. Many of the historical, ancient and traditional religious centres are encroached upon, occupied and destroyed for the lack of protection. The land disputes on any of these sites must be resolved."



THE PARTY LOYALIST

On July 30, 2019 when Jagdeep Dhankhar took oath as the Governor of West Bengal, not many in the political and social circles were familiar with his name. The last public office Mr. Dhankhar held was in 1998 as a Member of the Legislative Assembly of Rajasthan, more than two decades before assuming office of a Governor. Cut to 2022: the 71-year-old politician has been nominated as the Vice-Presidential candidate of the National Democratic Alliance (NDA). What has led to his fame perhaps is his eventful but rather controversial term as the Governor of West Bengal.

Centre-State relations, particularly the role of the Governor, has been a subject of much debate in West Bengal, a State that has been ruled by Opposition parties for the past five decades. Even in the past, Governors of the State and elected governments of West Bengal have had differences, but the situation took a distinctly different turn with Mr. Dhankhar in office. His three-year term was mired in regular public spats with the Trinamool Congress government. From trivial issues like seating arrangements at government events to withholding assent to Bills, a war of words between Raj Bhawan and the State Secretariat was a regular affair.

Mr. Dhankhar minced no words while targeting the Trinamool government on sensitive issues such as law and order and post-poll violence. While these developments kept him in the national headlines, it also appeared that he was playing a partisan role in State politics, in tandem with the BJP's demands. Things reached such an extent that the State government passed a Bill replacing the Governor with Chief Minister Mamata Banerjee as Chancellor of State-run Universities.

During his five decades of public life, Mr. Dhankhar had associated with different political parties — the Janata Party, the Congress and the BJP before assuming the charge of Governor of West Bengal. Born on May 18, 1951 in Rajasthan's Jhunjhunu district in a family engaged in agriculture, he studied in a village school and later at Sainik School in Chittorgarh, on a scholarship. He obtained degrees in physics and law from Rajasthan University, and started legal practice before foraying into politics in 1989. He was elected to the Lok Sabha from Jhunjhunu that same year. In the government headed by Chandrasekhar, he became the Minister of State for Parliamentary Affairs in 1990. After 1998, he dedicated himself to legal practice. He joined the BJP in 2008. Since then Mr. Dhankhar has also been a loyal soldier of the BJP.

Humble beginnings

A mix of legislative, legal and administrative experience has worked in favour of Mr. Dhankhar's nomination. The BJP leadership emphasised on his humble beginnings and described their Vice-President nominee as a 'Kisan Putra' (son of a farmer). Soon after his nomination, Mr. Dhankhar was also quick to stress on his humble beginnings, and said he walked kilometres to his school in the village and completed higher studies with the support of a scholarship. Besides his farming credentials, the fact that Mr. Dhankhar hails from the Jat community also made him the right pick. It was resistance of the farmers and leaders from the Jat community that forced the Centre to withdraw the three farm laws in 2021. If elected Vice-President, he will be the second leader from Rajasthan after Bhairon Singh Shekhawat, to hold the high office.

Prime Minister Narendra Modi, while congratulating Mr. Dhankhar, stressed that he has excellent knowledge of the Constitution and is "well versed in legislative affairs". During his tenure as Governor, Mr. Dhankhar had repeated almost at every occasion that he did not want to fiddle around in Raj Bhawan and his allegiance was only to the Constitution. He has fancied calling himself the first Governor of West Bengal born in independent India. With numbers stacked in his



favour, Mr. Dhankhar is likely to assume the responsibility of Vice-President at the time when the country is celebrating 75 years of the republic. As Vice-President, he will also serve as chairperson of the Rajya Sabha. He will require something more than his legal skills to win the faith of the Opposition and strike the right balance in running the Upper House of Parliament which looks after the welfare of States.

FLAG CODE OF INDIA: TRICOLOUR CAN NOW STAY HOISTED DAY & NIGHT

The national flag can now remain hoisted through the night if it is in the open and hoisted by a member of the public. As the central government launches a Har Ghar Tiranga campaign from August 13, the Ministry of Home Affairs on Wednesday amended the Flag Code of India 2002 to allow for the national flag to be flown even at night. Earlier, the flag could be hoisted only between sunrise and sunset.

In recently released frequently asked questions on the flag code, the ministry said that clause XI of paragraph 2.2 of the Flag Code was replaced by the following clause: “where the flag is displayed in the open or displayed on the house of a member of the public, it may be flown day and night”.

Clause XI earlier read, “where the flag is displayed in the open, it should, as far as possible, be flown from sunrise to sunset, irrespective of weather conditions”.

The government had earlier amended the flag code to allow for machine-made and polyester flags to be used. In a notification last year, the government replaced paragraph 1.2 of Part I of the flag code with the following: “The National Flag shall be made of hand-spun and handwoven or machine-made, cotton/ polyester/ wool/ silk khadi bunting.”

Machine-made and polyester flags were not earlier allowed to be used.

The Azadi Ka Amrit Mahotsav is being celebrated to commemorate 75 years of independent India. The Har Ghar Tiranga campaign encourages the citizens to hoist the national flag in their homes from August 13 to 15.

Home Secretary Ajay Bhalla has also written to all government departments on the campaign, with attachments explaining the flag code’s salient features, including the changes made on December 30, 2021 and July 20, 2022. Also attached with the letter are frequently asked questions about the use and display of the national flag.

RANVEER SINGH, UNCLAD: PEOPLE HAVE RIGHT TO FEEL OFFENDED BUT STATE HAS MORE IMPORTANT THINGS TO DO

When actor Ranveer Singh’s nude pictures from a photoshoot for an international magazine appeared online last week, they were widely shared with exclamations and eyerolls. The actor is not the first male celebrity in India to appear before the camera in the buff: Almost as soon as the photos of Singh’s unclad body began to be shared, images from similar photoshoots in the past — of Jackie Shroff, Milind Soman, Anil Kapoor, Aditya Pansholi — were dug up. And then the predictable happened.

Offence was taken at the sight of Singh’s bare body, and two individuals — a lawyer and a person running an NGO — complaints with Mumbai police. Based on the latter’s statement, the cops registered an FIR against the actor. This, too, has happened earlier: Shilpa Shetty found herself in court because at a 2007 event Richard Gere kissed her and the complainant felt that “she did not



protest". A case was registered against Soman in 2020 for sharing a photo of himself running in the nude on a beach in Goa. Twenty-five years before that, obscenity charges were slapped on Soman and fellow model Madhu Sapre for posing for an advertisement wearing only sneakers — it took 14 years for the duo to be acquitted.

But the special and growing problem, today, is this: Someone somewhere is always offended by something others might find perfectly innocuous and it seems that nearly every instance of hurt sentiment is given a political hearing, and with the weaponisation of a loosely worded law, becomes a legal case. Do the might of the state and the majesty of the law need to come down heavily on every such "outrage", or is it possible that a little more wisdom and discernment is showed? With the ambit of "offences" only growing bigger and wider — including a whole range of "misdeeds", from nudity to scenes from decades-old films — it is up to the state and its instruments to ensure that one individual's right to be offended does not impinge on others' freedoms.

WHY CM BOMMAI MUST TAKE INSPIRATION FROM HIS OWN STATE'S GOVERNANCE LEGACY, NOT TAKE CUES FROM UP

Just a year in office and with nearly one year to go for assembly elections, Karnataka Chief Minister Basavaraj Bommai seems to be searching for the way forward. A relatively late entrant to the BJP, this former Janata leader has, by all accounts, been under pressure to push the Hindutva agenda in government. The rhetoric of a section of the ruling party has been divisive and polarising. Now, the heinous murder of a BJP Yuva Morcha worker near Mangalore on Tuesday has turned the BJP cadre restive. Bommai has responded to this by offering to emulate Uttar Pradesh CM Yogi Adityanath and crack down on "anti-national and communal elements". But this rash offer of adopting the "Yogi model of government" is fraught – politically, legally and economically —for Karnataka. It may win Bommai some reprieve from the hardliners within the BJP, but it could hurt the state's prospects in the days to come.

The "Yogi model" that Bommai seeks to invoke, to a large extent, has to do with an assertive majoritarianism and the weaponisation of the law to target the minority. Since the anti-CAA protests, it has come to light how sections of the UP administration have given the go-by to due process and attached or demolished properties belonging to the alleged protestors, many of them Muslims. Municipal laws on encroachment have been selectively used, and no hearing given to those targeted. It is true that Karnataka has been facing the problem of radicalisation of youth; organisations like the Popular Front of India, which wish to impose a militant and puritanical agenda among Muslims, especially on women, are a threat to communal peace. The recent hijab controversy revealed how much of a stifling influence the PFI can be on an aspirational community. These organisations need to be proceeded against, but this must be done without compromising due process for all. Bommai should know that Karnataka's rise as an economic powerhouse and Bengaluru's evolution as a high-tech hub has much to do with the enabling social environment nurtured by his predecessors. The state has been a pioneer in building grassroots democracy with its Panchayati Raj institutions, offering policies that combine welfare and social justice, using private/communitarian capital in developing educational institutions, promoting sunrise sectors such as IT and bio-tech. All this was possible because the state had extended periods of social peace.

There is no reason why Bommai should abandon this legacy for politics and practice in a state that has a long distance to travel before catching up with Karnataka. The BJP in Karnataka has some



soul-searching to do as its factions battle it out for the spoils of office and ideological gains. While they do so, the least the party leadership can do is to ring-fence governance from the inner-party pull and tug.

POLICE SUB-INSPECTOR RECRUITMENT EXAM SCAM: FRAUD IN SELECTION CAN CREATE ANARCHY, SAYS KARNATAKA HC

The selection of candidates through the manipulation of the exam process as seen in the police sub-inspectors' (PSI) recruitment in Karnataka is a crime that can lead to "anarchy in the society" and no proper services can be expected from candidates selected through such a system, the Karnataka High Court has stated while rejecting the bail petitions of seven accused in the PSI scam.

Justice H P Sandesh of the Karnataka High Court, who began monitoring investigations by the CID unit of the Karnataka police into the PSI recruitment exam scam, during the bail hearings over the past month has said that the scam will impact society at large and make people lose faith in the governance system.

The judge rejected the claims for bail made on the grounds of lack of evidence and the offences in the recruitment scam not being punishable with death or imprisonment for life.

"The other contention is that the offences are not punishable with death or imprisonment and bail is a rule and jail is an exception and the same cannot be accepted for the reason that in a case of murder, the life of a person and his family are affected but, in a case of a crime like this, the whole society will be affected and it will be an impact on the society and the people will lose faith in the very system which creates anarchy in the society," the judge said.

Justice Sandesh also pointed to forensic evidence, which prima facie indicates that the candidates seeking bail had their answer sheets manipulated after the exam in order to gain selection to the Karnataka police department as sub-inspectors.

"The material placed before the court in respect of the petitioners, who are the candidates in the PSI examination, it is seen that their papers are manipulated. It is the main contention of the prosecution also that, though the candidates answered only a minimum number of questions, the RFSL (regional forensic science laboratory) report placed before the court discloses that the names of these petitioners are also found wherein, their OMR sheets have been manipulated," the high court said.

"Hence, the petitioners are not entitled to bail during the crime stage since it is a big scam and these petitioners have indulged in the process of selection of PSI which is nothing but an act of terror to the society," Justice Sandesh has stated.

GOVT JOB RUSH: IN 8 YEARS, 22 CRORE APPLIED, ONLY 7.22 LAKH WERE SELECTED

The rush for government jobs continued unabated over the last eight years but less than 1 per cent of applications received were selected. Of the 22.05 crore applications received from 2014-15 to 2021-22, only 7.22 lakh or 0.33 per cent, were recommended for appointment in different Central government departments, the government informed the Lok Sabha on Wednesday.

In a written reply, Jitendra Singh, Minister of State in the Ministry of Personnel, Public Grievances and Pensions and Minister of State in the Prime Minister's Office, informed the Lok Sabha that the maximum number of candidates — 1.47 lakh — recommended for appointment was in 2019-20,



the year before the full outbreak of the Covid-19 pandemic. The year, which also saw elections to the Lok Sabha, accounted for a little more than 20 per cent of the total 7.22 lakh selected during the eight years.

The broad trend suggests that the number of candidates selected for government jobs has been declining since 2014-15, with 2019-20 being the only exception. In 2014-15, 1.30 lakh candidates were recommended for appointment but the number dropped continuously in the following years — 1.11 lakh in 2015-16; 1.01 lakh in 2016-17; 76,147 in 2017-18; 38,100 in 2018-19, 78,555 in 2020-21 and 38,850 in 2021-22.

While only 7.22 lakh candidates were selected for appointment in the last eight years, the Centre had on June 14 this year announced it would recruit 10 lakh people in “mission mode” over the next 18 months. The announcement was made by the Prime Minister’s Office after PM Narendra Modi “reviewed the status of Human Resources in all departments and ministries.”

The information provided by Singh also shows that a total number of 22.05 crore applications were received since 2014. The maximum applications (5.09 crore) were received in 2018-19, and the least – 1.80 crore – in 2020-21.

An analysis of the data shows that against an annual average of 2.75 crore applications received over the eight years, 90,288 candidates were selected on an average every year. The proportion of candidates selected from the number of applications received during the eight years was in the range of 0.07 per cent to 0.80 per cent.

“Budget 2021-22 launched Production Linked Incentive (PLI) schemes, with an outlay of Rs. 1.97 lakh crore, for a period of 5 years starting from 2021-22. The PLI Schemes being implemented by the Government have potential for creating 60 lakh new jobs... The Pradhan Mantri Mudra Yojana (PMMY) is being implemented by the Government for facilitating self-employment. Under PMMY, collateral free loans up to Rs 10 lakh, are extended to micro/ small business enterprises and to individuals to enable them to set up or expand their business activities,” he said.

The other schemes listed by Singh include the Prime Minister Street Vendor’s AtmaNirbhar Nidhi launched on June 1, 2020, to facilitate collateral free working capital loan to street vendors to restart their businesses, the AtmaNirbhar Bharat Rojgar Yojana (ABRY) launched on October 1, 2020, to incentivise employers for creation of new jobs and restoration of jobs lost during the Covid-19 pandemic. As on July 13 this year, there were 59.54 lakh ABRY beneficiaries, he said.

Besides these, various flagship programmes such as Make in India, Start-up India, Digital India, Smart City Mission, Atal Mission for Rejuvenation and Urban Transformation, Prime Minister’s Employment Generation Programme, MGNREGS, Pt. Deen Dayal Upadhyaya Grameen Kaushalya Yojana, Deen Dayal Antodaya Yojana National Urban Livelihoods Mission, etc. are also oriented towards generating employment opportunities, he said.

POWER TARIFF REVISIONS AND THE STATE OF DISCOMS

The story so far: On July 13, the Tamil Nadu Generation and Distribution Corporation (Tangedco) filed a general retail power tariff revision petition with the Tamil Nadu Electricity Regulatory Commission proposing to hike power tariffs by 10% to 35%. If the proposal comes into effect, expected in September, the hike will be after a gap of eight years. While announcing the government’s decision to increase the tariff, Electricity Minister V. Senthilbalaji maintained that



the proposed power tariff hike will not affect one crore domestic consumers and people living in hutments out of a total of around 2.39 crore.

Why has the tariff revision petition been filed by the power utility?

A number of factors, which include mounting losses, outstanding loans and the consequent increase in interest burden, has compelled the Tangedco to file the petition. Even after joining the Ujwal DISCOM Assurance Yojana (UDAY) — a scheme meant for improving the health of state-owned electricity distribution companies (DISCOM)—in January 2017, Tamil Nadu could not bring down the gap between the Average Cost of Supply (ACS) and the Average Revenue Realised (ARR) to nil by 2018-19, as stipulated in the scheme. On the contrary, the gap rose to ₹1.07 per unit in 2019-20 against ₹0.6 per unit in 2015-16, according to a report of the Comptroller and Auditor-General on the implementation of the UDAY scheme by the Tangedco which was tabled on the floor of the State Assembly in May 2022. The Minister told the media that the cumulative financial losses went up from ₹18,954 crore in 2011-12 to ₹ 1,13,266 crore in 2020-21. What is more important than all these factors is the commitment provided by the Tamil Nadu government to fully absorb Tangedco's losses, due to which the State government has made an allocation of ₹13,108 crore this year in the form of budgetary support.

The Centre tightened its focus on the State by having withheld, through the Power Finance Corporation (PFC) and the Rural Electrification Corporation (REC), the release of ₹3,435 crore under the Special Liquidity (Aatmanirbhar Bharat Abhiyan) loan scheme, apart from not releasing the grant of ₹10,793 crore under the Revamped Distribution Sector Scheme (RDSS). The Reserve Bank of India (RBI) has issued a guideline to commercial banks that if lending is to be provided to any State-owned power utility including DISCOMs, the entity should have filed a tariff revision petition by November 30 every year.

What about other power DISCOMS in the country?

The Tamil Nadu case is an example of what is happening in the distribution sector in the country. According to Niti Aayog's report of August 2021, most power DISCOMs incur losses every year — the total loss was estimated to be ₹90,000 crore in the financial year 2021. Due to these accumulated losses, DISCOMs were unable to pay for generators on time — as of March 2021, an amount of ₹67,917 crore was overdue.

To help these DISCOMs, the Centre in May 2020, announced a Liquidity Infusion Scheme (Aatmanirbhar Bharat Abhiyan), under which loans of ₹1,35,497 crore have been sanctioned. As of December 31, 2021, a total of ₹1.03 lakh crore has been disbursed.

Where do other States stand on power tariffs?

Despite the Centre's prescription for annual or periodical revision of retail power tariff, States have found the exercise painful, as the parties in power in the States link the process to their prospects at the time of Assembly or Lok Sabha elections.

In Andhra Pradesh, the power tariff hike for domestic consumers approved in March, took place after a gap of two decades. Kerala, where the increase came into effect in late June, had it after three years. In March 2022, the Bihar Electricity Regulatory Commission issued an order, rejecting the proposal for a 9.9% hike. In Punjab, no changes in the tariff were made and on the contrary, since the beginning of this month, domestic consumers in the State have been given free electricity up to 300 units each month.



In Tamil Nadu, all domestic consumers are entitled to 100 units of free electricity bi-monthly since May 2016 when the AIADMK retained power. The existing DMK regime has decided not to disturb this arrangement. In Gujarat, the Aam Aadmi Party (AAP) has promised free electricity if it is voted to power in the Assembly election to be held later this year. The general approach of many parties is to use electricity as a tool for their political agenda and make promises to allure people despite knowing that such assurances, if implemented, are not sustainable in the long run.

Do States provide subsidies to sectors like agriculture?

Yes. A common feature of the power distribution policies of the States is to provide free or heavily subsidised supply to agriculture. The connections for the farm sector are unmetered. Tamil Nadu, which has been implementing free power supply for the sector since the mid-1980s, had long resisted the installation of meters even for fresh connections. But it has been allowing the installation of meters for agricultural pump sets. A senior official claims that the meters are there only to do an assessment of consumption and not for billing. Segregation of feeders has been suggested as an option to arrive at the accurate consumption of the farm sector so that the disproportionate quantum of consumption is not attributed to agriculturists in the absence of meters. Gujarat is cited as a success story in this regard. In Manipur, according to the Niti Aayog's report, prepaid metering was supplemented with improved power supply, resulting in improved billing and collection efficiency as well as lower commercial losses.

The Madhya Pradesh Electricity Regulatory Commission, in its tariff order of March 2022, came out with an incentive package in the area of demand side management. It stipulated that an incentive equal to 5% of energy charges should be given on installation and pushed for the use of energy saving devices such as ISI energy efficient motors for pump sets and programmable on-off/ dimmer switch with automation for street lights.

DEATH BY HOOCH

A hooch tragedy that claimed over 40 lives in Gujarat's Botad district brings to the fore, yet again, the contentious question of prohibition. Gujarat is one of the four States in India that prohibits alcohol. The victims consumed poisonous methyl alcohol sold in plastic pouches by bootleggers. Twenty-four people have been named as accused in the FIRs and 14 have been arrested. Police action that follows every such tragedy barely inspires public confidence; indeed, it conceals the complicity of the administration in protecting the black market for alcohol, wherever prohibition exists. It is difficult to assume that vast networks of illegal manufacturing and sale of liquor could exist without the patronage of the police and politicians. Reports suggest that in this case, specific complaints were made to the police, who continued to look the other way. Prohibition makes liquor illegal, but it hides in the black market. By driving sales and production underground, the State loses tax revenues while consumers are exposed to huge health risks. Though prohibition is listed among the Directive Principles of state policy in the Constitution, no State has been able to achieve it with any enduring effectiveness. Globally, it is a similar experience.

Prohibition has, however, remained a potent slogan for some politicians. Alcohol damages health, family finances, and human relationships, and the call to ban it altogether has a certain moral, even if not practical, appeal. But using the sledgehammer of the law to stop alcohol use can be counterproductive, as experience shows. The Gujarat High Court is considering five petitions that challenge the constitutional validity of the Gujarat Prohibition Act, 1949 on grounds that it violates fundamental rights including privacy. The law is being questioned for its alleged arbitrariness as it allows tourists from outside the State to consume alcohol in the State. The prohibition laws give



sweeping and intrusive powers to the police, who, at least in one case in the recent past in Gujarat, used them against political protesters. On the one hand, prohibition offers the opportunity for rent collection and on the other it lets the police free to selectively apply the law. There is a moral burden that several political parties in India try to carry on their shoulders to discourage or bar alcohol consumption — several parties bar members from consuming alcohol — but in practice this turns out to be comical hypocrisy. With Gujarat already in campaign mode for the Assembly election that is only months away, the tragedy has prompted the Congress and the Aam Aadmi Party to train their guns on the ruling Bharatiya Janata Party. Rather than clinging on to dogmas and impossible goals of social reform through coercive law, there must be a more honest discussion on prohibition.

DRAFT DRUGS, MEDICAL DEVICES AND COSMETICS BILL 2022: THE MAKING OF THE DIGITAL PHARMACIST

A draft law to replace the 1940 Drugs and Cosmetics Act with a Drugs, Medical Devices and Cosmetics Bill 2022 was uploaded by the Union health ministry in early July, seeking public comments and objections, within 45 days. The primary objective of any drug law is to ensure that the medical products sold in a country are safe, effective and conform to prescribed quality standards. This article addresses how the new law could help consumers but what more is required.

The first major feature in the new Bill that affects consumers relates to e-commerce. The regulatory cover will come when the rules are notified but the inclusion of a provision in the Bill is reassuring. Presently, online sales of medicines account for a fraction of the total pharma sales in India but are forecast to grow exponentially. The traditional, retail chemist sector has been the mainstay for the population but has generally been unorganised. The sale of substandard, even counterfeit, drugs — particularly in smaller towns and villages — remains widespread.

There are several pros and cons concerning online sales. Like all online shopping, the consumer gets the advantage of discounts and the comfort of shopping from home. During Covid, e-pharmacy platforms were promoted by government digital platforms, so the experience of regulating the sector is available. In normal times, e-commerce can surmount three uniquely Indian disadvantages. The first relates to climatic conditions, which require medicines to be stored at below 30 degrees Celsius and 70 per cent relative humidity — unattainable in most of India. It can mandate establishing a back-end brick and mortar store for drug supply having good storage conditions. This is what happens in all countries the world over that allow e-commerce. It can encrypt all transactions otherwise impossible to track.

The second advantage of e-commerce could be fulfilling a legal requirement — providing a bill to the consumer and retaining one copy bearing the batch numbers and expiry dates of the drugs. In addition, the practice of accessing prescription drugs over-the-counter would abate. There are presently over 540 Schedule H drugs that require a doctor's prescription and the fact that they can be easily accessed over-the-counter is well known. In the case of e-commerce, registration of a pharmacy can require enrollment with the central and state drug control organisations and the practice of uploading a prescription from a registered medical practitioner can be enforced. Some Indian e-pharmacy outlets have begun facilitating getting a prescription after tele-consultations.

The flipside of shopping for medical drugs on the internet is that it could encourage overuse or incomplete use of drugs, increase dependency on habit-forming medicine — for example, sleep-inducing drugs or self-medication with products for weight loss, male enhancement, even treating



mental illness — which is fraught with dangerous consequences. The rules can easily exclude identified medication or make access stringent. On balance, however, the advantage lies in facilitating e-commerce for medical drugs.

The draft law also proposes according a greater focus on medical devices, which include thousands of engineered apparatuses like stents, joint implants, pacemakers, catheters, etc, which require quality regulation. Rules for medical devices were notified in 2017 but now it is proposed to establish a statutory Medical Device Technical Advisory Board, with experts from the fields of atomic energy, science and technology, electronics, and related fields like biomedical technology to guide the process. This is a welcome move that will bring in the required expertise.

What the Bill does not address is the need to stop the continued mismanagement of the wholesale and retail drugs trade in India – a nightmare for every state drugs controller. The problem ranges from Bhagirath Palace in Chandni Chowk, Delhi — Asia’s biggest drug wholesale market some say — or the unqualified practitioner at the other end of the spectrum, jabbing steroids into poor and uneducated patients. In the past, raids — whether at drug wholesale hubs or small pharmacies — have unearthed counterfeit and spurious drugs but have resulted in little deterrence. Drugs move from the manufacturers to the carrying and forwarding agents who, in turn, assign the drugs to “registered wholesalers or stockists” located in Bhagirath Palace or other state drug wholesale hubs. Rule 64 (2) of the Drugs and Cosmetics Rules 1945 lays down that a wholesale drug licence can be given to a qualified pharmacist or one who has passed the matriculation examination or its equivalent or a graduate with one year’s experience in dealing with drug sale. This is a relic from 80 years ago. When the country is reported to have over 7,00,000 pharmacists, this anachronism must be discarded.

In fairness, it was sought to be corrected in December 2016 by deleting the above clauses from the Drugs Rules and a draft was even gazetted in 2016 on the recommendations of the health ministry’s Drugs Consultative Committee headed by the Drugs Controller General (India) and subsequently by the Drugs Technical Advisory Committee headed by the Director General of Health Services. But after seven years, the eligibility criteria continue to allow a matriculate or an ordinary graduate (albeit with a few years’ experience,) to get a licence as a wholesaler or stockist. It is essential to introduce a binding and enabling provision to only licence qualified pharmacists and put the safety of millions of citizens before the self-preservation of a few thousand wholesalers and stockists.

And that brings me to the consumer side of the sale of drugs, particularly in small pharmacies. My research and field study — “Unqualified Medical Practitioners in India”, published by Shiv Nadar University in 2017 — describes how easily prescription drugs can be purchased from a medical shop where a proxy licensee provides legal cover in absentia to the shop owner. That he himself possesses zero knowledge about pharmaceuticals has not bothered any state regulator. This must be stopped. Unless digitisation of procurement, inventory control and accountability for dispensing drugs gets encrypted into a digital trail, random raids and inspections will serve no purpose. The debate should not be between e-commerce and retail sale. It should be between being compliant and non-compliant.

GENERATION OF UNIQUE DISABILITY IDS RAMPED UP

The generation of unique disability IDs (UDIDs) had increased from an average of 5,000 a day to an average of 7,000 to 9,000 daily during the 90-day Azadi Se Antodaya Tak campaign, officials of



the Department of Empowerment of Persons with Disabilities of the Social Justice and Empowerment Ministry said on Tuesday.

The campaign was launched on April 28 by the Union government to improve enrolment in several schemes across Ministries in 75 districts identified for their connection with freedom fighters as a part of Azadi Ka Amrit Mahotsav. The campaign, led by the Rural Development Ministry, was supposed to wrap up on July 28, but could be extended till August 15, according to sources.

Directive to States

When the campaign started, the department had written to the States asking them to expedite generation of the unique IDs for people with disabilities.

As of May 2, a total of 72,06,947 IDs had been generated since the UDID project started in 2016.

This number climbed to 78,12,977, showing an increase of six lakh since the start of the campaign, an official said on Tuesday morning.

Online issue

The department had made it mandatory for States to issue the UDIDs through its online portal from June 1, 2021 onwards.

In a tweet on Tuesday, the department said it had generated 16,423 UDID cards in the previous 48 hours, with the highest number in Uttar Pradesh (4,601), followed by Kerala (1,945), Maharashtra (1,304) and Uttarakhand (388).

Since its launch, the UDID project has been slow to gather steam, with activists, the disabled and the parliamentary panel on social justice raising concerns over the years.

According to the 2011 Census, there were 2.68 crore people with disabilities.

The standing committee in its report on February 12, 2021, noted that 1.5 crore legacy certificates had been brought onto the UDID portal, which would allow the States to just upload the revalidated certificate to generate a UDID.

KERALA RESEARCHERS DETECT FUNGAL DISEASE IN JACKFRUIT

Compared with other fruits, jackfruit is considered relatively free of diseases, but now, researchers at the Integrated Farming Systems Research Station (IFSRS), a Kerala Agricultural University (KAU) facility at Karamana here, have reported the emergence of a new fungal disease in jackfruit.

It is perhaps the first time that fruit rot caused by the fungus *Athelia rolfsii* is being reported in jackfruit (*Artocarpus heterophyllus*) in India, according to A. Sajeena, Assistant Professor at the IFSRS.

A soil-borne fungal pathogen, *Athelia rolfsii* is a major threat to several crops and, hence, the new development warrants immediate attention, a research paper describing the IFSRS findings published in the latest edition of the Journal of Plant Pathology warned.



The disease-infected samples were of mature jackfruit collected from Thiruvananthapuram, Kottayam and Pathanamthitta districts. While fruit varieties introduced from elsewhere can bring new diseases with them, the fruit rot caused by *Athelia rolfsii* does not fall into this category, according to Dr. Sajeena.

“*Athelia rolfsii* is a soil-borne fungal pathogen with a wide host range which attacks various commercially cultivated crops belonging to different families. But this is the first time it is being reported in jackfruit in the country. One disease which is found in immature jackfruit is the *Rhizopus* fruit rot, but it does not affect mature fruit,” Dr. Sajeena said.

The IFSRS has now launched a study on how the disease can be managed in jackfruit

UNSOUND BIRDING

Playing bird calls can be done in moderation for scientific studies, but never for commercial purposes, says V. Shantaram, ornithologist and director at the Institute of Bird Studies, Rishi Valley. “Bird guides play these calls for tourists who want to quickly tick birds off in their list. As bird calls are available online and can be downloaded, some serious birders also play them, as they want to add more birds to their lists.”

To promote bird watching and citizen science, features such as the ‘eBirder of the Month Challenge’ are introduced. “On the flip side, these features promote a competitive spirit, leading some birders to resort to desperate measures like playing bird calls to have a bulky species list. These features are therefore better avoided,” says Shantaram.

“The money that birding tourism fetches overrides ethics and bird safety. Once this stops becoming the sole consideration, perhaps, good birding behaviour will take precedence,” says scientist, K.S. Gopi Sundar.

With questionable practices being widespread, it wouldn’t be surprising if studies emerge suggesting playback does not have any negative impacts. Currently, the lack of sufficient scientific evidence that playback causes demonstrable harm to birds appears to be a convenient way to justify and continue the harassment of birdlife. What might not constitute harm scientifically, nonetheless, amounts to nuisance.

INDIA ADDS FIVE MORE RAMSAR SITES

India has added five more Ramsar sites, or wetlands of international importance, bringing the number of such sites in the country to 54, Environment Minister Bhupendra Yadav said on Tuesday.

“Delighted to inform that 5 more Indian wetlands have got Ramsar recognition as wetlands of international importance,” Mr. Yadav tweeted.

These are the Karikili Bird Sanctuary, Pallikaralai Marsh Reserve Forest and Pichavaram Mangrove in Tamil Nadu, the Sakhya Sagar in Madhya Pradesh and the Pala Wetlands in Mizoram.

India’s Ramsar wetlands are spread over 11,000 sq.km — around 10% of the total wetland area in the country — across 18 States. No other South Asian country has as many sites, though this has much to do with India’s geographical breadth and tropical diversity. The U.K. (175) and



Mexico (142) — smaller countries than India — have the most Ramsar sites, whereas Bolivia spans the largest area with 1,48,000 sq.km under the Convention protection.

Being designated a Ramsar site does not necessarily invite extra international funds, but the States — and the Centre — must ensure that these tracts of land are conserved and spared from encroachment. Acquiring this label also helps with a locale's tourism potential and its international visibility. Until 1981, India had 41 Ramsar sites, though the past decade has seen the sharpest rise —13 — in designating new sites.

Wetlands, according to the Environment Ministry, are an “area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres, but does not include river channels, paddy fields, human-made water bodies/ tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes.”

To be Ramsar site, however, it must meet at least one of nine criteria as defined by the Ramsar Convention of 1961, such as supporting vulnerable, endangered, or critically endangered species or threatened ecological communities or, if it regularly supports 20,000 or more waterbirds or, is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks are dependent upon.

The National Wetland Inventory and Assessment compiled by the ISRO estimates India's wetlands to span around 1,52,600 square kilometres.

TELLING NUMBERS: TOLL OF HUMAN-ANIMAL CONFLICT ON TIGERS, ELEPHANTS AND PEOPLE

Between 2018-19 and 2020-21, 222 elephants were killed by electrocution across the country, 45 by trains, 29 by poachers and 11 by poisoning. Among tigers, too, 29 were killed by poaching between 2019 and 2021, while 197 tiger deaths are under scrutiny. These figures emerge after adding up data tabled in Lok Sabha on Monday by Ashwini Kumar Choubey, Minister of State for Forest, Environment and Climate Change, in a written response to a question on human-animal conflict raised by S Senthilkumar (DMK).

Among human casualties of conflict with animals, elephants killed 1,579 humans in three years — 585 in 2019-20, 461 in 2020-21, and 533 in 2021-22. Odisha accounted for the highest number of these deaths at 322, followed by Jharkhand at 291 (including 133 in 2021-22 alone), West Bengal at 240, Assam at 229, Chhattisgarh at 183, and Tamil Nadu at 152.

Tigers killed 125 humans in reserves between 2019 and 2021. Maharashtra accounted for nearly half these deaths, at 61. For tiger deaths caused by human activity, the Lok Sabha reply did not provide a state-wise break-up.

Among the 222 elephant deaths caused by electrocution, Odisha accounted for 41, Tamil Nadu for 34 and Assam for 33. Odisha (12 out of 45) also had the highest number of elephant deaths caused by trains, followed by West Bengal (11) and Assam (9). Poaching deaths were highest in Meghalaya (12 out of 29) while poisoning deaths were highest in Assam (9 out of 11, including 8 in 2018-19 alone).



“As a result of concerted efforts made for protection and conservation of wildlife, the population of several wildlife species like Tigers, Elephants, Asiatic Lion, Rhino etc. in the country has increased,” the Minister said in his reply.

“Assessments of human-wildlife conflicts indicate that the main causes of human wildlife conflict include habitat loss, growth of population of wild animals, changing cropping patterns that attract wild animals to farmlands, movement of wild animals from forests area to human dominated landscapes for food and fodder, movement of human beings to forests for illegal collection of forest produce, habitat degradation due to growth of invasive alien species, etc,” he said

STUDY ON SNOW LEOPARD AND ITS PREY

A recent study by the Zoological Survey of India (ZSI) on snow leopard (*Panthera uncia*) has thrown up interesting insights on the elusive mountain cat and its prey species.

The study under the National Mission on Himalayan Studies revealed a strong link between habitat use by snow leopard and its prey species Siberian ibex and blue sheep.

Scientists used camera traps and sign surveys to evaluate the co-occurrence patterns of snow leopards and its prey species in Spiti Valley of Himachal Pradesh. Details of the study have been published in the journal Plos One.

Snow leopards use rugged mountainous areas or non-forested areas covering an altitude between 3,200 metres to 5,200 metres.

Dr. Sharma, who heads the GIS & Wildlife Section of the ZSI, said that the study suggested that habitat covariates such as barren area, grassland, aspect, slope and distance to water were important drivers of habitat use for the snow leopard as well as its prey species. He added that the Spiti Valley possessed a good habitat in and outside the protected areas which could support a viable population of both threatened snow leopard and its prey species.

Classified as ‘Vulnerable’ by the International Union for Conservation of Nature Red list and listed in Schedule-I species of the Indian Wildlife (Protection) Act, 1972, snow leopards are elusive mountain cats.

THE PRIVATE SECTOR BOOST IN INDIA’S SPACE INDUSTRY

The story so far: Principal Scientific Adviser Ajay Kumar Sood stated earlier this month that the government would soon come up with a new space policy that could initiate the rise of India’s own “SpaceX-like ventures”. Mr. Sood stated that the proposed move would increase private sector participation in the industry. Consultations have already been held and the final version of the policy would soon be referred to the Empowered Technology Group for further examination. According to Mr. Sood, India has not tapped into its complete potential in this sector. “In 2022, the space sector is witnessing what the information technology sector experienced in the 1990s. We will have our own SpaceX (SpaceX is Elon Musk’s private space transportation company) in the next two years,” he said.

Why is development in the space sector important?

Enhancing space technology would be beneficial to bolster connectivity and combat climate-related implications through a more secure and effective means.



Satellites provide more accurate information on weather forecasts and assess (and record) long-term trends in the climate and habitability of a region. For example, by monitoring the long-term impact of climate change at regional, territorial, and national scales, governments would be able to devise more pragmatic and combative plans of action for farmers and dependent industries. Additionally, they can also serve as real-time monitoring and early-warning solutions against natural disasters such as earthquakes, tsunamis, floods, wildfires, mining etc. Real-time tracking can also serve multiple purposes in defence.

As for connectivity, satellite communication can reach more remote areas where conventional networks would require a heavy complimenting infrastructure. Additionally, as to reliability, the World Economic Forum had stated (in September 2020) that satellite communication can help connect 49% of the world's unconnected population. In this light, it must be noted that satellite communications, which are used to facilitate telecommunication services, are among the major categories for investment in the space technology sector. Other prominent categories include spacecraft and equipment manufacturing.

What essentially needs to be remembered is that the space avenue is an integration of the aerospace, IT hardware and telecom sectors. It is thus argued that investment in this arena would foster positive carryover effects to other sectors as well.

Where does India stand in the global space market?

As per SpaceTech Analytics, India is the sixth-largest player in the industry internationally having 3.6% of the world's space-tech companies (as of 2021). U.S. holds the leader's spot housing 56.4% of all companies in the space-tech ecosystem. Other major players include U.K. (6.5%), Canada (5.3%), China (4.7%) and Germany (4.1%).

The Indian Space Industry was valued at \$7 billion in 2019 and aspires to grow to \$50 billion by 2024. The country's standout feature is its cost-effectiveness. India holds the distinction of being the first country to have reached the Mars' orbit in its first attempt and at \$75 million — way cheaper than Western standards.

Most companies in the sector, globally, are involved in manufacture of spacecraft equipment and satellite communications. The Union Minister of State for Science and Technology Dr. Jitendra Singh had stated earlier this month that of the 60-odd start-ups that had registered with the Indian Space Research Organisation (ISRO), a majority of them were dealing in projects related to space debris management. As space becomes more congested with satellites, the technology would thus help in managing 'space junk' (debris of old spacecraft and satellites).

U.S. and Canada were the highest receivers of space-related investment in 2021. A scrutiny of SpaceTech data puts forth that U.S. alone has more companies in the sector than the next 15 countries combined. Forbes pointed out in May 2021 that, "...it helps when your country's government budget in the realm is six times larger than its nearest competitor." Its space budget was \$41 billion in 2021, \$23.3 billion of which was focused on NASA. The spur in research and innovation driven by government-led spending could also be attributed to the global concentration of considerable number of private investors in the country.

India's total budgetary allocation for FY2022-23 towards the Department of Space was ₹13,700 crore. Further, as per Tracxn data, funding into the sector's start-ups (in India) nearly tripled to \$67.2 million on a year-over-year basis in 2021.



How is the private sector's involvement regulated in India?

In June 2020, the Union government announced reforms in the space sector enabling more private players to provide end-to-end services.

An announcement for the establishment of the Indian National Space Promotion and Authorisation Centre (IN-SPACe) was made. It was mandated the task of promoting, authorising and licensing private players to carry out space activities. As an oversight and regulatory body, it is responsible for devising mechanisms to offer sharing of technology, expertise, and facilities free of cost (if feasible) to promote non-government private entities (NGPEs). IN-SPACe's Monitoring and Promotion Directorate oversees NGPE's activities as per prescribed regulations and reports back in case any corrective actions or resolutions are required. ISRO shares its expertise in matters pertaining to quality and reliability protocols, documentations and testing procedure through IN-SPACe's 'interface mechanism'.

Additionally, constituted in March 2019, NewSpace India Ltd (NSIL), is mandated to transfer the matured technologies developed by the ISRO to Indian industries. All of them are under the purview of the Ministry of Defence.

Private sector's involvement in the long term, as with other commercial sectors, is believed to help spur investment and expertise in the realm which is capital-intensive and demands high technology.

Dr. Singh had tabled in a written reply to the Lok Sabha in June 2021 that the space sector reforms were made with the intention to provide a "level playing field" to private companies in satellites, launches and space-based services.

The central idea was to bring forth a predictable policy and regulatory environment for them and additionally provide access to ISRO facilities and assets to improve their capacities.

A PATH TO GLOBAL CONNECTIVITY

As terrestrial 5G mobile networks are being rolled out across countries, there is a renewed interest in integrating Non-Terrestrial Networks, the primary one being the low latency Low Earth Orbit (LEO) satellite networks (SatNets), as a complement to terrestrial networks. Towards this, Starlink, operated by the Elon Musk-owned SpaceX, and OneWeb, promoted by Bharti Global, have launched about 2,500 and 648 LEO satellites respectively at an altitude of about 1,200 km with the objective of promoting global broadband connectivity. There are other players such as Reliance Jio in a joint venture with Luxembourg-based SES and Amazon's Project Kuiper.

There are primarily three main use cases for integrating LEO SatNets with terrestrial 5G networks: (i) service continuity to provide seamless transition between terrestrial networks and SatNets in case of public safety, disaster management and emergency situations; (ii) service ubiquity to provide 5G services in unserved and underserved areas of the world, thereby bridging the digital divide; (iii) service scalability that utilises the unique capabilities of SatNets in multicasting and broadcasting similar content over a large geographical area. The LEO SatNets can provide service not only to stationary but also to in-motion users.



Integration process

Satellites and terrestrial networks have always been considered two independent ecosystems, and their standardisation efforts have proceeded independent of each other. In view of the above advantages, standard-setting organisations such as the Third Generation Partnership project (3GPP), comprising telcos and equipment manufacturers around the world, started integrating SatNets in the standardisation process.

As an extension to terrestrial networks, satellites were first mentioned in a deployment scenario of 5G in 3GPP Release 14. This was to provide 5G communication services for areas where terrestrial coverage was not available and also to support services that could be accessed more efficiently through satellite systems, such as broadcasting services and delay-tolerant services.

Interestingly, wireless communications through LEO satellites over long distances is proven to be 1.47 times faster than communication over the same distance through terrestrial optic fibre. It is this advantage along with global coverage that provide a strong use case for LEO SatNets to complement terrestrial optic fibre networks.

Issues to be addressed

This would necessitate addressing issues around frequencies to be allocated for satellite broadband, the methodology of allocation, the relatively higher cost of consumer equipment and the placement and interconnections of SatNets with terrestrial public landline/ mobile networks at the ground stations.

The other major challenge in LEO SatNets is the cost of user terminal and access charges to the end users. A recent research analysing both Starlink and OneWeb concludes that the standalone LEO SatNets have a distinct cost advantage only if the density is less than 0.1 person per square km compared to terrestrial broadband networks. Hence it is to the advantage of LEO SatNet providers to integrate their networks with terrestrial 5G networks to improve the cost economies.

Realising the advantages, the Government, in its National Digital Communications Policy 2018, has indicated a number of areas including the development of an ecosystem for local manufacturing of satellite communication systems and promoting participation of private players for the strengthening of satellite communication infrastructure in the country.

Accordingly, the New Space India Limited (NSIL), a public sector enterprise, was established in 2019 under the administrative control of the Department of Space, to re-orient space activities from a 'supply driven' model to a 'demand driven' model, thereby ensuring optimum utilisation of the space assets. The Department of Space also established in 2020 a new regulatory body named the Indian National Space Promotion and Authorisation Centre (IN-SPACe).

IN-SPACe is intended to provide a level playing field for private companies to use Indian space infrastructure and to promote and guide the private industries in space activities through encouraging policies and a friendly regulatory environment. All these, along with the proposed revisions to the Satellite Communications Policy of the Government, will provide the required fillip to LEO SatNets to become an integral part of the communication infrastructure of the country.



THE CHALLENGES OF FIBERISATION AHEAD OF INDIA'S 5G DEPLOYMENT

The story so far: India is preparing to auction off about 72 Ghz of airwaves to rollout 5G services in the country. However, the infrastructure needed for such a rollout requires existing radio towers to be connected via optical-fibre cables. The work of connecting the towers could prove to be a huge challenge for the country.

What is fiberisation?

The process of connecting radio towers with each other via optical fibre cables is called fiberisation. It helps provide full utilisation of network capacity, and carry large amounts of data once 5G services are rolled out. It will also aid in providing additional bandwidth and stronger backhaul support. The backhaul is a component of the larger transport that is responsible for carrying data across the network. It represents the part of the network that connects the core of the network to the edge. As a result, fibre backhaul remains an important part of transport across all telecoms, Sajan Paul, Managing Director & Country Manager, India & SAARC, Juniper Networks, a telecom infrastructure company, told The Hindu.

Fibre-based media, commonly called optical media, provides almost infinite bandwidth and coverage, low latency and high insulation from interference. With 5G, it will also be necessary to increase the density of mobile towers to provide better coverage to consumers and businesses. This calls for increased requirements for fibre deployment, Mr. Paul said.

Where does India stand with respect to tower fiberisation?

To transition into 5G, India needs at least 16 times more fibre, according to estimates by STL, a technology company specialised in optical fibers and cables.

In India, currently only 33% of the towers are fiberised, compared to the 65%-70% in South Korea and 80%-90% in the U.S., Japan and China, according to a 2021 report by India Infrastructure Research. The fibre kilometer (fkm) per capita in India is lower than other key markets. Ideally, a country needs 1.3 km of fibre per capita to ensure good fiberisation. India's fkm is just .09 compared to 1.35 in Japan, 1.34 in the U.S. and 1.3 in China, the report noted.

There is also a need to increase data capacity in the fiberised towers. These tower sites which are connected via fibre are called fibre point of presence (POP). Currently these fibre POPs at a tower site can handle data at one to five Gbps speed, Nitin Bansal, managing director, India & head - Networks, Southeast Asia, Oceania & India, Ericsson, told The Hindu.

What are the challenges?

To reach the targeted level of fiberisation, India requires about ₹2.2 lakh crore of investment to help fiberise 70% towers. About ₹2.5 lakh crore will be needed to set up 15 lakh towers in the next four years, according to estimates by the National Broadband Mission and Cellular Operator Association of India (COAI).

Government programmes like BharatNet and Smart Cities will further add to the demand of fibre deployment, necessitating a complete tower fiberisation. Indian Prime Minister Narendra Modi, in his 2020 Independence Day speech, laid out the vision to connect every village in the country with optical fiber cable (OFC) in 1,000 days. To achieve that vision, cables must be laid at a speed



of 1,251 km a day, around 3.6 times the current average speed of 350 km a day, according to a report by EY, a global professional services company.

One of the biggest issues in the way of fiberisation remains the Right of Way (RoW) rules. The Indian Telegraph RoW Rules 2016 were gazette notified by the Department of Telecommunications (DoT), Govt. of India on November 15, 2016. The rules aim to incorporate nominal one-time compensation and uniform procedure for establishment of Overground Telegraph Line (OTL) anywhere in the country.

While all States/UTs are required to implement these rules, they are not in complete alignment and still require certain amendments to align, the EY report pointed out. Further, several districts and local bodies have not agreed to the RoW policies as notified in those respective States. These places are following their own bylaws overriding the State RoW policies aligned with the RoW rules, 2016, EY said.

Other central Ministries like the Ministry of Road Transport and Highways, National Highway Authority of India, Ministry of Environment and Forests, Ministry of Railways, Ministry of Defense, Ministry of Civil Aviation, Department of Post, etc. have not yet adopted these Rules, citing their own departmental rules, EY said.

Global network intelligence firm Ookla highlighted the DoT's GatiShakti Sanchar online portal as a way to simplify RoW approvals and help deploy cables for 5G. "This initiative will enable centralisation of RoW approvals for telecom infrastructure projects, including 5G and help operators to deploy required infrastructure for the upcoming 5G rollout in a timely manner," Sylwia Kechiche, Principal Analyst, Ookla, said to The Hindu. In October 2021, the DoT revised the RoW rules, making it easier to install aerial optical fibre cable in the country. This can enable infrastructure providers to deploy cables overhead via street light poles and traffic light posts.

Pilot projects are underway in a few locations like the Delhi airport. The Telecom Regulatory Authority of India has also published a consultation paper on using street furniture for small cell and aerial fibre deployment. This along with the findings from the pilot projects will help to inform the regulatory and policy framework, Ms. Kechiche added.

Can satellite communication help in 5G deployment and improve network backhaul?

Processing power needs to be distributed from centralised data centres to edge servers closer to users.

Satellite communication can provide high-capacity backhaul connectivity to large numbers of edge servers over wide areas, thereby complementing the terrestrial network with cost-effective scalability, according to a report by Intelsat, a satellite service provider.

Satellite communication can facilitate 5G broadband connectivity to underserved areas where it is not feasible to deploy terrestrial infrastructure like remote villages, islands or mountainous regions. Satellite-based networks are the only means for delivering 5G broadband to users on board moving vessels, including cars, ships, airplanes and high-speed trains. In addition, space-based broadcast capabilities support over-the-air software updates for connected cars anywhere in the world, the Intelsat report said.

Space-based backhaul will also provide disaster relief services, support emergency response teams as well as deliver broadband connectivity for one-off entertainment or sports events anywhere in the world, Intelsat said.



The low-Earth Orbit (LEO) satellites will be well-suited to offer not only backhaul, but also direct connectivity. As the 5G standard is adopted, new markets will open up for satellite operators, including IoT, private 5G, and cellular backhaul for densification to enable more cell sites and edge devices, Ms. Kechiche added.

RS 1.64 LAKH CRORE REVIVAL PACKAGE FOR BSNL GETS CABINET NOD

The Union Cabinet on Wednesday cleared a Rs 1.64-lakh crore package for revival of state-owned telecom service provider Bharat Sanchar Nigam Ltd (BSNL), with the focus on fresh capital for upgrading the loss-making company's network and allocating spectrum for it to offer 4G services, de-stressing its balance sheet and augmenting its fiber network.

The four-year revival strategy follows a 2019 booster, when the government had announced a Rs 70,000-crore package mainly to cover a voluntary retirement scheme for BSNL employees.

Of the total revival package announced Wednesday, Rs 43,964 crore will be a cash component, while the remaining Rs 1.2 lakh crore of non-cash component will be spread over four years. The Centre will make administrative allocation of spectrum BSNL needs to offer 4G services. The allocation of spectrum in 900/1,800 MHz band at the cost of Rs 44,993 crore would be through equity infusion.

"The 2019 relief package gave BSNL a lifeline. Before that, it was making operational losses, which wasn't sustainable. The package helped BSNL in becoming operational profitable. With the latest relief package, we expect BSNL to become net profitable in the next three-four years," Minister of Communications Ashwini Vaishnaw told reporters.

To meet the projected capital expenditure (capex) for the next four years, the Centre will fund capex of Rs 22,471 crore for developing 4G technology stack, while providing Rs 13,789 crore to BSNL as viability gap funding for commercially unviable rural wireline operations done between FY15 and FY20, he added.

Further, to enhance the operator's wireline offering, the Telecom Department has proposed the merger of Bharat Broadband Nigam Ltd (BBNL) with BSNL. BBNL is the nodal agency for executing the BharatNet project. The infrastructure created under BharatNet will continue to be a national asset, accessible on a non-discriminatory basis to all the telecom service providers.

To de-stress the balance sheet, Rs 33,404 crore statutory dues will be converted into equity. The Centre will also provide sovereign guarantee for raising money to repay current loans.

WHAT IS GOOGLE STREET VIEW AND WHY HAS IT LAUNCHED IN INDIA NOW?

Google Street View is finally available for ten cities in India and is expected to roll out in about 50 more cities by the end of the year. The 360-degree interactive panorama feature of Google Maps has been available in cities spread over 100 countries since 2007. In India, unlike in other markets, Google Street View is powered by images from third parties as per the National Geospatial Policy, 2021.

What is Google Street View?

Google Street View is an immersive 360-degree view of a location captured using special cameras mounted on vehicles or on backpacks by data collectors moving around the city streets. The



images are then patched together to create a 360-degree view which users can swipe through to get a detailed view of the location. It is available to view on Android and iOS using the app, or as a web view.

Why was Street View not enabled in India?

In 2011, the Bangalore City Police stopped vehicles capturing images for Google Street View. Though there was no clarity on why exactly the policy stopped the capture of data, after that Google did not proceed with the product in India, even as local companies like Wonobo and MapMyIndia came up with their own versions of immersive visual maps of some Indian cities.

How has Street View now been launched in India?

The National Geospatial Policy, 2021 lets Indian companies collect map data and license it to others. After this, Google has tied up with Tech Mahindra and Mumbai-based Genesys International to enable Street View for 10 Indian cities initially. This is the first time Google is working with partner data to enable this feature. In India, the data will be collected and owned by these partners.

Are there any limitations on Street View in India?

Street View in India is not allowed for restricted areas like government properties, defence establishments and military areas. This means in a place like Delhi, the cantonment area will be out of bounds for Street View.

How will Street View help users?

While Google Maps gives users the ability to plot a route and see the satellite view of the same, often this does not give a clear idea of the road conditions. With Street View, users will be able to see exactly how a new destination looks like, and even explore local businesses before going there.

What have been the issues with Street View?

Over the years a lot of privacy and other issues have been raised regarding Street View. A lot of these stem from people's faces and other identifiable aspects, like car number plates and house numbers, being captured by the camera and being misused in different ways. There have also been security concerns about this kind of views being available, especially for sensitive locations.

Along with India, Google has had issues with the local authorities in countries like Austria, Australia and Germany, though it has come back in most of these locations.

IN SEARCH OF RELEVANCE

The 2022 Commonwealth Games organisers will feel fortunate that the third largest multi-sport event is all set to take off in Birmingham without being affected by the pandemic, on Thursday. The Games — representing 2.5 billion people from 72 nations and territories which were once ruled by the erstwhile British Empire — have been staged over the years amid anti-colonial sentiments and huge costs involved in hosting such an event. But the Commonwealth Games Federation (CGF) has asserted that the Games — with its diversity that includes India with 1.3 billion people and Niue with a population of around 2,000 – have entered an era of renewed relevance. Underlining this, Birmingham, which replaced Durban as the host city and is ready to accommodate 6,500 athletes and officials by integrating 19 sports and eight para-sports, has



highlighted the uniqueness of this latest edition. The debut of women's T20 cricket, 3x3 basketball and mixed synchronised swimming will be among the new features for the first carbon neutral games being held at an estimated budget of nearly £800 million.

India, which has not finished outside the top five since 2002, has fielded more than 200 athletes across 19 different sports and para-sports. Still, the country, which gathered 66 medals in the previous edition in Gold Coast, may witness a sharp dip in its collection as there is no shooting, which contributed 16 medals in 2018. The removal of shooting from the 2022 edition and the absence of wrestling (another discipline that earned many medals for India) from the 2026 edition have not gone down well with the Indian sports fraternity. When shooting was left out of the 2022 programme, the Indian Olympic Association (IOA) had threatened to boycott the event. A compromise formula, under which shooting and archery were to be held in Chandigarh separately, could not be implemented due to the pandemic. In a recent meeting with the CGF president, Dame Louise Martin, top IOA officials made a request to include shooting and wrestling in the 2026 edition. At present, India will depend on its wrestlers, weightlifters, shuttlers, boxers, paddlers and squash players to win medals. In the absence of Olympic champion and World championships silver medallist javelin thrower Neeraj Chopra, India will look forward to the likes of steeplechaser Avinash Sable, long jumper M. Sreeshankar and javelin thrower Annu Rani to deliver the goods. A good showing in athletics will redeem some pride for India, which faced embarrassment following three athletes testing positive for banned substances. The hockey players, who won plaudits for their impressive showing in the Tokyo Olympics, and women cricketers will also provide hope to sports lovers.

INDIAN SPORTS BODIES UNDER SCANDAL AND SCRUTINY

The story so far: The sports administration in India was in the headlines frequently these past few weeks all for the wrong reasons. Both the All India Football Federation (AIFF) and the Indian Olympic Association (IOA) face potential ban/suspension if elections to the executive body are not done immediately. Hockey India has also come under scrutiny by the International Hockey Federation (FIH) for the delay in conducting elections.

What happened?

A seven-member delegation of the world football governing body FIFA and the Asian Football Confederation had come to the country last month for a meeting with the Committee of Administrators (CoA). The CoA was entrusted with the running of football by the Supreme Court after the executive committee of the AIFF was dissolved for violating the Central government's sports code. It was mandated that by July 31, the amendments to the AIFF's new constitution have to be made and the elections for the national football body completed by September 15. If not, India would face a FIFA ban.

The IOA is also being warned of a possible suspension by the International Olympic Committee (IOC). The IOA elections, scheduled to have been held last December, have not been conducted yet. The recent letter from the IOC to the executive council members of the IOA expressed concerns about the multiple legal proceedings that caused delays and created unnecessary complications.

The FIH wrote to the CoA, which is currently administrating hockey in the country as the Delhi High Court found Hockey India's executive board in violation of the National Sports Code. The letter from the FIH stresses on the need to have elections based on the rules laid down by the



Indian government. It also raised concerns about Hockey India getting its act together before the 2023 World Cup, which India is scheduled to host in January.

What is the Sports Code?

The Sports Code, or National Sports Development Code of India to be precise, was introduced in 2011 by the Central government, which wanted good governance practices in the management of sports at the national level without interfering in the autonomy of the national sports bodies. It was widely accepted that such a sports code was needed as it was felt that most of the sports federations had become personal fiefdoms of certain individuals — many of them politicians — as they continued to remain in power for long periods. The National Sports Code laid down restrictions regarding age and tenure.

What happens when a sports body is found to be in violation of the Sports Code?

The respective federations can be put under a CoA. That is what happened with the football and hockey associations. Last May, the Supreme Court had appointed a three-member CoA led by former Supreme Court judge A.R. Dave to run the AIFF, whose president Praful Patel had to resign. The Sports Ministry in an affidavit had said that Mr. Patel continuing in his post would be in violation of the Sports Code as he had been the president for more than 12 years.

In a similar fashion, the Delhi High Court observed that the Sports Code was violated by Hockey India and a CoA was formed to run the game's administration in India.

Why was Narinder Batra, a veteran Indian sports administrator, in the news recently?

On July 18, Mr. Batra resigned from the IOC, IOA and FIH. He was the president of FIH and the IOA and a member of the IOC. He cited personal reasons for his resignation, which came a couple of weeks after the Delhi High Court refused to stay the order that had barred him from officiating as the IOA president. The court had earlier ruled his appointment as a life member of Hockey India as illegal. Mr. Batra has been one of India's most influential sports administrators in recent times, but things aren't going well for him now. On the day of his multiple resignations, the CBI registered a case against him for alleged misappropriation of Hockey India's funds (₹35 lakh).

What have been the previous instances where a CoA was formed for administering sports bodies?

In February, the Delhi High court appointed Gita Mittal as the chairperson of the CoA to run the Table Tennis Federation of India, which was suspended following an inquiry into the match-fixing allegations raised by one of India's leading players, Manika Batra. She had alleged that national coach Soumyadeep Roy had asked her to throw her match to Sutirtha Mukherjee so that the latter could qualify for the Tokyo Olympics.

In 2017, the Supreme Court had appointed a CoA to implement the reforms in the administration of cricket in the country suggested by the Justice R.M. Lodha committee. The CoA consisted of Vinod Rai, Ramachandra Guha, Vikram Limaye and Diana Edulji. However, Mr. Guha resigned the committee a few months later. The Lodha committee had been appointed in 2015 following the report submitted by the Justice Mukul Mudgal Committee that investigated the IPL spot-fixing scandal in 2013. The CoA's tenure came to an end in 2019 with former India captain Sourav Ganguly being elected as the BCCI president and Jay Shah as its secretary.



BUSINESS & ECONOMICS

FED RESERVE RATE HIKE, US RECESSION AND IMPACT ON INDIA

In its continuing bid to cool down raging inflation in the United States — at 9.1% in June, the inflation rate is at a four-decade high — the Federal Reserve or Fed (US' central bank) decided to raise the Federal Funds Rate target by another 75 basis points on Wednesday. Since March, the Fed has steadily pushed up the targeted FFR from zero to almost 2.5% now.

What is the Federal Funds Rate (FFR)?

The FFR is the interest rate at which commercial banks in the US borrow from each other overnight. The US Fed can't directly specify the FFR but it tries to "target" the rate by controlling the money supply. As such, when the Fed wants to raise the prevailing interest rates in the US economy, it reduces the money supply, thus forcing every lender in the economy to charge higher interest rates. The process starts with commercial banks charging higher to lend to each other for overnight loans.

Why is the Fed tightening money supply?

This is called monetary tightening, and the Fed (or any other central bank, for that matter) resorts to it when it wants to rein in inflation in the economy. By decreasing the amount of money, as well as raising its price (the interest rate), the Fed hopes to dent the overall demand in the economy. Reduced demand for goods and services is expected to bring down inflation.

What are the risks of monetary tightening?

Aggressive monetary tightening — like the one currently underway in the US — involves large increases in the interest rates in a relatively short period of time, and it runs the risk of creating a recession. This is called a hard-landing of the economy as against a soft landing (which essentially refers to monetary tightening not leading to a recession). The chances of a soft-landing for the US exist but are extremely low.

What is a recession?

The most common definition of recession requires the GDP of a country to contract in two successive quarters. Contracting GDP typically results in job losses, reduced incomes, and reduced consumption.

So, is the US in recession?

A firm answer may be available as early as 6 pm India time, when the US announces the GDP growth data for the second quarter (April, May and June) of 2022. Since the US GDP has already contracted by 1.6% during the first quarter (January, February and March) of 2022, a contraction in the second quarter will imply the US is in recession (see Chart 1).

However, many observers also contest this rather strict technical definition of recession.

Why are some people contesting that the US might be in recession?

For one, there is a chance that the US GDP may not contract. If that happens, the whole point is moot for the time being. We will know this at 6 pm (IST) on Thursday.



But there are other reasons.

A massive point of contradiction is the remarkable job creation in the first half of 2022. Notwithstanding the Fed's aggressive monetary tightening, the labour market remains quite "tight" — that is, unemployment still remains at historic lows. In fact, despite a contraction in GDP in the first quarter and a likely contraction in the second quarter, the US economy created around 2.7 million new jobs in the first half of 2022. This is more than the number of jobs created in any full-year period in the recent past.

This is the reason why Fed Chairman Jay Powell refused to characterise the US economy as one undergoing recession when asked during the media interaction on Wednesday. Janet Yellen, US Secretary of the Treasury (as well as a former chair of the Fed), has also argued that the US economy is not in recession even if the GDP contracts for two successive quarters.

This leads to a broader issue of how one defines a recession.

In the US, it is the National Bureau of Economic Research (NBER) — more specifically, the NBER's Business Cycle Dating Committee — that typically declares a recession. But the NBER defines recession a little differently.

How does NBER define recession?

The NBER's traditional definition of a recession is that "it is a significant decline in economic activity that is spread across the economy and that lasts more than a few months". The committee's view is that while each of the three criteria—depth, diffusion, and duration—needs to be met individually to some degree, extreme conditions revealed by one criterion may partially offset weaker indications from another.

IMF CUTS OUTLOOK FOR GLOBAL GROWTH, FLAGS RECESSION RISK

Surging inflation and sharp slowdowns in the United States and China prompted the IMF to cut its outlook for the global economy this year and next, while warning Tuesday that the situation could get much worse.

In its latest outlook, the International Monetary Fund cut the 2022 global GDP estimate to 3.2%, 40 basis points lower than April's forecast, and about half the rate seen last year.

Last year's "tentative recovery" from the pandemic "has been followed by increasingly gloomy developments in 2022 as risks began to materialise," the IMF said. "Several shocks have hit a world economy already weakened by the pandemic," including the war in Ukraine which has driven up global prices for food and energy, prompting central banks to raise interest rates sharply.

The fund also cut India's growth outlook by 0.8 percentage point to 7.4% for fiscal year 2022, reflecting "mainly less favourable external conditions and more rapid policy tightening."

India's 7.4% GDP growth is the second-highest after Saudi Arabia's 7.6%. India, whose GDP was projected at 8.7% in 2021, will see growth slow down to 6.1% in fiscal year 2023, the fund said.

WHOSE GDP IS IT ANYWAY?

In a few weeks, a quarterly ritual will play out in India. The Government will release the first quarter's Gross Domestic Product (GDP) growth numbers with some chest-thumping about how

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



India is among the fastest-growing economies in the world. Opposition parties will hold press conferences on the same day to counter such bombast with facts, rhetoric and nit-picking. But the real question is: what is the significance and impact of GDP growth for the common person? The answer: very little.

Growth and jobs

It is safe to say that the average person's primary and perhaps sole concern about the economy is the income they can earn. It is well documented that for several years, the single most important demand of people in India is jobs, specifically, a high-quality formal sector job that ensures dignity of work, good income and job security. It is then apparent that GDP growth matters to the average Indian only if it can generate good quality jobs and incomes for them.

Using data of 'employment in public and organised private sectors' published by the Reserve Bank of India (RBI), we can calculate that in the decade between 1980 and 1990, every one percentage point of GDP growth (nominal) generated roughly two lakh new jobs in the formal sector. That is, if India's GDP grew by 14% every year in the 1980s, it can be said that it created roughly 28 lakh new formal jobs.

In the subsequent decade from 1990 to 2000, every one percentage point of GDP growth yielded roughly one lakh new formal sector jobs, half of the previous decade. In the next decade between 2000 and 2010, one percentage point of GDP growth generated only 52,000 new jobs. The RBI stopped publishing this data from 2011-12, but one can safely infer using proxy data that in the 2010-2020 decade, the number of new jobs generated for every percentage of GDP growth fell even further.

In essence, one percentage of GDP growth today yields less than one-fourth the number of good quality jobs that it did in the 1980s. While the actual number of jobs created in each decade is only a rough estimate by the RBI, it is the alarming declining trend in job creation over decades that is more important to ponder. To put it differently, India's GDP growth today has to be four times its GDP growth in the 1980s to produce the same number of formal sector jobs.

It is amply clear that the correlation between formal sector jobs and GDP growth has weakened considerably. Ostensibly, high GDP growth now does not necessarily mean more jobs and incomes for people. Hence, GDP growth does not impact the common person today as much as it perhaps did four decades ago. GDP growth may be an important economic measure, but it is becoming increasingly irrelevant as a political measure, since it impacts only a select few and not the vast majority.

This divorce of GDP growth and jobs is both a reflection of the changed nature of contemporary economic development with emphasis on capital-driven efficiency at the cost of labour and GDP being an inadequate measure. Nobel laureate Simon Kuznets, who conceived of GDP as a measure of economic performance, never intended it to be the single-minded economic pursuit for a nation that it has now become, and warned repeatedly that it is not a measure of societal well-being. Irrefutably, GDP is an elegant and simple metric that is a good indicator of economic progress which can be compared across nations. But a compulsive chase for GDP growth at all costs can be counter-productive, since it is not a holistic but a misleading measure. As the saying goes, when a measure becomes a target, it ceases to be a good measure.



The obsession with GDP

The excessive obsession over GDP growth by policymakers and politicians can be unhealthy and dangerous in a democracy. If growth in GDP does not translate into equivalent economic prosperity for the average person, then in a one person-one vote democracy, exuberance over high GDP growth can backfire and trigger a backlash among the general public who may feel left out of this party.

Sri Lanka's mass uprising and people's revolution can partly be explained through this prism of the structural break between headline GDP growth and economic prosperity for the people. Sri Lanka produced two lakh jobs for every percentage of GDP growth in the 1990s decade; this dwindled to 90,000 by 2020. While economic mismanagement and political cronyism may have been the trigger for the recent mass protests in Sri Lanka, the underlying malaise is the dissonance between GDP growth and economic prosperity for the average person.

To be clear, this phenomenon is not unique to India or Sri Lanka or to the governance model of any one political ideology or another. The U.S. today produces fewer new jobs for every percentage point of GDP growth than it did in the 1990s. China produces one-third the number of new jobs today than it did in the 1990s for every percentage of its GDP growth.

The fact that employment intensity of economic growth is declining is neither a new finding nor a surprise to most economists. Yet, given its elegance as a measure, most economists and technocrats still focus heavily on GDP growth. But the perils of the obsession over GDP growth will be felt by politicians who have to answer voters on lack of jobs and incomes despite robust headline growth.

The World Bank and International Monetary Fund may proclaim winners among nations in some inane GDP growth contest every year, but when 'fastest' growing economies are unable to provide prosperity and social mobility for their people, this disillusionment is bound to erupt and manifest itself through the political process. Voter disenchantment over the economy not working for them is already rife in many democracies across the world that have catalysed agitations and social disharmony. Electoral outcomes in favour of extreme positions in mature democracies such as the U.S., the U.K., France and Germany in the last decade may partly be a reflection of voters' sense of deception over economic gains.

An expanded dashboard

Back in 2008, the then President of France, Nicolas Sarkozy, assembled the 'Commission on the Measurement of Economic Performance and Social Progress' and tasked Nobel Laureate economists Joseph Stiglitz, Amartya Sen and others to develop a more comprehensive measurement framework of economic and social performance as an alternative to the excessive reliance on GDP as a sole measure. The report concluded that "what we measure affects what we do" and recommended an expanded dashboard of multiple indicators unique for each country.

GDP growth has turned into a misleading and dangerous indicator that portrays false economic promises, betrays people's aspirations and hides deeper social problems. The statistical aphorism 'Everything that counts cannot be counted and everything that can be counted does not count' succinctly summarises the GDP growth paradox facing many democracies today. It is time for India's political leaders, especially those in the Opposition, to not be drawn into facile quibbles over GDP growth every quarter and instead clamour for an overhaul of India's economic performance measurement framework to reflect what truly matters to the common person.



WHAT IS THE CONTROVERSY OVER GST LEVIES ON FOOD?

The story so far: From July 18, a 5% Goods and Services Tax (GST) has been levied on several food items and grains that are sold in a pre-packed, labelled form even if they are not branded. So far, these items, which include curd, lassi, buttermilk, puffed rice, wheat, pulses, oats, maize and flour, were exempted from the GST net. The fresh tax levies have attracted an outcry from traders as well as Opposition parties, with proceedings in Parliament's Monsoon session repeatedly disrupted over the issue.

How did the rate hikes come about?

The 5% tax on unbranded packed food items was approved by the GST Council in late June, and was part of a broader set of changes in the GST structure to do away with tax exemptions as well as concessional tax rates. Some of the other items to have lost their tax-exempt status include bank cheques, maps and atlases, hotel rooms that cost up to ₹1,000 a night, and hospital room rents of over ₹5,000 a day. While the decision was signed off by the Council, chaired by Finance Minister Nirmala Sitharaman, after a two-day meeting in Chandigarh last month, the ground for such changes in the GST regime was set at the Council's previous 'regular' meeting at Lucknow in September 2021. During that meeting, the Centre and States had discussed the need to raise revenues from the GST, which at the time of its launch five years ago, was premised on levying a 'revenue-neutral' rate of 15.5%. Officials made a detailed presentation to show that several changes in rates since 2017 had brought down the effective rate to 11.6%. Shoring up GST revenues was the driving force for the Council's decision to form two groups of Ministers (GoMs) — one to consider steps to rationalise the tax rates and correct anomalies, and another to tap technology to improve compliance. The current rate changes stem from an interim report of the first ministerial group, led by Karnataka Chief Minister Basavaraj Bommai based on officials' recommendations.

What has the government said on the issue?

On Tuesday, Ms. Sitharaman hit out at misconceptions about the GST levies on food items and dismissed suggestions that they were imposed unilaterally by the Centre. The 5% levy, she said, was critical to curb tax leakages and was not taken by 'one member' of the GST Council alone as all States had agreed to the move. She also pointed out that all affected food items, including wheat, pulses, rice, curd and lassi, will be exempt from GST when sold loose. The Revenue Department has also clarified that pre-packed items weighing over 25 kg would not attract GST. While some States have now opposed the tax, the Finance Minister has asserted that all States, including Opposition-ruled States like West Bengal, Tamil Nadu and Kerala, had agreed to the move in the Council. The decision, she pointed out, was made with the 'complete consensus' of all members of the Council. Revenue officials have also noted that such items attracted taxes in several States before the GST regime was introduced. "When GST was rolled out, a GST rate of 5% was made applicable on branded cereals, pulses, flour. Later this was amended to tax only such items which were sold under a registered brand or brands on which enforceable right was not foregone by [the] supplier," Ms. Sitharaman said. This tax exemption triggered 'rampant misuse' by reputed manufacturers and brand owners leading to a gradual drop in revenues.

What next?

The government has said that the GST hikes can be debated in Parliament once Ms. Sitharaman recovers from a COVID-19 infection. The traders' body, the Confederation of All India Traders



(CAIT), has urged all Chief Ministers to roll back the tax by holding an emergency meeting of the GST Council, arguing that 85% of the country's consumers use such unbranded goods. Economists expect a marginal impact from these taxes on India's consumer inflation rate that has now been over 7% through the first quarter of 2022-23. One will have to wait for August's retail inflation print to gauge the effect. The GST Council is also expected to meet again in August, where the issue may be raked up afresh. Meanwhile, the Karnataka CM has urged firms to avail of input tax credits on their packaging material rather than transfer the full 5% tax onto consumers. On cue, the Karnataka Milk Federation partially rolled back price hikes for curd, lassi and buttermilk. How the majority of informal market players implement these taxes may be an important factor in determining the next chapter of GST rate rationalisation.

THE POOR STATE OF INDIA'S FISCAL FEDERALISM

In his last speech, in 1949, to the Constituent Assembly, B.R. Ambedkar sounded a note of caution about the Indian republic entering a life of contradictions. "In politics we will have equality and in social and economic life we will have inequality. These conflicts demanded attention: fail to do so, and those denied will blow up the structure of political democracy", he warned, though Jawaharlal Nehru truly believed that inequities could be addressed through his tryst with the planning process. A degree of centralisation in fiscal power was required to address the concerns of socio-economic and regional disparities, he felt. This asymmetric federalism, inherent to the Constitution, was only accelerated and mutually reinforced with political centralisation since 2014, making the Union Government extractive rather than enabling. While States lost their capacity to generate revenue by surrendering their rights in the wake of the Goods and Services Tax (GST) regime, their expenditure pattern too was distorted by the Union's intrusion, particularly through its centrally sponsored schemes .

A politicised institution

Historically, India's fiscal transfer worked through two pillars, i.e., the Planning Commission and the Finance Commission. But the waning of planning since the 1990s, and its abolition in 2014, led to the Finance Commission becoming a major means of fiscal transfer as the commission itself broadened its scope of sharing all taxes since 2000 from its original design of just two taxes — income tax and Union excise duties. Today, the Finance Commission became a politicised institution with arbitrariness and inherent bias towards the Union government. The original intention of addressing inequities, a lofty idea, indeed, was turned on its head as it metamorphosed into one of the world's most regressive taxation systems due to a centralised fiscal policy.

So, let us see what has changed since 2014. The concerns of the founding fathers — addressing socio-economic inequities — were forgotten in the process of ushering in an era of political centralisation and cultural nationalism that drive today's fiscal policy. To be sure, India was never truly federal — it was a 'holding together federalism' in contrast to the 'coming together federalism,' in which smaller independent entities come together to form a federation (as in the United States of America). In fact, the Government of India Act 1935 was more federal in nature than the Constitution adopted on January 26, 1950 as the first offered more power to its provincial governments.

Anticipating this threat of centralisation, C.N. Annadurai asserted in the Tamil Nadu Assembly in 1967, 'I want the centre to be strong enough to maintain the sovereignty and integrity of India...should they have education and health department here... in what way does that strengthen



the sovereignty and independence of India?' Subsequently, the Dravida Munnetra Kazhagam constituted a committee under Justice P.V. Rajamannar in 1969, the first of its kind by a State government, to look at Centre-State fiscal relations and recommend more transfers and taxation powers for regional governments. It did not cut ice with the rest of India and centralisation, though partly contained in the 1990s and 2000s due to the coalition at the Centre, touched its apogee in 2014.

Hollowing out fiscal capacity

The ability of States to finance current expenditures from their own revenues has declined from 69% in 1955-56 to less than 38% in 2019-20. While the expenditure of the States has been shooting up, their revenues did not. They still spend 60% of the expenditure in the country — 85% in education and 82% in health. Since States cannot raise tax revenue because of curtailed indirect tax rights — subsumed in GST, except for petroleum products, electricity and alcohol — the revenue has been stagnant at 6% of GDP in the past decade.

Even the increased share of devolution, mooted by the Fourteenth Finance Commission, from 32% to 42%, was subverted by raising non-divisive cess and surcharges that go directly into the Union kitty. This non-divisive pool in the Centre's gross tax revenues shot up to 15.7% in 2020 from 9.43% in 2012, shrinking the divisible pool of resources for transfers to States. In addition, the recent drastic cut in corporate tax, with its adverse impact on the divisible pool, and ending GST compensation to States have had huge consequences.

Besides these, States are forced to pay differential interest — about 10% against 7% — by the Union for market borrowings. It is not just that States are also losing due to gross fiscal mismanagement — increased surplus cash in balance of States that is money borrowed at higher interest rates — the Reserve Bank of India, when there is a surplus in the treasury, typically invests it in short treasury bills issued by the Union at lower interest rate. In sum, the Union gains at the expense of States by exploiting these interest rate differentials.

By turning States into mere implementing agencies of the Union's schemes, their autonomy has been curbed. There are 131 centrally sponsored schemes, with a few dozen of them accounting for 90% of the allocation, and States required to share a part of the cost. They spend about 25% to 40% as matching grants at the expense of their priorities. These schemes, driven by the one-size-fits-all approach, are given precedence over State schemes, undermining the electorally mandated democratic politics of States.

In fact, it is the schemes conceived by States that have proved to be beneficial to the people and that have contributed to social development. Driven by democratic impulses, States have been successful in innovating schemes that were adopted at the national level, for example, employment guarantee in Maharashtra, the noon meals in Tamil Nadu, local governance in Karnataka and Kerala, and school education in Himachal Pradesh.

The diversion of a State's own funds to centrally sponsored schemes, thereby depleting resources for its own schemes, violates constitutional provision. Why should there be a centrally sponsored scheme on an item that is in the State list? Similarly, why should the State share the expenditure of a scheme on the Union list? For instance, health is on the State list, so why should the Union thrust this scheme onto States; even on those that are better performing such as Tamil Nadu and Kerala? It only impedes States from charting their own autonomous path of development.



Deepening inequality

This political centralisation has only deepened inequality. The World Inequality Report estimates 'that the ratio of private wealth to national income increased from 290% in 1980 to 555% in 2020, one of the fastest such increases in the world. The poorest half of the population has less than 6% of the wealth while the top 10% nearly grab two-third of it'. India has a poor record on taxing its rich. Its tax-GDP ratio has been one of the lowest in the world — 17% of which is well below the average ratios of emerging market economies and OECD countries' about 21% and 34%, respectively.

Pavithra Suryanarayan, a political scientist at London School of Economics, demonstrates that the Indian elites historically undermined fiscal capacity as they felt threatened by the political equality offered by the one person-one vote system. That hollowing out of fiscal capacity continued for decades after Independence, resulting in one of the lowest tax bases built on a regressive indirect taxation system in the world. India has simply failed to tax its property classes. If taxing on agriculture income was resisted in the 1970s when the sector prospered, corporate tax has been slashed by successive governments thanks to a pro-business turn in the 1990s. India does not have wealth tax either. Its income tax base has been very narrow. Indirect tax still accounts for about 56% of total taxes. Instead of strengthening direct taxation, the Union government slashed corporate tax from 35% to 25% in 2019 and went on to monetise its public sector assets to finance infrastructure.

In sum, India's fiscal federalism driven by political centralisation has deepened socio-economic inequality, belying the dreams of the founding fathers who saw a cure for such inequities in planning. It has not altered inter-state disparities either. If there was anything that alleviated poverty, reduced inequality and improved the well-being of people, these were the time-tested schemes of State governments, but they are now under threat.

MAKING USE OF FOREX RESERVES

From a peak of \$642.45 billion on September 3, India's foreign exchange reserves have dipped to \$572.71 billion as of July 15. That's a fall of almost \$70 billion in just over 10 months.

How have the reserves depleted so much so fast? To answer this, one must first understand how they got accumulated in the first place. A country typically accumulates forex reserves when its earnings from export of goods and services exceed payments against imports. The current account surpluses result in a build-up of reserves, as the central bank mops up all the excess foreign currency flowing into the country.

The most obvious parallel one can draw is with households or firms, whose excess of incomes over expenditures or retained profits get added to their savings or reserves. Just as these savings/reserves are available for use by other households, firms and the government, the current account surpluses of a country may be invested in other countries. In the process, it becomes a net exporter of 'capital', in addition to goods and services.

The outlier

Nearly all the top 12 countries holding the highest foreign exchange reserves at the end of 2021 of them run large and persistent current account surpluses. Take China, whose \$2.1 trillion cumulative surpluses over a 11-year period have helped build a \$3.4 trillion official reserve chest.



Or Germany, whose current account surpluses totaling about \$3.1 trillion over 2011-21 have been mostly exported as capital rather than getting accumulated as reserve.

India is an outlier (along with the US and Brazil) among the countries that have accumulated sizeable forex reserves. Only in one out of the 11 years – 2020 – has it run a surplus on the current account of its balance of payments. Its \$638.5 billion reserves in 2021 were despite current account deficits aggregating over \$400 billion during the 11 years. The reserves have been built through import of capital; in other words, from others' and not its own current account surpluses.

The capital flows attracted by India have not only financed its excess of imports over exports, but also contributed to an accretion to the official reserves. The US and Brazil have had similar stories, albeit with current account deficits larger than India's and even relative to their reserves. Moreover, forex reserves and current account balances hardly matter to the US, when it is the owner of the reserve currency used in most international transactions.

Sources of accretion

Between March 31, 1990 and March 31, 2022, India's forex reserves rose from \$3.96 billion to \$607.31 billion. Table 2 gives the sources of this rise over four eight-year periods. More than 50% of the \$603.35 billion accretion has happened in the last eight years coinciding with the Narendra Modi government's tenure.

In none of the four periods, however, has reserve accumulation been an outcome of export of goods surpassing imports. On the contrary, the combined merchandise trade deficit during the eight years from 2014-15 to 2021-22 was close to \$1.2 trillion. This deficit was partly offset by a net surplus of \$968 billion on the "invisibles" account of the balance of payments. Invisibles mainly comprise receipts from export of software services, remittances by overseas Indians, and tourism. In India's case, these receipts have always exceeded payments on account of interest on loans, dividends, royalties, licence fees, foreign travel and assorted business and financial services.

The invisible surpluses have by and large contained the country's current account deficits to manageable levels, with some periods (1998-99 to 2005-06) and individual years (2001-02, 2002-03, 2003-04 and 2020-21) even registering surpluses. Manageable current account deficits in combination with capital inflows – averaging \$25.2 billion and \$68.4 billion respectively in the last 10 years – have led to India's forex reserves going up in all but five out of the 32 years from 1990-91 to 2021-22. These five years were 1995-96, 2008-09, 2011-12, 2012-13 and 2018-19.

Besides current account deficits and capital flows, there is another source of reserve accretion or depletion: valuation effect. Foreign exchange reserves are held in the form of dollars as well as non-dollar currencies and gold, whose value is, in turn, influenced by movements in exchange rates and gold prices. A depreciation of the US dollar or higher gold prices, then, causes valuation gains in the existing stock of reserves. A strong dollar or fall in gold prices, likewise, brings down the value of the non-dollar portion of the reserves.

Where reserves are headed

India's merchandise trade deficit amounted to \$70.8 billion in April-June 2022. This could cross \$250 billion for the whole fiscal. Net invisible receipts touched an all-time-high of \$150.7 billion in 2021-22, as against \$126.1 billion and \$132.9 billion in the preceding two years. Given the impending recession in the US and Europe, which might have a bearing on software exports, net invisibles are likely to be closer to \$140 billion this fiscal.



Either way, the current account deficit would be upwards of \$100-110 billion, breaking the previous records of \$88.2 billion in 2012-13 and \$78.2 billion in 2011-12. That being the case, the extent of reserve drawdown would be a function of capital flows.

In 2021-22, net capital inflows were at \$87.5 billion during April-December. But the last quarter (January-March) saw net outflows of \$1.7 billion. Given rising global interest rates and bond yields on the back of monetary policy tightening by the US Fed and other major central banks, the prospects for capital inflows – whether from foreign portfolio investors, private equity firms or start-up funds – don't seem that bright in the current fiscal too.

Out of the \$69.7 billion decline in India's forex reserves from its early September 2021 peak, \$34.6 billion has taken place in this fiscal alone. With the Reserve Bank of India showing willingness to use the reserves to defend the rupee – ensuring “orderly evolution” of the exchange rate with “zero tolerance for volatile and bumpy movements”, to quote RBI governor Shaktikanta Das – a further drawdown to below \$550 billion levels cannot be ruled out. The forex reserves were, after all, accumulated as a buffer against currency volatility, external shocks and sudden stops in capital flows. As Das recently put it, “you buy an umbrella to use it when it rains”.

NOW, PAY FOR HOW MUCH YOU USE

The pricing of insurance is data driven. One layer is macro-level data across years and decades about loss incidence for specific risks like fires in factories, accidents involving goods trucks, and people developing heart disease or dying young.

Another layer is micro data of customers like nature of manufacturing and fire accident prevention and preparedness in a factory; maintenance and usage patterns, including geographical, for a truck; and age and medical history of the proposer for health and life insurance, which give insurance companies a basis for group risk pricing.

Both read together, map the risk profile of the prospective insured, and this leads to the appropriate premium.

Yet, if I am in better health than most people in my age group, I can't help feeling I deserve a better premium. This is managed to a certain extent by no-claim bonuses or incentives such as for not being a smoker as well as loading of premium for negative aspects.

In motor insurance, why should someone who takes out his or her car only on weekends or only to the local bank and supermarket, pay the same premium as a neighbour who drives 80 km each way to work and then some more on weekends?

The answer to this has been the tech-driven pay-as-you-use insurance that Indian insurance companies are all set to introduce on the impetus given by the regulator Insurance Regulatory and Development Authority of India (IRDAI).

Companies have started offering this add-on cover under which you can choose a cap on the distance you drive in the policy period and get a discount.

To start with, your car should have been used for 10,000 km or less per year since you bought it from the showroom. If you choose a cap of 7,500 km a year, you get a 10% discount on your total own damage premium.

If you choose 5,000 km, your discount is 15% and at 2,500 km, 25%.

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



These discounts have been termed disappointing for two reasons. One, they are only on the own damage cover and the other, they are meagre.

Before addressing that, let us see some terms and conditions. You choose your limit at the time of taking the policy or at renewal. You do have the option to increase your limit mid-year, but you have to do it well before you reach the cap and certainly can't do it after any accident or claim.

The 'disappointments'

Third party liability insurance is under a tariff decided by all the companies and not under an individual company's jurisdiction. It deals with an entirely different set of risks, namely the risk of causing damage or loss to other people's vehicle, property or life and limb. TP insurance protects you from this monetary liability and the premium is actually quite moderate in India for the benefits it offers and also compared with other countries.

The own damage premium discount appears meagre for an important reason.

The quantity and quality of your use of your car can change the chances of your getting into an accident and your car sustaining damage

However, your own damage insurance offers some coverage when the vehicle is not on the road as well. For example, it covers damage to or loss of your car in a flood, riot strike and civil commotion and due to theft. Hence, the premium for this doesn't change.

This leaves us with the fact that the discount is actually on a part of the premium, but as that level of detail of premium calculations is opaque to us, we see it as a component of the entire own damage premium and it appears small.

Pay 'how' you use

This is premium based on quality of driving and maintenance of your car, to be precise. For this, the insurance company places a telematics device in your car that reports back data on speeding, or how regularly your engine is tuned or tyres are balanced. Your premium is based on this. Another innovation is a floater sum insured for vehicles owned by the same person similar to floater health policies. An umbrella sum insured is applied across vehicles and the total premium outgo will be lower. However, just as in health policies, once the sum insured is used up by one vehicle/ accident, the remaining vehicles will have that much of a lower coverage till the policy year is out.

It is not yet clear how this will work out for different types of cars which, moreover, could be all in use by different members of the household and whether there can be a reset of coverage during the year (as for pay as you use), but motor insurance is getting interestingly nuanced and a certain 'unfairness' in premium rating now has a means to be addressed.

HOW MARUTI AND OTHER AUTOMAKERS ARE DRIVING INTO THE METAVERSE

Maruti Suzuki has unveiled a metaverse rendition of NEXA, its premium brand of vehicles, with its new mid-sized sport utility vehicle Grand Vitara. The company expects to make significant investments into its NEXAverse initiative, but is not the first automaker in India to have taken the virtual route for selling cars.



What is NEXAverse?

NEXAverse is an online 3D version of Maruti Suzuki's NEXA line of car showrooms, where users will be able to shop for vehicles starting with the Grand Vitara in an immersive way. The NEXAverse allows users to select an online avatar, which will be able to walk through the virtual showroom and conduct activities there in an interactive manner.

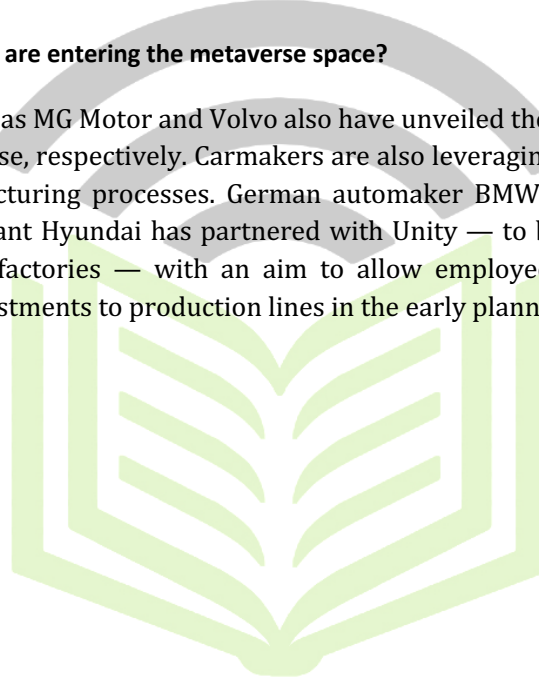
Why has Maruti Suzuki launched NEXAverse?

The company is putting its weight behind the NEXAverse given the preference of the younger audiences to shop virtually. The company said it would invest 10-15%

its innovation budget — around Rs 6-8 crore — on the NEXAverse.

Which other automakers are entering the metaverse space?

Global car brands such as MG Motor and Volvo also have unveiled their metaverse equivalents — MGverse and VolvoVerse, respectively. Carmakers are also leveraging metaverse technologies to enhance their manufacturing processes. German automaker BMW has partnered with Nvidia while South Korean giant Hyundai has partnered with Unity — to build virtually accessible 3D digital twins of their factories — with an aim to allow employees to collaboratively assess modifications and adjustments to production lines in the early planning stages.



DreamIAS



LIFE & SCIENCE

RUSSIA TO LEAVE ISS AFTER 2024, FOCUS ON BUILDING OWN OUTPOST

Russia will pull out of the International Space Station after 2024 and focus on building its own orbiting outpost, the country's new space chief said on Tuesday amid high tensions between Moscow and the West over the fighting in Ukraine.

Yuri Borisov, appointed this month to lead the state space agency, Roscosmos, said during a meeting with President Vladimir Putin that Russia will fulfill its obligations to its partners before it leaves.

Mr. Borisov's statement reaffirmed previous declarations by Russian space officials about Moscow's intention to leave the space station after 2024 when the current international arrangements for its operation end.

NASA and other international partners hope to keep the space station running until 2030, while the Russians have been reluctant to make commitments beyond 2024.

The space station is jointly run by the space agencies of Russia, the U.S., Europe, Japan and Canada. The first piece was put in orbit in 1998, and the outpost has been continuously inhabited for nearly 22 years. It is used to conduct scientific research in zero gravity and test out equipment for future space journeys.

It typically has a crew of seven, who spend months at a time aboard the station as it orbits about 400 km from Earth. Three Russians, three Americans and one Italian are now on board.

CHINA LAUNCHES SECOND SPACE STATION MODULE

China on Sunday launched the second of three modules to its permanent space station, in one of the final missions needed to complete the orbiting outpost by year's end.

A live feed on state broadcaster CCTV showed the 23-tonne Wentian ("Quest for the Heavens") laboratory module launching on the back of China's most powerful rocket, the Long March 5B, at 2:22 p.m. (0622 GMT) from the Wenchang Space Launch Centre on the southern island of Hainan.

Space agency staff, seen on the live feed observing the progress of the launch from a control room, cheered and applauded when the Wentian separated from the rocket about 10 minutes after the launch.

'Complete success'

The launch was "a complete success", CCTV reported shortly after.

China began constructing the space station in April 2021 with the launch of the Tianhe module, the main living quarters, in the first of 11 crewed and uncrewed missions in the undertaking.

The Wentian lab module, 17.9 m long, will provide space for experiments, along with the other lab module yet to be launched — Mengtian ("Dreaming of the Heavens").

Wentian features an airlock cabin that is to be the main exit-entry point for extravehicular activities when the station is completed.



It will also serve as short-term living quarters for astronauts during crew rotations on the station, which is designed for long-term accommodation of just three astronauts.

Mengtian is expected to be launched in October and, like Wentian, is to dock with Tianhe, forming a T-shaped structure.

'Source of pride'

The completion of the structure, about a fifth of the International Space Station (ISS) by mass, is a source of pride among ordinary Chinese people and will cap President Xi Jinping's 10 years as leader of China's ruling Communist Party.

On board the space station are Shenzhou-14 mission commander Chen Dong and team mates Liu Yang and Cai Xuzhe. They are slated to return to Earth in December with the arrival of the Shenzhou-15 crew.

GOOGLE FIRES SOFTWARE ENGINEER WHO CLAIMED ITS AI CHATBOT IS SENTIENT

Alphabet Inc's Google said on Friday it has dismissed a senior software engineer who claimed the company's artificial intelligence (AI) chatbot LaMDA was a self-aware person.

Google, which placed software engineer Blake Lemoine on leave last month, said he had violated company policies and that it found his claims on LaMDA to be "wholly unfounded."

"It's regrettable that despite lengthy engagement on this topic, Blake still chose to persistently violate clear employment and data security policies that include the need to safeguard product information," a Google spokesperson said in an email to Reuters.

Last year, Google said <https://bit.ly/3Os9QqD> that LaMDA – Language Model for Dialogue Applications – was built on the company's research showing Transformer-based language models trained on dialogue could learn to talk about essentially anything.

Google and many leading scientists were quick to dismiss Lemoine's views as misguided, saying LaMDA is simply a complex algorithm designed to generate convincing human language.

RARE FLIGHT OF ANTARCTIC'S LIGHT-MANTLED ALBATROSS TO T.N. INTRIGUES RESEARCHERS

Rameswaram and adjoining islets of the Gulf of Mannar Marine National Park on the Adam's Bridge (Ram Setu) are known for their unique marine ecosystem.

But the region grabbed the attention of international researchers as Asia's first sighting of Light-mantled Albatross (*Phoebastria palpebrata*), a species native to the Antarctic seas, was recorded here. The sighting, 'First Asian record of Light-mantled Albatross *Phoebastria palpebrata* (Foster, 1785) from Rameswaram Island, Tamil Nadu, India', has been published in the Journal of Threatened Taxa, and researchers are looking for more insights into what is regarded as a surprising transcontinental tour of the Antarctic seabird.

H. Byju and S. Ravichandran of the Centre of Advanced Sciences in Marine Biology, Annamalai University, and N. Raveendran, a birder from the Madurai-based Iragakal Amritha Nature Trust, were behind the finding in 2020.



“This record from the Palk Bay side of Rameswaram island is significant, and it throws up new challenges to researchers once these Antarctic birds migrate to Asia,” says Mr. Byju. his finding also directs researchers to look for bird migration away from the well-known and established routes and sites. The location where the Albatross was spotted is part of the Palk Bay and near the Gulf of Mannar, he adds.

“It was an unexpected sighting and we initially believed it to be a Slender-billed Gull. We didn’t think then that this would be the first sighting of the bird in Asia,” recalls Mr. Raveendran. As the nearest recorded site of the bird is around 5,000 km away from Rameswaram, the researchers feel a change in atmospheric pressure could have been among the reasons for the Albatross to land on an Indian shore.

“Of late, changes in the wind pattern triggered by global warming are bringing strange birds to our region. A lot of changes are happening in the wind pattern owing to the increase in atmospheric temperature. Birds like albatross, that are known to be on the move, use the wind and save their energy during flights. Even slight changes in the temperature can cause drastic changes in the wind pattern and birds could land in far-away places that are not familiar to them,” says P.A. Azeez, former director of the Sálim Ali Centre for Ornithology and Natural History.

The Light-mantled Albatross, with broad pelagic habits, maintains a circumpolar distribution in the Southern Ocean. It breeds on several sub-Antarctic islands, such as Macquarie Islands, Heard Island and McDonald Islands (Australia), South Georgia Island (British Overseas Territory), Prince Edward Islands (South Africa), Iles Kerguelen and Iles Crozet (France), and Auckland, Campbell, and Antipodes Islands (New Zealand). The species forage over cold Antarctic waters as far south as the pack ice in summer.

Listed as a ‘Near Threatened’ species by the ICUN, Light-mantled Albatross has a worldwide population of 21,600 breeding pairs, according to an estimate in 1998.

BACKSLIDING ON CLIMATE ACTION

Countries in Europe led by Germany, Austria and the Netherlands are cranking up their coal plants again. Coal exports to Europe are surging. Fossil fuels are making a comeback and countries are rejecting the European Union (EU)’s plan to reduce natural gas consumption by 15%. Dutch, Polish and other European farmers are protesting against emission cuts from agriculture. Renewables are nowhere near meeting the rising power demand in summer or winter, with record high temperatures now. Hasty and ill-conceived EU climate policies are coming home to roost. While the current problems are being blamed on the Ukraine conflict, and more specifically Russia, they actually started when power prices began surging well before anything happened in Ukraine. Europe is staring at a recession and its appetite for climate action is waning.

Downgrading commitments

In the U.S. too, the Senate and the Supreme Court have struck blows to climate action. And in the U.S. too, prices of fuel started increasing last year, not just this year. This is causing inflation. Energy security is nowhere near. Fossil fuels are making a quiet comeback, since the strength of the U.S. is its oil and gas industry. That is why we have just witnessed a ‘re-calibration’ of U.S. policy towards the Gulf. The U.S.’s choice is between concentrating on its economy and getting it on track for its people or fighting hard against climate change and facing an irate electorate in November. The choice is clear.



So, coal, oil and gas are not going anywhere in the developed world; they are, in fact, making a comeback. It was foolish to think that the world would miraculously transition, and especially during the COVID-19 pandemic, to renewables. The West had rushed to draw down on fossil fuels even before technology for renewables were in place. Many developing countries are also facing unrest due to skyrocketing energy prices, which are threatening their governments. The United Nations, unsurprisingly, continues to pillory coal. In this scenario, we may do well to remember that it was Prime Minister Narendra Modi who made ambitious pledges on climate change last year in Glasgow at the Conference of the Parties (COP). Further, when India fought to make the COP language closer to our current energy-mix reality by calling for a 'phase down' of coal rather than a 'phase out', the COP President supposedly 'struggled to hold back tears'.

With countries of the developed world almost sure to renege on their 2030 Paris Agreement commitments, countries of the developing world must do everything to hold the countries of the developed world to their commitments and not get unwittingly drawn into their game. In fact, the EU Commissioner of Climate Action and Energy, Miguel Arias Cañete, helpfully signalled that the U.S. can downgrade its pledge under the Paris deal. G-7 leaders met to only backtrack on their pledges. If they all start downgrading pledges, which seems almost inevitable, who do they expect will compensate? The Global South, of course.

And so, the game is on. The Western nations have already started reinterpreting the Paris Agreement and look to downgrade their commitments. If they pull back, what will happen to the Paris deal aim of limiting global warming to below the 2°C limit (leave alone 1.5°C)? More importantly, what can the developing countries do to stop this backsliding by the developed world?

Holding their feet to the fire

But the back-sliding has begun. One of the prime ministerial candidates in the U.K. said recently that the net zero plan "mustn't clobber people". This is another way of saying, let's forget about it for the present, shall we? We can't forget about the present or the future. The "global stocktake" of the Paris Agreement will be done in 2023 to assess the world's collective progress towards achieving the long-term goals (Article 14). In the current scenario, this stocktake may well provide the developed countries the right forum to shift the burden of their mitigation commitments on developing countries, knowing well that they will not be able to meet theirs by 2030.

And what is happening to the plan of developed countries mobilising \$100 billion per year by 2020 for climate action in developing countries? Can the Global South transition to renewables without genuine transfer of credible technology? India stands as beacon of hope in renewables. It is time for all developing countries, especially the small island developing states, to make sure that the developed world doesn't backslide on its commitments on mitigation yet again. COP 27 in Egypt gives us that opportunity to hold their feet to the fire. It is time for the developed world to make net minus pledges. If we don't collectively push for it, we will be collectively pushed back.

A FUTURE FREE OF HEPATITIS

On this World Hepatitis Day, the World Health Organization (WHO) is highlighting the need to bring hepatitis care closer to the people in need. This means making hepatitis care available, affordable and accessible to all without discrimination. This is crucial in the quest to eliminate viral hepatitis as a public health threat by 2030, a global target. Elimination would translate to



90% reduction in incidence and 65% reduction in mortality by 2030, compared to the corresponding figures of 2015.

It's time to act

The action against hepatitis cannot wait any longer. Why is that? First, hepatitis is the only communicable disease where mortality is showing an increasing trend. Globally, approximately 354 million people are suffering from hepatitis B and C. Southeast Asia has 20% of the global morbidity burden of hepatitis. About 95% of all hepatitis-related deaths are due to cirrhosis and liver cancers caused by the hepatitis B and C virus.

Second, viral hepatitis is preventable. Clean food and good personal hygiene, along with access to safe water and sanitation, can protect us from hepatitis A and E. Measures to prevent hepatitis B and C need to focus on full coverage with hepatitis B immunisation including a birth dose, as well as access to safe blood, safe sex and safe needle usage.

Third, a world free of hepatitis is practical and feasible. We have the tools to diagnose, treat, prevent and therefore eliminate chronic viral hepatitis. Safe and effective vaccines exist to prevent hepatitis B, alongside new and powerful antiviral drugs that can manage chronic hepatitis B and cure most cases of hepatitis C. These interventions together with early diagnosis and awareness campaigns have the potential to prevent 4.5 million premature deaths in low- and middle-income countries by 2030 globally.

However, access to these services are often out of reach for communities as they are usually available at centralised/specialised hospitals at a cost which cannot be afforded by all. People continue to die because of late diagnosis or lack of appropriate treatment. Early diagnosis is the gateway for both prevention and successful treatment.

Modest testing and treatment coverage is the most important gap to be addressed. If we look at the treatment cascade of the Southeast Asia region, only about 10% of people with hepatitis know their status; and of them, only 5% are on treatment. Of the estimated 10.5 million people with hepatitis C, just 7% know their status, of which around one in five are on treatment. This gap needs to be patched up. This is what this year's World Hepatitis Day campaign is all about.

Amid all the challenges, the region has continued to implement key interventions to prevent, detect and treat hepatitis. Since 2016, when the region launched its Action Plan for viral hepatitis 2016–2021, nine countries have achieved more than 90% coverage of the third dose of hepatitis B vaccine. Four countries have achieved the hepatitis B control target of less than 1% seroprevalence among children over five years of age.

As we observe World Hepatitis Day, we must act together with communities and all stakeholders for a future free of hepatitis. This will lay a firm foundation for a healthier, more equitable and more prosperous world.

STUDYING MENSTRUAL DISTURBANCES POST COVID-19 VACCINATION

When the Science paper “Investigating trends in those who experience menstrual bleeding changes after SARS-CoV-2 vaccination” dropped mid July, one could have heard a collective sigh from women across the world. Women who had felt the brunt of the vaccination in their monthly cycles felt vindicated as the paper established a definite connect between COVID-19 vaccination and excessive bleeding.



Anecdotally, chat rooms and informal support groups that women tend to form as a sorority had been buzzing with chatter about how the COVID-19 vaccine had wreaked havoc on their monthly cycles. However, the hesitation of the larger research and medical community to address it adequately only strengthened the hand of the anti-vaccine lobby. In the predicament of menstruating women, unsupported by investigations, this lobby found sufficient grist for their mill.

Observations from the study

The paper, by Katharine M. N. Lee et al, U.S.-based researchers, followed up on the chatter and the complaints of excessive or unexpected menstrual bleeding after the COVID-19 inoculation. They investigated this emerging phenomenon of changed menstrual bleeding patterns among a convenience sample of currently and formerly menstruating people using a web-based survey.

In this sample, 42% of people with regular menstrual cycles bled more heavily than usual, while 44% reported no change after being vaccinated. Notably, even among respondents who typically do not menstruate — 71% of people on long-acting reversible contraceptives, 39% of people on gender-affirming hormones and 66% of post-menopausal people reported breakthrough bleeding. The authors recorded, “we found that increased/breakthrough bleeding was significantly associated with age, systemic vaccine side effects (fever and/or fatigue), history of pregnancy or birth, and ethnicity.”

Building trust

The authors go on to drag the actual issue in to the open — while, generally, changes to menstrual bleeding are not uncommon or dangerous, attention to these experiences is necessary to build trust in medicine. Systems and processes are not geared to study these kind of side effects, as the paper pointed out that typical vaccine trial protocols do not monitor for major adverse events for more than seven days. Additional follow-up communications do not inquire about menstrual cycles or bleeding.

“Therefore, manufacturers had no way of addressing the extent to which this observation was a coincidence or a potential side effect of the vaccines. In media coverage, medical doctors and public health experts hastened to say that there was ‘no biological mechanism’ or ‘no data’ to support a relationship between vaccine administration and menstrual changes. In other cases, experts declared that these changes were more likely a result of ‘stress,’” the paper said.

It went on to state, “unfortunately, dismissal by medical experts fuelled greater concerns, as both vaccine-hesitant and anti-vaccine individuals and organisations conflated the possibility of short-term menstrual changes with long-term harms to fertility.” Further as the vaccine became available to adolescents, parents worried about getting them the dose, wondering about its effect on the fertility of their wards.

Supporting claims

Truth be told, this is not the first time that the subject was the focus of a scientific paper. In September 2021, the British Medical Journal proposed that a link between COVID vaccination and excessive bleeding was plausible and should be investigated. Though changes to periods and unexpected vaginal bleeding are not listed as side effects, “primary care clinicians and those working in reproductive health are increasingly approached by people who have experienced these events shortly after vaccination.”



The Science paper lists “multiple plausible biological mechanisms to explain a relationship between an acute immune challenge like a vaccine, its corresponding and well-known systemic effects on hemostasis (stopping bleeding) and inflammation, and menstrual repair mechanisms of the uterus.”

No harm to long-term fertility

Lee and others go on to explain “how the uterine reproductive system is flexible and adaptable in the face of stress to weather short-term challenges in a way that leaves long-term fertility intact.” For instance, they argue, running a marathon may influence hormone concentrations in the short term, but leave long term fertility untouched; or short term calorie restriction that results in an impact on the cycle can be resolved by resuming normal diets.

“Less severe, short-term stressors can, and do influence menstrual cycling and menstruation, and this has been established over 40 years of cycle research,” they explain. Additionally, they point out the difference between the immune response invoked by a vaccine and the sustained immune assault of COVID-19 infection. Studies and anecdotal reports are already demonstrating that menstrual function disruptions are a long COVID-19 complication.

Earlier studies have proved that the typhoid vaccine, Hepatitis B vaccine, and HPV vaccine were associated with menstrual irregularities. Lee et al argue that ‘the speed and coverage of the current COVID-19 pandemic and vaccination campaign may have inadvertently highlighted a previously under-recognised side effect of especially immunogenic vaccines administered in adulthood’.

It is essential to gain on-ground data on the phenomenon and study it consistently in order to understand emerging health concerns.

The scientific and medical community recognising the problem is the first step in addressing the concerns of women, and not dismissing them as anecdotal, or even worse, imaginary.

WASTEWATER SURVEILLANCE REVEALS INFECTION DYNAMICS

Wastewater or sewage can tell us volumes about the health of a community. The idea here is very simple — most pathogens of interest, e.g., bacteria, virus or protozoa remain viable in the sewage environment for days.

Wastewater-based health surveillance or environmental surveillance is an excellent tool for tracking the presence of different pathogens in the environment. All it needs is a regular and consistent testing of wastewater. It is quite economical and provides real-time data, which makes it very useful for developing countries such as India where not everyone has access to healthcare.

Underestimation of cases

In India, tracking of COVID-19 pandemic relies heavily on testing symptomatic individuals for the presence of SARS-CoV-2 RNA and counting the positive tests over time. With high population density, many infected persons are likely to be asymptomatic or oligosymptomatic (few symptoms). They are generally not tested, leading to underestimation of COVID-19 cases.

Furthermore, infected or asymptomatic individuals start to shed the virus via the faecal route four-seven days in advance of actual testing or symptoms showing up, which means the increase in viral load in sewage water ahead of reported cases works as an early warning system and



complements the routine diagnostic surveillance by capturing near real-time virus circulation at the community level.

Using this conceptual background, the Tata Institute for Genetics and Society (TIGS) in collaboration with Biome Environmental Trust and National Centre for Biological Sciences (NCBS), led a longitudinal study (January-June 2022) across 28 Bangalore sewer-shed sites capturing data from more than 11 million people.

The study posted as a preprint in the medRxiv server (preprints are yet to be peer-reviewed) investigated the relationship between SARS-CoV-2 concentrations in wastewater and COVID-19 cases reported on a daily basis. Each sewer-shed site/sewage treatment plant has a specific catchment area i.e., wards served by the treatment plant. By normalising the viral load for population size of that catchment, water inflow etc, we could estimate the number of infected individuals in that catchment area which was estimated to be higher than the reported cases in the city.

We were able to detect viral load copies in sewage in areas where there were few or no reported cases. Using exponentially weighted moving average (EWMA) algorithm (four days and seven days — after adjusting for Omicron and old SARS-CoV-2 lineage incubation period), we observed two major outbreaks in January and June 2022. The viral load estimated a higher number of cases than the number of reported cases 8-14 days in advance at the city-wide level. This further suggests that the viral load pattern mirrored with the clinical data, and COVID-19 positive cases appeared to remain underreported in the city.

This study on Bangalore sewage network has been instrumental in developing an early warning system where real-time genomic surveillance is the backbone in understanding the variants causing the emerging patterns in viral load in wastewater.

Poliovirus eradication

Wastewater surveillance played a crucial role in eradication of poliovirus in India in 2012. What we need now is to scale-up the environmental surveillance beyond poliovirus and SARS-CoV-2 virus to pan pathogen surveillance and integrate with the main healthcare system. Such surveillance has the power to predict neglected and emerging diseases.

Our approach and protocols developed lend support to establishing environmental surveillance for monitoring and an early-warning system for detecting multi-pathogens (e.g., dengue, avian influenza, influenza, hepatitis, cholera) — as an evidence-based approach it is very useful for predicting risks to human as well as animal health. And that is exactly what we need more than ever — a One Health approach — to recognise the connection between the health of humans, animals and the environment.

RISE AND FALL OF CHOLERA-CAUSING BACTERIA LINEAGE

Cholera is a life-threatening infectious disease and a public health hazard. It is caused by a comma-shaped bacterium known as *Vibrio cholerae*.

More than two hundred serogroups of this bacterium are known, of which only O1 and O139 are known to cause such infection that leads to epidemics and pandemics. Most of the serogroups only cause mild cholera-like diarrhea and food-associated outbreaks.



Of these two serogroups, O1 was responsible for seven pandemic waves, only to be temporarily displaced by O139. This emerged late and came up around 1992. It was first spotted in Chennai (then Madras).

It was anticipated that this would cause the eighth round of pandemic but it subsided as mysteriously as it had originated.

LOOKING TO NATURE FOR NEW THERAPIES

Progress in medicine requires a steady pipeline of new therapeutics with desirable biological activities. An optimistic view holds that the rapid strides made on several technological fronts would make it easier to discover and formulate new drugs.

An increased understanding of disease processes at the molecular level has yielded a long list of potential drug targets. Computer-aided “Rational Drug Design”, the making of these designed drug candidates by organic chemists, followed by high throughput screening — where automation is used to test drug candidates — should aid in new discoveries. Yet, the pace of introduction of new drugs has not matched expectations.

Natural products

The natural world around us is a time-tested source of new therapeutics — traditional systems of medicine have relied on natural sources for several millennia. Natural products are chemicals that are found in plants and microorganisms that dwell in soil and water.

From the first clinical trial of an anti-cancer drug in 1946 until 2019, 40% of all approved anti-cancer drug molecules were either substances found in nature, or derived from natural products.

For the period 1981-2019, half of the 162 new antibacterial therapeutics are either pure natural products or nature-derived, meaning they are designed in laboratories, but are close relatives of molecules seen in nature (Newman and Cragg, *Journal of Natural Products*, 2020). An example is the antibiotic Azithromycin. It was first synthesised by chemists in Zagreb, Croatia, who cleverly added one new nitrogen atom to the structure of the naturally occurring and commonly used antibiotic erythromycin A. The resulting drug had fewer side effects than erythromycin, and is among the most widely prescribed antibiotics today.

On the other hand, all the 14 antihistamine drugs presented as new chemical entities to the U.S. Food and Drug Administration between 1981 and 2019 are synthetic inventions (e.g., cetirizine).

Many potent natural products are present in vanishingly small amounts in their native state, making it difficult to collect enough of the molecule for laboratory investigations. They also occur along with dozens of other chemical entities, so pinpointing the molecule of interest is not straightforward, and requires laborious separation procedures. One way out is to synthesise quantities of an interesting molecule after preliminary results show promise.

New from old medicines

An instance of a new drug candidate from a natural source that has been traditionally used as medicine has been recently published (Woo and Shenvi, *Nature*, 2022). On the island of Papua New Guinea in the South Pacific, the Galbulimima tree yields a bark that has for long been used for treating pain and fevers. It is also used in rituals because it is hallucinogenic. When combined with the leaves of the Homalomena shrub, it is psychotropic, inducing a serene dream-like state



that is followed by a tranquil sleep. Homalomena (sugandhmantri in Hindu, and merugu in Tamil) is found in India, and has been traditionally used for various ailments.

Galbulimima has intrigued medicinal chemists for several decades, and 40 unique alkaloids have been identified in extracts from this tree. Alkaloids are nitrogen-containing organic compounds found in many plants, e.g., quinine and nicotine.

Woo and Shenvi worked out an efficient way of synthesising the alkaloid GB18, which has a complex geometry. Their method produces gram quantities of GB18. In the bark, its concentration is measured in parts per million. Tests showed that it is an antagonist of opioid receptors.

Opioid receptors in human body are found in the nervous system and the digestive tract. Our bodies make natural opioids, such as endorphins that bind to these receptors and tone down the transmission of pain signals. Endorphins, thus, have analgesic properties, similar to opiates such as morphine. Endorphins also induce a sense of feeling good, of euphoria, which is a rewarding experience. Both these factors help explain the addictive potential of substances that trigger your opioid receptors.

GB18 does not influence the sensation of pain, but has cognitive effects — mice devote less time to grooming behaviors such as smoothening out their fur and whiskers.

The last antagonist of opioid receptors to be discovered, 35 years ago, was naltrexone. Sold in India under brand names such as Nodict and Naltima, it is used in the management of addiction to opioids as well as to alcohol. And as opioid receptors are also associated with the digestive system, naltrexone helps in weight reduction in the obese.

What will be the uses of GB18 and its many possible derivatives? Much work lies ahead, and many tantalising therapeutic possibilities.

OF CIVILISATION AND PANDEMICS

“Pandemic” is a household word today. According to the MerriamWebster dictionary, it was the most-searched word in 2020 and was declared the word of the year — thanks to COVID-19, the latest, but not the last, pandemic that humanity encounters.

A disease outbreak across continents and spreading globally is a pandemic. Hundreds of them have “plagued” humankind down the millennia, and we have records of major outbreaks such as “The Plague”, also called the Justinian Plague or Black Death. The three plague pandemics over different regions and periods killed as many as 350 million people approximately. This was followed by seven major outbreaks of cholera, five of influenza and three of coronavirus, including the latest.

How and when do pandemics originate?

There is enough evidence to suggest infections of pandemic proportions emerged when the hunter-gatherer, nomadic tribes transitioned into more sedentary agrarian settlers. By a rough estimate, infectious diseases could have emerged only within the past 11,000 years following the rise of agriculture. For infections to spread and sustain, it needed large groups of population. Such settlements were unheard-of in history before the advent of agriculture. Such diseases were earlier called “crowd diseases”.



The twin disease burdens that humanity faces — communicable diseases such as influenza, chickenpox and non-communicable diseases or lifestyle disorders such as hypertension, diabetes and cancers — owe their origin to a great extent to this transition of man from hunter gatherer to agriculturist. To put it simply, the growth of civilisation is the root cause of diseases.

Most microbes which cause diseases were originally colonising animals. For a disease to establish as a pandemic, complex dynamics for cross-species transmission are involved. This again was facilitated when the ancient agrarians domesticated animals such as goats, cows, horses and pigs. In the process of milching, riding and harnessing them to ploughs and carts, they established longer and closer proximity which made such animal-to-human transmission possible. This in modern times have expanded to the meat industry and wet and exotic pet markets.

The ecological processes that determine disease outbreaks to reach pandemic proportions are the size and distribution of population and movements of the infected and susceptible hosts and vectors.

The fact that five of the major 20 pandemics listed have occurred within the past 20 years speaks for itself about the effects of population explosion, rapid urbanisation and increased life expectancy. As for movement of population, intercontinental travel and trade have made spread of any contagion faster and further. A live example is the ongoing pandemic which spread across the globe in a record seven months.

Historic significance

Pandemics have ravaged humanity all through history. It has caused innumerable loss of lives and livestock, so much so they have changed history at times. The successful colonisation of the Americas by Europeans was possible because of microbes. It is said that native Indians who resisted colonial invasion died more of imported infections from the old world than sword and bullet wounds. On the contrary, the Europeans could not conquer the tropical African continent for obvious reasons.

Napoleon Bonaparte's relentless victory March was halted by the "flu" pandemic. The French had to abandon construction of the Suez Canal, when hundreds of thousands of forced labourers died of cholera. Not all is dark about a pandemic; there are silver linings too. For instance, public health measures such as sanitation and safe drinking water were offshoots of the great cholera pandemic of London. The causative bacteria of cholera and tuberculosis were discovered by Robert Koch during the height of pandemics.

Vaccines of various platforms were introduced during pandemics and the COVID-19 shots which evolved in a record 11 months stand testimony to it. Emerging and reemerging infections will keep spreading among people. History can repeat itself but the lessons learnt must be used for pandemic preparedness, which will go a long way in saving humanity from future catastrophe.

A RECAP OF THE MONKEYPOX OUTBREAK

The story so far: Monkeypox, an uncommon viral infection which was primarily restricted to some countries in western and central Africa as well as travellers to these countries has now spilled over driven by zoonotic events. The disease made headlines with its international spread with over 16,000 cases in over 75 countries to date, primarily driven by human to human contact, spreading predominantly among, but not exclusively in gay, bisexual and MSM (men who have sex with men) communities. On July 23, 2022, amid a rapid rise in monkeypox cases across the globe,

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



Dr. Tedros Adhanom, Director General of World Health Organization (WHO) declared the disease outbreak a Public Health Emergency of International Concern (PHEIC).

What is monkeypox and what causes the disease?

First discovered in 1958, in monkeys at the Statens Serum Institute in Denmark, monkeypox is a zoonotic virus that can infect humans as well as other animals, including rodents and other primate species. Ever since the first case in humans was identified in 1970, in the present Democratic Republic of the Congo, the virus has become endemic in parts of Central and West Africa primarily driven by zoonotic spillovers. Despite being denoted as 'monkeypox', the actual origin and source of the disease are unknown and therefore a misnomer in many ways. The virus belongs to the same family of viruses as variola — the virus that causes smallpox. The disease presents with symptoms that are similar to those previously seen in smallpox patients, although it is less contagious and less severe.

Symptoms of monkeypox include fever, headache, muscle pain, and lethargy along with rashes and blisters commonly on the face, palms, feet, mouth, eyes or genitalia. These symptoms generally appear within two weeks since infection but can last for two to four weeks, with severe cases occurring mostly among children. In most cases, monkeypox is a self-limited disease that resolves spontaneously without any specific treatment. However, newborns, young children and people with underlying immune deficiencies may be at a higher risk of developing more severe symptoms.

How is the virus transmitted?

The virus can be transmitted from both animals to humans and between humans. Animal-to-human transmission of the virus can result from close contact with blood, fluids or skin lesions of infected animals. Human-to-human transmission could happen through close contact, and through body secretions, skin lesions or contaminated articles of individuals infected with monkeypox.

Close human contact during sexual activities is believed to be a driver of the current spread of the disease, as evidenced by its predominant spread in gay, bisexual and MSM communities.

How is the current outbreak different?

Since its initial detection in humans in 1970 in Africa, the first outbreak of monkeypox outside of Africa was reported in 2003 in the U.S. where multiple cases were found to be linked to close contact with infected imported animals. Recently, in May 2022, several cases of the disease were reported from regions where monkeypox was not endemic, and most cases had a history of travel to Europe or North America and not Africa. Before the current outbreak, monkeypox was predominantly reported from Africa while all cases reported in patients from other countries were linked to travel to regions where the disease was commonly found or because of contact with imported animals. As of now, no links between these new cases of contact with infected animals have been established. The number of confirmed monkeypox cases increased more than 70% from late June through early July 2022, with a majority of the case burden being in Europe. There is, however, limited knowledge about the source and transmission routes of the 2022 outbreak as well as the changes in the virus that helped it infect humans more than before, making monkeypox a disease of global public health importance.



What does declaring monkeypox a health emergency entail?

The WHO defines a PHEIC as a disease outbreak that “constitutes a public health risk through the international spread of disease” which may require an immediate and coordinated international response. Since 2009, the WHO has made seven PHEIC declarations including the ongoing COVID-19 pandemic. This designation entails accelerating international efforts to contain the spread of the disease before it escalates into a pandemic. This would mean promoting countries to devise efforts to control transmission and coordinate sharing of key resources such as vaccines and therapeutics apart from heightened contact tracing, diagnosis and vaccination. While studies are underway to understand the epidemiology, transmission routes, and clinical presentations of the disease, the WHO will offer support to affected nations for developing an effective outbreak response and surveillance as well as prevention and therapeutic strategies against monkeypox.

There are a few factors that are advantageous. Firstly there is a wealth of information on the virus and methods to contain the spread, as well as management of the disease, thanks to researchers from Africa who have been able to contain outbreaks for decades. Additionally there is availability of a fairly effective vaccine, despite the logistical issues along with a widely available infrastructure for molecular diagnosis, thanks to the COVID-19 pandemic. Genomic surveillance of the pathogen provides a unique opportunity to trace the contact networks as well as evaluate the continued evolution of the virus. While it is heartening to note that a large number of genomes of monkeypox from the present outbreak has been available in public domain, there is a significant disparity in the numbers from developing countries, especially from Asia including India.

What are the current prevention and treatment options against monkeypox?

There are no specific treatments available for monkeypox. Clinical management of monkeypox includes relieving symptoms and managing complications and preventing long-term effects. It is also not currently understood if a previous monkeypox infection lends protective immunity against future infections. However, due to the genetic similarities of smallpox and monkeypox viruses, vaccines and antiviral agents used for the worldwide eradication of smallpox can also protect against monkeypox. The WHO reports that vaccination against smallpox is approximately 85% effective in preventing monkeypox and thus prior immunisation against smallpox may lead to mild disease. Although the original smallpox vaccines are not available to the general public, newer vaccines have been developed of which one was approved in 2019 for monkeypox prevention. Studies are now being conducted to understand the effectiveness and feasibility of vaccination in preventing monkeypox.

While the world discusses the nuances of why Dr. Tedros declared monkeypox as a global health emergency despite the committee voting against it almost a month ago, it is possibly time for the world to realise that with global warming, increasing human-wildlife conflicts across the globe and ubiquitous global travel, efforts for global public health co-operation and sharing of resources never had a better time. As we come out of a global pandemic, there is never a better time to be prepared for newer challenges.

WHAT'S BEHIND THE PROTESTS OVER HIV MEDICINE SHORTAGE?

People living with HIV have been protesting outside offices of the National AIDS Control Organisation (NACO) for five days, demanding that they receive medicines in a timely manner following shortages for nearly five months. Around 50,000 people have been affected due to the shortage, according to the protesters.



What led to the protests?

There has been a shortage of some medicines since March this year, owing to tenders by the Centre failing. The protest began on July 21 after centres even in the capital ran out of stock of one of the medicines, dolutegravir-50mg, for the three previous days.

“Over the last four or five months, several states have been experiencing shortages of one HIV medicine or the other due to procurement problems by NACO. Despite meetings with officials, the issue hasn’t been resolved. Now, even Delhi has run out of medicines. So, we have decided to sit in protest,” said Harishanker, who works with the Delhi Network of Positive People (DNP Plus). Harishanker said, “By their own admission, the drug supply issue of NACO is affecting 50,000 people across the country.”

An official from Delhi said, “Yes, there has been supply issue with medicines from NACO. But we did locally purchase around 3 lakh doses in March. Now, we have again placed an order with the delivery scheduled in the next 15 to 20 days.” The official added that the NACO supply is likely to arrive by the first week of August. “Even though there is a shortage, we have managed it such that people do continue to get their medicine even if for only five days at a time.”

Jai Prakash, who needs dolutegravir, said, “We will not end the protest until everyone across India is able to get the medicines in a timely manner and for one month at a time. A daily wage earner cannot afford to come to the hospital every five days to get the medicines.”

What medicines are unavailable?

The main shortage is of dolutegravir, used as part of the first-, second-, and third-line ART combinations. “NACO recommends dolutegravir as the preferred drug for treatment of HIV-positive adults, adolescents and children (aged more than 6 years with bodyweight more than 20 kg),” according to the 2021 guidelines for HIV care and treatment by the organisation.

There is also a shortage of nevirapine syrup that is given to infants with HIV. A baby born earlier this month at RML hospital was given syrup that is to expire in four days. “The hospital has said if they get fresh stock by, they will give new syrup. Otherwise, they said that the same medicine should be used,” said one of the protesters.

According to the networks of positive people, there is a stockout of at least one or more medicines across 12 states, most facing problems with paediatric and second and third lines of antiretrovirals.

Why is the shortage a concern?

While there is no cure for HIV infection, ART aims to reduce the replication of HIV and bring the viral load to undetectable levels. There has been a decline in mortality and illness resulting from HIV infection due to better availability of affordable and effective ART.

Continued suppression of the virus with the use of ART over time leads to reduction in the progression of HIV, the frequency of opportunistic infections, and increases lifespan and quality of life. If medicines are skipped, there is a possibility of the viral replication increasing and taking backwards the progress made in treatment.