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International

Islamic State After Baghdadi

- The death of Abu Bakr al-Baghdadi, the founder leader of the Islamic State (IS), is a signal moment in the fight against terrorism. Baghdadi blew himself up in an underground tunnel in a Syrian village where he was hiding when he was surrounded by U.S. special forces. In the few years he led the IS, the 48-year-old had overseen the rise and retreat of the IS.

Who's Baghdadi?

Born in Iraq's Samarra, Baghdadi, whose real name was Ibrahim Awwad bin Ibrahim al-Badri, did his primary education in his hometown and higher studies in Baghdad. He graduated and finished his doctoral research in the Saddam Centre for the Reciting of the Quran. His initial political activism was with the Muslim Brotherhood. While the Brotherhood stood for mainstream politics, Baghdadi was more attracted towards the writings of Sayyid Qutb, the radical Islamist who was hanged in Egypt in 1966. In 2004, he was arrested in Fallujah where he went to meet a friend who was on America's wanted list. He was transferred to Camp Bucca, a U.S.-run detention centre in southern Iraq. During his 10-month stay in Bucca, Baghdadi emerged as a religious leader of the inmates. Some of the inmates recalled him as an energetic scholar and a crazy football fan (he was called the 'Maradona of Camp Bucca'). In Bucca, Baghdadi established a network of both Saddam-era military leaders and Islamist radicals, who would rise to the top command of the IS in a few years. After Abu Musab Zarqawi and two of his successors (Abu Ayub al-Misri and Omar al-Baghdadi) were killed by American attacks, the leadership of a weakened al-Qaeda in Iraq fell into Abu Bakr Baghdadi's hands. The group had already renamed itself as the Islamic State in Iraq, revealing its ambitions for power. When the civil crisis broke out in Syria in 2011, Baghdadi found an opportunity to regroup his organisation. He despatched a group of jihadists across the border to fight against the regime of President Bashar al-Assad. This group, under the leadership of Abu Mohammad al-Julani, would become Jabhat al-Nusra, al-Qaeda's Syria branch. The IS is a breakaway faction of al-Nusra. Under Baghdadi's leadership, the IS grew fast by attracting thousands of youth from around the world and expanding territories quickly.

The fall of the Caliphate

The fall began in Kobane, the Syrian border town, in early 2015, when Kurdish People Protection Units (YPG) militias defeated the IS. After that, the YPG took back most of the border region with help from the U.S. In central Syria, the IS was stopped in the outskirts of the ancient city Palmyra by the government forces. In Iraq, they faced resistance from the Iraqi Army. Surrounded by enemies, the IS remained concentrated on the core of its territory, spread from Der Ezzor in eastern Syria to Mosul in Iraq. But after its expansion was stopped, the U.S.-allied troops started attacking this core. The Syrian Democratic Forces, led by the YPG, attacked the IS in Syria while in Iraq, the Iraqi Army, Iran-trained Shia militias and the Peshmerga of Iraqi Kurdistan led the charge. They liberated all the major cities such as



Raqqa, Der Ezzour, Falujjah, Ramadi and Mosul one by one, with help from the U.S. By mid-2018, the IS Caliphate was physically destroyed, and its soldiers were on the run.

What's Next?

While the IS is certainly on the backfoot now, the insurgency is not defeated yet. The death of Zarqawi did not bring an end to AQI. The death of Osama bin Laden did not mean that al-Qaeda central was finished. The IS is primarily an insurgency that tried to establish a proto-state. The organisational structure, which is largely decentralised with autonomous cells taking their own tactical decisions, also means that the group will survive the loss of its leaders. Even after it lost territories, IS cells continued to carry out terror attacks in Iraq and Syria. As long as Iraq and Syria remain chaotic and lawless, the IS remains would continue to find opportunities to strike a comeback. The group also has loyalist factions and affiliates in different parts of the world. **The Boko Haram in Nigeria is an IS affiliate. The IS has a province in Afghanistan. It has operational units in Libya and Egypt's Sinai. All these suggests, the threats from the IS are far from over despite the losses it suffered.**

- Baghdadi, who rose to international notoriety in July 2014 when he appeared in the pulpit of Mosul's grand al-Nuri mosque as the leader of the new 'Caliphate' announced by his group, "died like a dog", according to U.S. President Donald Trump. He was hiding in a village in Idlib, the Syrian province controlled by al-Qaeda-linked jihadists and pro-Turkey rebels, when U.S. Special Forces launched an operation. Mr. Trump says Baghdadi blew himself up in a tunnel while he was surrounded, killing himself and three of his sons. **At the height of its power in 2014, the Caliphate established by Baghdadi controlled territories as large as Great Britain straddling the Iraqi-Syria border. Spread from Deir Ezzor in eastern Syria to Mosul in northern Iraq and with Raqqa its de facto capital, the Caliphate drew in radicalised young Muslims world-wide into its fold, fought the Syrian and Iraqi national armies as well as rebel groups in Syria, and unleashed violence against anyone who disagreed with its version of Islam and against minority groups in Islam and non-Muslims.** Baghdadi presided over the rise of his group as a death cult, bringing back memories of medieval religious conflicts. But the Caliphate was a short-lived phenomenon. The cities the IS once ruled were liberated. Its jihadists are on the run. Now that Baghdadi is also gone, the IS is at the weakest point of its short history. But it does not mean the group is defeated.

Foreign Affairs

What Is Davos In the Desert?

- Prime Minister Narendra Modi is on a visit to Riyadh to attend an international event from October 29 to 31. Formally the **Future Investment Initiative (FII)**, it is widely being described as "Davos in the desert". The informal name derives from the **World Economic Forum's annual meeting that is held in Davos, Switzerland**, where world leaders discuss and shape agendas for pressing international issues. FII, too, brings together policymakers, investors and global experts, who discuss the role of investment in driving global prosperity and development. FII is an initiative that was first undertaken by the Saudi Crown Prince Mohammad bin Salman in 2017 to diversify the kingdom's economy and reduce its dependence on petroleum products. This year, Modi delivered the keynote address "What's next for India?" and engaged in bilateral talks with the Mohammad bin Salman and King



Salman bin Abdulaziz. Saudi Arabia has already announced agreements worth \$15 billion. Other world leaders attending the event include Brazilian President Jair Bolsonaro, Kenyan President Uhuru Kenyatta and Nigerian President Muhammadu Buhari. In 2018, the FII was boycotted by over 40 participants due to allegations about Saudi Arabia's involvement in the murder of journalist Jamal Khashoggi.

Pakistan Issues Guru Nanak Coin

- Pakistan on October 30 issued a commemorative coin to mark Guru Nanak's 550th birth anniversary in November. In a Facebook post, Prime Minister Imran Khan shared a picture of the coin. The coin comes ahead of the inauguration of the Kartarpur corridor by Prime Minister Khan on November 9. The year 2019 marks the 550th birth anniversary year of Sikhism founder Guru Nanak Dev, whose birthplace is Sri Nankana Sahib in Pakistan. Last November, both India and Pakistan agreed to set up the Kartarpur corridor to link the historic **Gurdwara Darbar Sahib - the final resting place of Guru Nanak - in Pakistani town of Kartarpur with Dera Baba Nanak** in Punjab's Gurdaspur district. Kartarpur Sahib is located in Pakistan's Narowal district across the river Ravi, about four kilometres from the Dera Baba Nanak shrine. Pakistan has set up 80 immigration counters at the Kartarpur Corridor.

The Rules for Global Post, And How Pak. Stopped Mail to And from India

- In a unilateral decision, Pakistan has stopped exchange of postal mails with India since August 27. Communications Minister Ravi Shankar Prasad has said Pakistan's decision was taken "without any prior notice" and "in direct contravention of international norms but Pakistan is Pakistan". A look at the rules governing postal exchange, and how Pakistan took the step:

The United Nations' Universal Postal Union (UPU) frames rules for international mail exchange, and fixes rates for international postal services. The UPU has 192 member-countries and is headquartered in Bern. Constituted in 1874, the UPU has four units: the Congress, the Council of Administration, the International Bureau, and the Postal Operations Council. It regulates 6.40 lakh postal outlets worldwide. India joined the UPU on July 1, 1876 and Pakistan on November 10, 1947.

Before Pakistan's move, mailbags were being exchanged almost daily. With no regular, direct flight connectivity between the two countries, mail was being routed through the Saudi Arabia air route. In India, all international posts are handled through the 28 Foreign Post Offices, with those in Delhi and Mumbai designated to handle mails for Pakistan. "The mailbags of both countries were exchanged at airports after a customs check," a senior India Post official said.

Other than the UPU, three agreements cover postal exchange between India and Pakistan — Exchange of Value Payable Article, 1948; Exchange of Postal Article, 1974; and International Speed Post Agreement, 1987.

Under UPU rules, when a country decides to suspend exchange with a country, it must notify the operator of the other country (in India's case, India Post) and, if possible, the duration for which services are being stopped. The UPU's International Bureau too has to be notified. The International Bureau issued a Convention Manual in 2018, in which Article 17-143 details 'Steps to be Taken in Event of Temporary Suspension and Resumption of Services'. "If services are temporarily suspended, the designated operator or designated operators concerned must be notified of the fact by telecommunications, indicating, if possible, the



probable duration of the suspension of services. The same procedure shall be applied when the suspended services are resumed," the Manual reads. It adds, "The International Bureau must be notified of the suspension or resumption of services if a general announcement is considered necessary. If necessary, the International Bureau shall notify designated operators by telecommunications. The designated operator of origin shall have the option of refunding the postage charges, special charges and air surcharges to the sender if, owing to the suspension of services, the benefit accruing from conveyance of the item in question was obtained only in part or not at all."

According to the three bilateral agreements between India and Pakistan, too, a prior notice has to be served before suspending services, sources in India Post said.

India was not given prior notice when Pakistan suspended postal exchange, said Tanweer Qamar Mohammad, deputy director general, International Relations and Global Business, India Post. Even two months later, India is yet to receive a direct communication. Pakistan only handed over a copy of an internal order to airline operators, which handed them to Indian representatives, Qamar said.

"On August 23, the customs and postal departments of Pakistan issued an internal order stopping postal exchange with India and handed its copy it to airlines. They suddenly stopped picking Pakistan-bound mailbags and asked us to take them back. Similarly, India-bound mails were not given to us. Airlines handed copies of those orders to our representatives, given to them by the Pakistan side, following which the exchange stopped completely from August 27," Qamar said.

An India Post source added: "India is also unaware if Pakistan has notified the UPU about suspension of postal service with India. Their internal orders do not specify any reason for the decision either. We haven't received any communication from the UPU either."

India Post, too, has now stopped taking new bookings for Pakistan-bound mails. "We do not have the space or logistics to take care of packets that become a responsibility," an official said. He said the department is waiting for directions from the Ministry of External Affairs and the Ministry of Communications on the next step to be taken.

From Pakistan, Ihsan H Nadiem, chief editor of the magazine Punjab Dey Rang, said he had mailed 70 copies to the Indian side. "All our copies were returned by the postal department here and also a note in Urdu was written on it saying that postal exchange with India has been stopped. They have also refunded our money. They aren't taking any bookings now."

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Relief for Pehlu's Sons

- The Rajasthan High Court's order quashing the cow smuggling case against the sons of Pehlu Khan, a dairy farmer lynched by cow vigilantes in 2017, grants much-needed relief to the family. The Khans are yet to get any semblance of justice for Pehlu Khan's murder, as all those sent up for trial were acquitted in August. Of particular significance is Justice Pankaj Bhandari's finding that Khan and his sons, Irshad and Arif, besides truck driver Khan Mohammed, were not transporting cattle for slaughter; rather, the cows and calves in their possession were meant for dairy farming. Although High Courts do not normally intervene after the filing of the charge sheet, they have the power to do so if there is manifest abuse of the process. In this case, the police appear to have tried to show that milch cows and calves



were animals meant for slaughter. It is quite apparent that they were trying perversely to build a narrative that it was the victims who were primarily at fault. Pehlu Khan and his sons had bought the animals at a cattle fair in Jaipur and were taking them to Nuh in Haryana, when they were attacked by a mob on April 1, 2017. Khan succumbed to his injuries in hospital two days later. Though it was under the erstwhile BJP government that a case was registered against Pehlu Khan and others under the Rajasthan Bovine Animal (Prohibition of Slaughter and Regulation of Temporary Migration or Export) Act, the charge sheet was filed by the police only in May this year, after a change of regime. The development caused some embarrassment to the Congress regime of Ashok Gehlot, but the government subsequently made up for it by enacting an anti-lynching law. Further, soon after the six suspects in the murder case were acquitted, the government set up a committee to probe the lapses in the investigation. It also filed an appeal in the High Court against their acquittal. The invalidation of the cow smuggling case is a face-saver for the present regime too. The Pehlu Khan murder case attained emblematic significance not only because it was one of the earliest instances of the wave of vigilante attacks across the country in the name of cow protection; it was also because it contained all the ingredients of a hate crime: unplanned violence, ideological motivation, intolerance towards sections of society and interference with dietary choice. The manner in which the murder case was allowed to collapse in court, possibly due to planned lapses, shows how the system was rigged to favour the mob. What is now left for the State government is to make a sincere effort to salvage the murder case. If there is sufficient evidence that the real perpetrators were dropped from the case deliberately, it should try to get a fresh trial ordered against those responsible and secure appropriate punishment for them.

What Is the Furore Around the Land Law Case?

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 (2013 Act), replaced the Land Acquisition Act, 1894 (1894 Act). The new Act provides for higher compensation to those deprived of land by the government for both public and private sector projects. It also mandates consent of a majority of land-owners, and contains provisions for rehabilitation and resettlement. Under Section 24(2), land acquisition made under the old law of 1894 lapses if the award of compensation had been made five years before the new Act came into force, but has not been paid. In such cases, the process will have to be gone through afresh under the new Act, which mandates higher compensation. There are cases in which farmers and other land-owners have refused the compensation, leading to delay in the government taking possession. In this situation, the compensation amount is deposited in the government treasury. According to one interpretation, if this is done, the acquisition process is saved. Then again, others contend that such cases will fall under the new Act because compensation has not been paid to the land-owners, and the lapsing clause in Section 24 should be applied. If, through interpretation, a long-pending land acquisition process is closed under the old law and fresh acquisition proceedings started under the new one, the land-owners stand to benefit, but project proponents will have to pay higher compensation. Therefore, the provision concerned is often a subject of litigation. On January 24, 2014, a three-judge Bench, comprising **Justices R.M. Lodha, Madan B. Lokur and Kurian Joseph**, in **Pune Municipal Corporation vs. Harakchand M. Solanki**, ruled that the acquisition of a piece of land had "lapsed" because the compensation awarded had neither been paid to the landowners/persons interested nor deposited in the court. The deposit of the compensation



amount in the government treasury was held to be “of no avail” as it was not equivalent to the compensation being “paid”. Based on this judgment, subsequent cases were decided on the same principle: acquisition that had taken place earlier than five years before the new Act commenced would lapse if compensation amount was not paid to the land-owners or, in cases in which the owners refused to accept compensation, deposited in court. The same question arose in **Indore Development Authority vs. Shailendra**. Another three-judge Bench, comprising Justice **Arun Mishra, A.K. Goel and M.M. Shantanagoudar**, did not accept the earlier Bench’s view. On February 8, 2018, the majority, consisting of the first two judges, ruled that the acquisition would not lapse merely because the compensation amount was not deposited in court, but was instead deposited in the treasury. It ruled that the past practice of more than a century, under which the amount was deposited in the treasury, was not taken into account by the earlier Bench. Some provisions and orders that allowed this practice were not placed before that Bench. Further, the land acquisition in that particular case had been quashed by a High Court in 2008. Since it was not a subsisting process, the question under Section 24(2), whether the acquisition lapsed because of non-payment of compensation or non-deposit in the court, did not arise at all. On these grounds, **Justice Mishra and Justice Goel overruled the earlier judgment and held that it was per incuriam, that is a verdict passed in disregard of law and, therefore, wrong. Justice Shantanagoudar dissented on the last point.** Later, when another case came up before a Bench on which Justices Lokur and Joseph were members, the fact that their earlier judgment had been overruled was brought to their notice. **Lawyers appearing before them argued that Justice Mishra’s Bench, being of the same size of the one that rendered the earlier verdict, was bound by it, and ought not to have overruled it. In case, it disagreed with the earlier view, it could have referred the matter to a larger Bench. The court, then, put on hold all hearings involving Section 24(2). Later, the question was referred to a larger Bench for an authoritative judgment. It was not until this month that a Bench was constituted. It was a five-member Bench headed by Justice Mishra.** Some lawyers and parties commented that it was improper for the judge to hear this matter because he had already taken a firm view in favour of one interpretation. Senior lawyer Shyam Divan demanded Justice Mishra’s recusal in open court, invoking the principle that even the apprehension of bias on the part of a judge was enough to ask for his withdrawal from a case. The judge, however, rejected the idea categorically, contending that a “lobby” was against his hearing the case. In oral observations, he said there was nothing to suggest that he would be unwilling to be persuaded by new arguments to take a fresh view of the legal questions. Also, he said this question has arisen in many cases, and many judges now in the Supreme Court would have dealt with it as High Court judges. However, arguments on the issue of bias and the principles of recusal went on for two weeks, and the court has reserved its order on this question. A ruling that old acquisitions lapse for non-deposit of compensation will be more beneficial to land-owners and farmers as they stand to get higher compensation and rehabilitation and resettlement measures. On the other hand, project proponents feel such an interpretation would mean that those who refused to take compensation, even after it had been fixed and the money deposited in the government treasury, would be taking advantage of their own wrong. If the Bench rejects the demand for Justice Mishra’s recusal, the petitioners will have no choice but to argue the entire question again on merits. Thereafter, the ruling given by the five-member Bench is expected to settle the question. In case there is a recusal, the question will go to a Bench that does not include him.



The right to a fair hearing is at the heart of the rule of law. But in India today this notion increasingly appears to be a chimerical dream. The latest affront to the principle comes from an order delivered on October 23 by a five-judge, constitution bench of the Supreme Court of India in Indore Development Authority v. Manohar Lal. Here, in holding that an application seeking the recusal of Justice Arun Mishra, the presiding judge on the bench, was liable to be rejected, the court brushed aside with alarming alacrity the most rudimentary standards of natural justice. "Posterity," wrote Justice Mishra in an order which was joined by a terse, concurring statement that each of the other four judges signed, "will not forgive me down the line for setting a bad precedent." Now, it might well be difficult for us to assess how succeeding generations might look back on this decision. But we scarcely need the hindsight of the future to review the present actions, which tear asunder the basic ideals of fairness and rectitude that ought to undergird any reasonable system of justice.

It Is Also About Propriety

To many, this might not appear to be an exceptional conclusion; some might even see this as a plausible interpretation of Section 24(2). But the problem here does not merely concern the enunciation of the law, but speaks rather to something deeper, to the principles of propriety that are integral to the court's functioning. On that, there are at least two troublesome factors worth bearing in mind. **One, that the creation of the three-judge bench which heard the questions raised in Shailendra was itself a product of a reference made by a panel of two judges presided over by Justice Mishra. Two, that the majority's judgment in Shailendra, which was authored by Justice Mishra, did not merely disagree with the finding in Pune Municipal Corporation but also went on to hold that the earlier ruling was delivered per incuriam, or, in other words, that the verdict was characterised by a lack of proper regard for the law.** The firestorm that ensued out of all of this ultimately resulted in the Chief Justice constituting a five-judge bench, once again at the instance of a reference made by a bench presided over by Justice Mishra. **As Gautam Bhatia has written (in a blog), what this meant was that the same judge had been involved in the following: first, in doubting the correctness of Pune Municipal Corporation, when sitting as part of a two-judge panel; and second, in holding the ruling invalid when sitting later as part of a three-judge panel. And now that very judge had been entrusted with the job of presiding over a five-judge bench that was meant to definitively settle the wrangle. This, therefore, was what in Latin is described as res ipsa loquitur, or, literally, the matter speaking for itself.**

Primary Justifications

In his order, Justice Mishra offers four primary reasons justifying his decision not to recuse. First, a recusal, he writes, would give room to an "unscrupulous litigant to have a Judge of their choice". That recusals should not be used as a means to allow a party to choose its own bench is axiomatic. We certainly do not want our judges to accede to requests for recusal merely because one has been made. But all that the applicants had done here was to highlight that Justice Mishra's predisposition was so strong that he had not only made his mind up earlier, but that he had chosen to impinge on commonly accepted rules of precedent that required benches of coordinate strength to follow earlier rulings. Second, Justice Mishra asserts that "affronts, jibes, and consciously planned snubs" ought not to deter the bench from discharging its "onerous responsibility". To this, one can only say that it ill-behoves the Supreme Court to make ad hominem claims on what really are unnamed groups. Third,



Justice Mishra cites a host of cases in which judges who were originally part of a referring bench were later called upon to participate in the larger bench's hearing.

In none of the cases, however, had a judge formed so conclusive an opinion as Justice Mishra had on Section 24(2), and, most certainly, in none of these cases had a judge disregarded the doctrine of stare decisis — the basic legal principle of determining the outcome of a dispute according to precedent — to unsettle an established interpretation of the law. Finally, Justice Mishra makes an appeal to his own conscience, which, he says, compels him to hear the case. We need not doubt this claim. But the broader concern remains, because the bright-line rules on recusal require an altogether different analysis. They demand that a judge appeals not to his own moral sense but to consider what a reasonable person might make of his decision to hear a case. Or, as Justice Felix Frankfurter of the U.S. Supreme Court had written, in a case later cited by Justice M.N. Venkatachaliah (1987), "When there is ground for believing that such unconscious feelings may operate in the ultimate judgment or may not unfairly lead others to believe they are operating, judges recuse themselves." Eventually, the constitution bench might well deliver a faultless verdict, but to any such ruling this question will stay rooted like a limpet on a rock: is justice seen to be done?

The Perils of Post-370 Diplomacy

- In the weeks following the government's decision to amend Article 370 and divide Jammu and Kashmir into two separate Union Territories, the government sent out a number of diplomatic missions worldwide to try and contain the international fallout of the move. External Affairs Minister S. Jaishankar travelled to China, Europe and the United States where he addressed a record "7 think tanks in 7 days" and met a number of officials and lawmakers during an extended stay. National Security Adviser Ajit Doval and Petroleum Minister Dharmendra Pradhan went to the West Asian countries: the United Arab Emirates (UAE), Saudi Arabia and Qatar. Prime Minister Narendra Modi personally spoke to U.S. President Donald Trump and other leaders to explain his move. On a visit to Switzerland, even President Ramnath Kovind found that the "situation in Kashmir" had been put on the agenda by his hosts. Meanwhile, Foreign Secretary V. Gokhale marshalled diplomats at all Indian missions worldwide and cancelled a planned Heads of Missions meet in India to ensure that each embassy was able to fully disseminate the talking points sent out by South Block.

Varied Results

The concerted efforts by the government met with mixed results. The UN Security Council held a "closed meeting" on the issue at China's request — the first time Kashmir was formally on the agenda in 50 years — but to India's relief, the meeting resulted in no public statement. The European Parliament too met and debated the situation in Kashmir, which it had last referred to more than a decade ago, but did not push for a resolution. After a visit to Srinagar, 23 right-wing Members of the European Parliament (MEPs) appeared to endorse India's actions, but German Chancellor Merkel's characterisation of the situation of Kashmiris being "unsustainable", during her Delhi trip will be more worrying for the government. At the UN Human Rights Council, Pakistan was unable to secure the numbers to bring a resolution to the table. At the UN General Assembly in September, only three countries other than Pakistan, referred to the post-370 fallout in J&K: **China, Malaysia and Turkey**. **A scathing statement by the Organisation of Islamic Cooperation (OIC) contact group (Turkey, Azerbaijan, Niger, Pakistan and Saudi Arabia) on the government's actions in Kashmir has been blunted by the Prime Minister's visit to Riyadh.** In the U.S., Mr. Modi scored a big public



relations win when he spoke of the 370-move at a Houston stadium with Mr. Trump in the audience. But New Delhi still faces the risk of a U.S. Congress resolution after the subcommittee on Human Rights in South Asia hearing last month, and critical language on Kashmir detentions and the lockdown introduced into the Senate Appropriations bill. Much of this, as Mr. Jaishankar admitted at a public event, is fuelled by dozens of articles in the western media. Beyond its need to control the international messaging over Kashmir with more tactical diplomacy, however, it is necessary for the government to carefully consider the larger impact on Indian foreign policy that has resulted from its actions leading up to, and subsequent to the amendment of Article 370 of the Constitution on August 5. Three tenets of that policy, in particular, appear to have been violated. To begin with, the issue of Kashmir has been “internationalised” in a manner not seen in decades, at least since the early 1990s when violence in the State was at a peak. In 1994, when India had last come close to a resolution against it at the UN Human Rights Council, Prime Minister P.V. Narasimha Rao had sent a high-powered delegation with then-Opposition leader Atal Bihari Vajpayee, J&K leader Farooq Abdullah and Congress leader Salman Khurshid to Geneva. Not only was the delegation successful in ensuring that Pakistan withdrew its resolution against India before the vote but the question of a resolution at the UN did not rear its head again, until this year.

Pakistan's Shadow

The second tenet is the “hyphenation with Pakistan” that New Delhi has always sought to avoid. Under this policy, India managed to separate its policies in J&K from its relationship with Pakistan and dealing with terror emanating from there. However, especially after the Pulwama attack and the Balakot strikes in February this year, it is clear that in capitals worldwide, events in Kashmir are now increasingly conflated with fears of an India-Pakistan conflict. Much of the hyphenation is self-inflicted as the government raises Pakistan as a salient point on its agenda at every international forum, including at the Non-Aligned Movement (NAM) summit last week. The third tenet being challenged now is India's traditional rejection of “mediation by third parties”. In February, Mr. Trump claimed success in mediating the release of Indian Air Force pilot Abhinandan Varthaman, and has followed up that effort with repeated mentions of wanting to mediate on Kashmir between India and Pakistan, including in September during his bilateral media interaction with Mr. Modi. Others including everyone from the UAE and the Kingdom of Saudi Arabia, to Norway, Russia and China have made similar offers. What makes these diversions from India's traditional foreign policy more troubling is they are necessitated despite the fact that India has a decided upper hand over Pakistan in the international community, and at a time Pakistan's establishment has little credibility for its own Kashmir policy and its support to terror groups.

Signals Even from Friends

Furthermore, as New Delhi targets China, Turkey and Malaysia as part of its “zero sum” game with Pakistan, it must recognise that international criticism of its actions post-370 is largely coming from other countries that enjoy the best relations with India, and by leaders in those countries who have often spoken up for India. Most of that criticism is over the treatment of citizens in J&K, the prolonged detention of mainstream Kashmiri leaders, the communications shutdown, and the lack of access to independent observers.



Spillover Effect

The biggest worry pertains not so much to the change in traditional policy as it does to lasting or permanent damage to “Brand India” as a democratic and pluralistic country, respected for decades as a rational power. In the U.S., for example, concerns over the government’s actions post-370 are now often clubbed with questions about a changing nuclear stance (No First Use, or NFU, amendments), and the repeated threat from Cabinet ministers that India will seek to “take back” Pakistan occupied Kashmir (PoK) by military means if necessary. Those concerns are bleeding into other issues like the National Register of Citizens (NRC) in Assam as well, which both the U.S. Congress and the UN discussed in tandem with Kashmir this past month. As the government fights all aspects of this perception battle worldwide, it is banking on the fact that criticism in world capitals will peter out once it lifts restrictions in J&K, contingent on its ability to control any violent aftermath. In that sense, its predicament is akin to that of a man who has stepped on a landmine, and now hesitates to lift his boot for fear of triggering an explosion, but equally, knows he cannot stand in that position for unlimited time.

- On August 8, Prime Minister Narendra Modi said that by diluting Article 370, the government had fulfilled the wishes of Sardar Patel, Syama Prasad Mookerjee and B.R. Ambedkar. A day later he blamed Jawaharlal Nehru for creating the crisis in J&K.

Understanding Nehru

For an objective assessment of Nehru’s role in J&K, we need to bear the following facts in mind. One, Nehru was an anti-imperialist with a clear ambition to shape a new world order beyond the rivalry of the U.S. and the Soviet Union. Given this conviction, he was sensitive to global opinions and obligations. His approach to J&K was clearly dictated by such an understanding. Two, Nehru strongly believed that Pakistan was not a workable idea. Talking about Pakistan in 1960 to Leonard Mosley, he said, “We were tired men... Few of us could stand the prospect of going to prison again and if we had stood out for a united India..., prison obviously awaited us. We saw the fires burning in Punjab and heard of the killings. The plan of Partition offered a way out and we took it. We expected that Partition would be temporary, and that Pakistan was bound to come back to us.” He reasoned that Article 370 would gradually hollow out, creating conditions for J&K’s complete integration into India. What is crucial to recognise is this: Nehru had no role to play in the flawed policies that various regimes in New Delhi have designed for J&K since the 1990s. India’s policies were largely dictated by its deep state. Former Minister Jairam Ramesh acknowledged this in an interview when he was in the Cabinet after a visit to the Valley in 2013. When former Chief Minister of J&K, Omar Abdullah, made several appeals to lift the Armed Forces Special Powers Act in select regions, it fell on deaf ears in New Delhi. At a book launch a few months before his incarceration, P. Chidambaram acknowledged that it was a mistake for him to not have implemented the interlocutor’s report prepared by Radha Kumar and others when he was Home Minister. National Security Adviser Ajit Doval’s video after the dilution of Article 370 only reconfirms how decisive the role of India’s deep state is.

J&K State to Two UTs — Now, Later

- The state of Jammu and Kashmir will be officially bifurcated into the Union Territories of J&K and Ladakh on Thursday, October 31. This was the date chosen after the bifurcation was announced in Parliament on August 5. Beyond the symbolic importance — October 31 is the birth anniversary of Sardar Vallabhbhai Patel — the day will mark the beginning of the



functioning of the two UTs at a bureaucratic level. The period between August 5 and October 31 has been used by the state administration and the Home Ministry to put a basic bureaucratic structure in place to implement the Jammu and Kashmir Reorganisation Act.

What Happens on October 31?

In terms of events, the Lieutenant Governors of the two UTs will take oath of office along with the Chief Justice of the Jammu and Kashmir High Court. The Union government appointed serving IAS officer of Gujarat cadre Girish Chandra Murmu as the LG of Jammu and Kashmir, and retired bureaucrat of Tripura cadre Radha Krishna Mathur as LG of Ladakh. On the ground, the two UTs will get their own Chief Secretaries and other top bureaucrats, their own police chiefs and key supervisory officers. While Dilbagh Singh will continue to be DG of J&K police, an IG-level officer will head the police in Ladakh. Both forces will remain part of the J&K cadre which will eventually merge with the Union Territory cadre. For full-fledged bifurcation, the Reorganisation Act gives a period of one year. Reorganisation of states is a slow process that at times can take years; issues relating to reorganisation of erstwhile Andhra Pradesh, which was bifurcated into Andhra and Telangana in 2013, are still being brought to the Union Home Ministry for resolution.

What Happens to The Laws That Governed the State of Jammu & Kashmir?

Legislative restructuring is a work in progress, with a lot remaining to be done. **While 153 state laws are to be repealed, 166 have been retained.** Then there is the cosmetic exercise of repealing Acts that mention “applicable to all of India but not the state of Jammu and Kashmir”. As of now, the state administration has implemented all that is mentioned in the Reorganisation Act as it is. But it is also saddled with the massive legislative exercise of arriving at and making state-specific insertions into the 108 central laws that would now be applicable to the two Union Territories. For example, the **state used to have its own Criminal Procedure Code (CrPC) which would now be replaced by the central CrPC. Unlike the Ranbir Penal Code, which is practically a replica of the Indian Penal Code, Kashmir’s CrPC has many provisions different from the Central CrPC.** “Similarly, there are state-specific insertions that may be done in laws relating to the protection of women and children that have been replaced by the POCSO Act of the Centre. Same is the case with the Juvenile Justice Act. Then there is the law relating to reservations in the state which has been retained. While the quota for economically weaker sections has already been added through an amendment, the Centre may want to make some insertions drawing from central Acts,” another state administration official said.

Which Are the Laws That May Require State-Specific Insertions?

A major bone of contention with regard to the Juvenile Justice Acts of the Centre and the state is the age limit. While the central Act takes those above the age of 16 as adults, the state Act’s age limit is 18. The argument has been that given the special situation in Kashmir where teenagers are often found to be part of violent protests, the central Act could jeopardise the future of many. As far as the state’s reservation laws are concerned, they do not recognise reservation according to caste. **The state has provision for region-wise reservation such as quota for those living near the LoC and the International Border and a quota for backward regions. While the state population includes 8% SCs and 10% STs, there are regional differences such as Ladakh having no SC population but a high tribal population.** Section 96 of the Jammu and Kashmir Reorganisation Act facilitates this: “For the purpose of facilitating



the application in relation to the successor Union Territories, of any law made before the appointed day, as detailed in Fifth Schedule, the Central Government may, before the expiration of one year from that day, by order, make such adaptations and modification of the law, whether by way of repeal or amendment, as may be necessary or expedient, and thereupon every such law shall have effect subject to the adaptations and modifications so made until altered, repealed or amended by a competent Legislature or other competent authority." Sources said though all central laws have been extended to Ladakh, regulations have to be framed. **The Act also provides for an increase of seats in the Jammu and Kashmir Assembly to 114. Given that the Act also provides for delimitation, the process for which has not yet begun, this may take more time.**

How Will Assets Be Shared?

On September 9, the government constituted a three-member advisory committee under the chairmanship of former Defence Secretary Sanjay Mitra to divide the assets and liabilities of the state between the two Union Territories. The committee is yet to submit its report. Three more committees — on personnel, finance and administrative matters — were constituted at the state level for the purpose of reorganisation. The three committees are learnt to have completed their work but their recommendations have not been made public yet. A far more complicated task than sharing of assets is financial restructuring. Notably, while the total budget for Union Territories is ₹7,500 crore, the budget for Jammu and Kashmir is in excess of ₹90,000 crore. This could also necessitate continuance of the Kashmir division in the Home Ministry, sources said.

Internationalising the Kashmir Issue (Karan Thapar - Television Anchor)

➔ Now that the visit of European Union (EU) parliamentarians to Kashmir has ended, it is time to assess what it achieved.

First, only 23 EU MPs visited the Valley. Four chose not to. These 23 did so in their individual capacity as the European Union mission in Delhi has made clear. **They were drawn from parties such as France's National Rally, Germany's Alternative for Germany (AfD), the U.K.'s Brexit, Italy's Forza Italia and Poland's Law and Justice Party. These are right-wing parties best known for their anti-immigrant stand, which often means they are anti-Muslim.** Equally importantly, these parties do not represent the political mainstream in their countries. They're minority voices. However, one MP, Chris Davies, a Liberal Democrat from Britain, says he was disinvited when he said he wanted to meet ordinary people without police and army security. "I am not prepared to take part in a PR stunt for the Modi government and pretend that all is well," he said. Another British EU MP, Theresa Griffin, tweeted along similar lines. Do these discordant voices suggest the others were willing to be co-opted as part of a thinly-disguised PR exercise?

A second concern is the organisers. **It was arranged by Madi Sharma, a Brussels-based British Person of Indian Origin, who runs a non-governmental organisation called Women's Economic and Social Think Tank.** She describes herself as an "international business broker". In her invitation letter she offered a visit to Kashmir and a meeting with Prime Minister Narendra Modi who, she claimed, "would like to meet influential decision-makers from the European Union". Does this suggest some form of prior contact with the Prime Minister, whether direct or indirect? Newspaper reports say the cost of the three-day visit (flight and accommodation) was sponsored by the hitherto little-known Delhi-based International Institute for Non-Aligned Studies (IINS), whose gates are inexplicably locked. This raises the



further question how has Madi Sharma become so influential and where does the IINS get its resources from? The EU MPs had access right to the very top which is, in fact, a third intriguing issue.

- After a clampdown, arrests of political activists and mainstream leaders, communication blockades and a denial of access to politicians from the rest of India, the invitation to more than 20 Members of the European Parliament (MEPs) could pave the way for more openness in the State, more such delegations, which would help the government with its claims of “normalcy” there. Instead, the manner in which the visit was organised has eroded rather than enhanced its credibility. **It is puzzling why the government honoured invitations by an unknown businessperson in Brussels linked to an equally obscure think tank in Delhi.** That people of unclear standing and antecedents have such easy access to the Prime Minister’s office, so as to be issuing “VIP invitations” on his behalf, and to arrange meetings with the Vice-President of India, National Security Adviser and External Affairs Minister smacks of an unseemly backdoor arrangement not conducive to democratic transparency. The choice of this delegation has also raised eyebrows. **A majority of those travelling to Srinagar belong to anti-immigration and far-right parties in the U.K., France, Italy, Poland and Germany.** That they were taken to Srinagar, but given, by their own admission, very little access to locals, seems to defeat the visit’s purpose. In addition, the brutal killing of five migrant workers in the Valley by suspected Hizbul Mujahideen terrorists appears to reinforce security concerns over any sense of normalcy there. The government must take stock of whether such heavily scripted photo opportunities pass for real value in any image-building exercise.

Having invited the delegation, however, the government must listen carefully to their impressions of the visit. While most endorsed India’s stand of Kashmir’s reorganisation being an “internal matter” and said they “stand by” India on the subject of terrorism, at least one of the MEPs asked why Indian MPs have not been allowed to visit. It is ironic that the government chose to take European MEPs to Srinagar and speak to the media there, but has successfully blocked Opposition leaders from visiting, and the few who have received Supreme Court permission to travel there have been barred from speaking or making political comments. It must also be remembered that while the MEPs toured Kashmir, one of India’s most senior parliamentarians, former Cabinet Minister and former Chief Minister Farooq Abdullah is detained. Thousands of other Kashmiris, many of whom have not even been charged in the past nearly three months, are in prisons within and outside Kashmir. More than 50,000 extra security personnel sent in August remain in place. And both communications and the movement of people are still severely restricted. Rather than focusing on image-building, the government would be better placed if it works on improving the situation in Jammu and Kashmir, which remains grim for ordinary civilians on a daily basis.

[Legal Pluralism in Personal Law \(Faizan Mustafa - Vice-Chancellor, NALSAR University of Law, Hyderabad\)](#)

- In **Jose Paulo Coutinho v. Maria Luiza Valentina Pereira (2019)**, the Supreme Court has yet again revived the debate on a uniform civil code (UCC) and referred to Goa as “a shining example of an Indian State which has a uniform civil code applicable to all...”. There are rumours that the government may surprise everyone in the winter session of Parliament by introducing a UCC Bill, just as it did by diluting Article 370 on August 5. But in fact it has been the judiciary, rather than the Bharatiya Janata Party or the Rashtriya Swayamsevak Sangh,



that has been relentlessly pushing for the enactment of a UCC. In some cases that dealt with the issue of a UCC, the apex court's observations have been unnecessary obiter dicta (such as in Mohd. Ahmed Khan v. Shah Bano Begum, 1985). In some others (such as in Sarla Mudgal v. Union of India, 1995, in which four Hindu men converted to Islam to take second wives), the court's observations have been reflective of flawed and problematic judicial reasoning. Instead of condemning the men in Sarla Mudgal, the court demonised Muslims by saying, "Those who preferred to remain in India after the partition, fully knew that the Indian leaders did not believe in two-nation theory or three-nation theory and that in the Indian Republic there was to be only one Nation — Indian nation — and no community could claim to remain a separate entity on the basis of religion" (sic). It also stated there "there is an open inducement to a Hindu husband, who wants to enter into second marriage while the first marriage is subsisting, to become a Muslim". In this judgment, the court completely negated the idea of legal pluralism; overlooked the fact that while all Congress leaders including Jawaharlal Nehru, Sardar Patel and Mahatma Gandhi voted for Pakistan, Maulana Abul Kalam Azad stood his ground and voted against it; overlooked V.D. Savarkar's two-nation theory; and also overlooked the history of the Hindu Right's resistance to the Hindu Code Bill. **With reference to the court's judgment in Jose Paulo Coutinho, it is important to understand that the reality of Goa is a little complex. The Goa Civil Code of 1867, which was given by the Portuguese, begins in the name of God and the King of Portugal. Uniformity is not necessarily a promise for gender justice. On the opposition of Hindus, the Code permitted limited polygamy for Hindus on certain conditions, including "absolute absence of male issue, the previous wife having completed 30 years of age, and being of lower age, ten years having elapsed from the last pregnancy". The Code gives certain concessions to Catholics as well. Catholics need not register their marriages and Catholic priests can dissolve marriages performed in church. Church tribunals are similar to the so-called Sharia courts and dissolution by them is mechanically approved by the High Court.** Why the court did not, as a first step towards a UCC in Goa, recommend the adoption of a reformed Hindu Code Bill in preference to the Portuguese Civil Code is not clear. The provision of matrimonial properties being jointly held and equally divided between spouses on divorce exists under the 1867 Code. However, through pre-nuptial contracts, parties may opt out of this joint ownership of properties. In many marriages, would-be wives are forced to sign on dotted lines. Thus, even where such joint ownership of assets exists, the control over property remains with the husband. Even the Goa Succession, Special Notaries and Inventory Proceeding Act, 2012, enacted by the BJP government in 2016, mentions the surviving spouse only as the fourth preference in Section 52 (order of legal succession), after descendants, ascendants, and brothers of the deceased. As far as Muslims are concerned, the Muslim Personal Law (Shariat) Application Act of 1937 has not been extended to Goa. Muslims of Goa are governed by Portuguese law as well as Shastric Hindu law. The majority in Shayara Bano v. Union of India (2017) did hold freedom of religion subject to restrictions under Articles 25 and 26 of the Constitution as absolute. Even the right to follow personal law had been elevated to the highest status of fundamental right. UCC is only one of the directive principles. The Supreme Court rightly held in Minerva Mills Ltd. v. Union of India (1980) that **"to destroy the guarantees given by Part III [fundamental rights] in order purportedly to achieve the goals of Part IV [directive principles] is plainly to subvert the Constitution by destroying its basic structure."** Since personal laws are in the Concurrent List, they may differ from State to State. The framers of the Constitution did not intend total uniformity or one law for the whole country. **States have made more than a hundred amendments to the Code of Criminal**



Procedure and the Indian Penal Code. The law of anticipatory bail differs from one State to another. Even BJP governments in different States, including Gujarat, have reduced fines under the amended Motor Vehicles Act despite the Centre justifying the hefty fines. This proves the futility of one nation, one law. Not all Hindus in the country are governed by one law. Marriages amongst close relatives is prohibited by the Hindu Marriage Act of 1955, but is considered auspicious in the south. The Hindu Code Bill recognises customs of different Hindu communities. Even the Hindu Succession Act of 1956 made several compromises and could not make daughter a coparcener till 2005. Wives are still not coparceners. Even today, property devolves first to Class I heirs and if there are no Class I heirs, then to Class II heirs. While heirs of sons are Class I heirs, those of daughters are not. Even among Class II heirs, preference is given to the male line. If a couple does not have a child, the property of not only the husband but also of the wife goes to the husband's parents. Similarly, there is no uniform applicability of personal laws among Muslims and Christians. The Constitution protects the local customs of Nagaland, Meghalaya and Mizoram. In fact, let's leave aside discriminatory personal laws; even land laws enacted after 1950 in a number of States are gender unjust. **These laws have been exempted from judicial scrutiny and have been included in the Ninth Schedule.** No blueprint of a UCC has been prepared yet. No expert committees, like the Hindu Law Committee of 1941, has been constituted so far. Several provisions of codified Hindu law such as solemnisation of marriage, satpati, kanyadaan, the sacramental nature of marriage, income tax benefits for the Hindu joint family, and absolute testamentary powers may not find a place in the UCC. Provisions like dower (payment by husband) or nikahnama (prenuptial contract) are to be incorporated in the UCC. Will Hindus accept these changes? Last year, the Law Commission had concluded that a UCC is neither desirable nor feasible. Indeed, it is best to enact a UCC in a piecemeal manner.

[The Power of Ordinary People \(Rajeev Bhargava - Professor, Centre for The Study of Developing Societies, New Delhi\)](#)

- When Gandhi went to England in 1931 to attend the Second Round Table Conference, one of his close aides suggested that he retreat for the weekend to Oxford in order to reflect on the "big questions of principle involved in negotiations". It would also afford an opportunity to have informal, relaxed conversations with some British statesmen. **The philosopher, A.D. Lindsay, Master of Balliol College, extended an invitation which Gandhi accepted. He reached on October 26 with his secretary Mahadev Desai, son Devdas, his English disciple Mira Behn, and his friend C.F. Andrews.** To ensure his safety, he was escorted by a large detective, who seemed even larger in contrast to the diminutive Gandhi. Whether or not he performed his other duties, I do not know, but he sure brought a goat from a nearby hill when the master was unexpectedly asked if the college served goat's milk. The goat, tied to a tree in the college's main quad, came in very handy. Gandhi was spared from going out of the college and allowed to sit on the floor in his room to have his usual diet of milk and fruits. The Mahatma found time to address all of Oxford's 50 Indian undergraduates, most of whom turned up in Indian clothes, including some women who sat spellbound in resplendent sarees. A few who came in Western attire made sure they wore an Indian turban. "Among students, I always feel at home because I am a student," Gandhi opened his address. "If you begin by cross-examining me, we shall know each other better. Will you please make yourself thoroughly at home with me? I am not a geological specimen." The first question to him was on the future of women in India. "The future of the women in India is that they will be equal



in every respect to men, if not superior," he said. He answered questions about separate electorates for Muslims and the 'untouchables. He was asked about his views on the creative power of socialism. Without batting an eyelid, Gandhi replied that "it might be a creative power if it did not depend on force". An Englishman asked if he believed in the good faith of England. Gandhi answered that he had good faith in England to the extent that he believed in the good faith of the human race. He went on: "I have definitely come to the conclusion that the total sum of human energy must be directed for the good, otherwise the world would have been destroyed long since. As a consequence, I trust England, although I have been bitten so often, not once but many times. I expect that the English nature will be converted one day and will respond". The Oxford Mail reported that Gandhi was struck by the beauty of the little town and on his way to the poet Edward John Thompson's house, he got off the car several times to admire its towers, spires, bridges and college quadrangles. Later, Gandhi met visitors at the Master's lodgings (Lindsay's home) at Balliol that included Madan Mohan Malaviya, Sarojni Naidu and several British parliamentarians. Also, among the visitors was Lindsay's son, a tutor in Wales, who ventured to ask with some hesitation: "People want to know, how far are you a Christian?" This clearly meant how far Gandhi had travelled from Hinduism towards Christianity. Gandhi, always quick-witted, even clever but also wise and truthful, adroitly sidestepped this question. He deliberately took it to mean something quite different: How far had he, Gandhi, followed the teachings of Christ? How deep had he dug and how much higher had he gone by following the example of Christ? Just then the senior Lindsay himself entered the room. "Well, here is your father, could he tell how far he is a Christian. He will not be able to tell you and neither am I," Gandhi said. For Gandhi, each of us must truthfully answer how far we have achieved spiritual growth or self-perfection. In saying this, Gandhi communicated two central points of his ethical and religious thinking. First, the **futility of conversion, an act which assumes that a person belongs exclusively to one or another religion, never to both, and that he should belong to a religion superior to all others. Gandhi rejected the idea of intrinsic superiority of one religion over another and the imperative of constricted, exclusive belonging. Second, the importance of multiple attachments. If, as he believed, the whole point is to dig deeper and go higher, then why can't a Hindu follow the teachings of Christ? Why would that be inconsistent with the true teachings of Rama, Krishna, Buddha, Nanak or Kabir? Why should anyone be restricted to a single source of inspiration? To his Christian friends he seemed to suggest that men and women can find the resources of self-realisation, to work out salvation from within their own tradition, that no need exists to change mere labels. To people more generally, but particularly to fellow Hindus, he seemed to say that no religion can bind him absolutely. Indeed, on some issues, his own views were too closely interwoven with Christianity to be entirely Hindu and too deeply infused with Hindu and Jain ideas to be called Christian. Although Gandhi died a Hindu and remained unflinchingly so while alive, he probably exemplified the spirit of Christ more than any other man of his times. One might say, as the philosopher Margaret Chatterjee reminds us, that he responded to the teachings of Christ because he found confirmation in them of what he received from his own multiple traditions. A friend of Lindsay told him that he should not think of Gandhi as a saint trying to be a politician but rather as a politician trying to be a saint. But both he and his wife were convinced that having Gandhi as their guest was like having a saint in their house. The one facet of Gandhi that utterly impressed Lindsay was his conviction that nothing could be God's will if it was not understood by ordinary, unlettered people. It is often thought that for Gandhi, social transformation can be brought about only by a change in the moral character**



of every individual person. While Gandhi undoubtedly stressed the need for self-transformation, it is absurd to conclude that for him collective action was relatively unimportant. **One of Gandhi's great contributions to social and political thought is that an enormous creative power is released when ordinary people of good will — without the trappings of power, wealth or fame — come together. Such solidarity can offer the most effective resistance to unjust exploitative social practices and political tyranny.** The power to transform the world flows from the collective non-violent energies of ordinary men and women, a lesson that the high and mighty, steeped in social orthodoxy or propelled by authoritarian instincts, ignore at their peril.

The Victory of Pluralism

- The Parivar stands for 'one nation, one culture, one language'. This school of thought is rooted in the early teachings of the Parivar's ideologues. In the book Bunch of Thoughts, M.S. Golwalkar, former chief of the Rashtriya Swayamsevak Sangh (RSS), wrote about giving priority to Hindi. The concept of one language and the politics that emerges from it run contrary to India's cultural ethos. It will weaken the unity of the country. That is why people all over India spontaneously challenged the Home Minister's position last month. They correctly understood it as an attempt by the RSS and the BJP to impose Hindi on the nation. No one denies the significant role played by Hindi in the making of a new India. Its contribution to literature and culture is also unquestionable. But to credit it as the only unifying factor is a questionable stand. It undermines the importance and self-respect of all other Indian languages, which also have contributed to India's unity and progress. When such a move comes from a government controlled by an ideology of majoritarianism, it becomes more dangerous. It reminds people of the RSS slogan, 'Hindi-Hindu-Hindustan'. Workers are still out of employment, more than a month since those words were spoken, as factories continue to shut. The unemployment rate is the highest in 45 years. India's economy grew at its slowest pace in over six years in the June quarter. The right-wing 'nationalist' government at the Centre is knocking at the doors of foreign capital for rescue. If the Home Minister was trying to escape from the people's wrath by raising the shield of Hindi, that plan appears to have backfired.

Haryana Elections

- By winning the support of the JJP to form a government in Haryana, the BJP has surmounted its failure in the recent Assembly election to win a clear majority from the people directly for a second term. All non-BJP parties in the State, and most independents, campaigned on an anti-BJP plank and it would be reasonable to assume that the BJP that won 40 of the 90 seats in the State did not get a clear mandate. As the single largest party, its claim to form a government was legitimate, and also reinforced by the support of the JJP that has 10 MLAs. All seven independents and Haryana Lokhit Party's Gopal Kanda have also offered support to the government, which could be a stable one. The BJP's numerical advantage allows it to forgo the support of Mr. Kanda, a controversial politician accused of abetting the suicide of a woman. The JJP and the BJP stridently campaigned against each other, but with their alliance, the BJP got a foothold among the Jat community that overwhelmingly voted against the party. As for the JJP, it could now claim a share of power for the community which is its core base. The results and the nature of the coalition mark an interruption in the BJP's winning streak since the 2014 Parliament election, save its defeats in a few States to the



Congress in 2017-18. The BJP's Hindutva plank combined with the rhetoric of development has paid it dividends, emboldening it to sidestep or even trample over regional allies. By falling back on a largely caste-based regional outfit for retaining power in a heartland State, Hindutva has exposed its limits, at least in the electoral field. The combination of religious sentiments and anti-Pakistan diatribe may still mobilise its core constituency, but that alone cannot guarantee victory all the time. It would be premature to conclude that people voted entirely on material issues or development, but those factors that the BJP desperately tried to shut out of the public discourse did matter. Particular identities of regional pride and caste dynamics that the Prime Minister's politics had largely rendered ineffective also appear to have made a comeback. The BJP's new alliance also blunts the party's claims about being the champion of probity. It may have rescued itself from the ignominy of taking Mr. Kanda's support, but the JJP's legacy is far from being unblemished. **Deputy Chief Minister Dushyant Chautala's father and grandfather are serving sentences as convicts in a case of appointing teachers in exchange for bribes. That his father got a furlough from jail soon after the BJP-JJP agreement is too much of a coincidence.** The opportunism of the JJP and the BJP, however, does not wipe out the issues that have come to the fore in the Assembly election. And therein lies a glimmer of hope for the country's democracy, as a demonstration of the limits of hype.

Naga Talks — Long Road, Issues

→ The deadline set by the Centre for wrapping up the Naga peace talks, October 31, arrives this week. While the Centre's interlocutor and now Nagaland's Governor, R N Ravi, has stressed that the government intends to meet the deadline, some key issues remain unresolved with the National Socialist Council of Nagalim (Isak-Muivah), or NSCN(I-M).

The talks seek to settle disputes that date back to colonial rule. **The Nagas are not a single tribe, but an ethnic community that comprises several tribes who live in the state of Nagaland and its neighbourhood.** One key demand of Naga groups has been a **Greater Nagalim that would cover not only the state of Nagaland but parts of neighbouring states, and even of Myanmar. The British had annexed Assam in 1826, in which they subsequently created the Naga Hills district and went on to extend its boundaries.** The assertion of Naga nationalism, which began during British rule, has continued after Independence, and even after Nagaland became a state. Along the way, the unresolved issues gave rise to decades of insurgency that claimed thousands of lives, including of civilians.

The earliest sign of Naga resistance dates back to 1918, with the formation of the Naga Club. In 1929, the Club famously told the Simon Commission "to leave us alone to determine for ourselves as in ancient times". In 1946, A Z Phizo formed the Naga National Council (NNC), which declared Naga independence on August 14, 1947, and then, in 1951, claimed to have conducted a referendum in which an overwhelming majority supported an independent Naga state. By the early 1950s, the NNC had taken up arms and gone underground. On March 22, 1952, Phizo formed the underground Naga Federal Government (NFG) and the Naga Federal Army. The government of India sent in the Army to crush the insurgency and, in 1958, enacted the Armed Forces (Special Powers) Act. The insurrection petered out by the mid-1970s but returned with more intensity in the form of the NSCN led by Mr. Muivah and S.S. Khaplang.

The first peace process started before India's independence, setting the tone of cold-shouldering the main leaders. In June 1947, Assam Governor Sir Akbar Hydari signed the Nine-Point Agreement with the moderates in the NNC but Phizo rejected it outright. A 16-



point Agreement followed in July 1960 leading to the creation of Nagaland on December 1, 1963. In this case too, the agreement was with the Naga People's Convention that moderate Nagas formed in August 1957 during a violent phase and not with the NNC. In April 1964, a Peace Mission was formed for an agreement on suspension of operations with the NNC, but it was abandoned in 1967 after six rounds of talks. The Shillong Accord of November 11, 1975, followed, under which a section of NNC and NFG agreed to give up arms. A group of 140 members led by Mr. Muivah, who was in China then, refused to accept the Shillong Accord and formed the NSCN in 1980. The outfit split in 1988 with one faction led by Mr. Muivah the other by the Myanmar-based Khaplang. The current impasse has led to speculation that the Central government has been exploiting tensions in Naga society to renege on the principles of "shared sovereignty" for co-existing as two separate identities. This has been attributed to the "nationalism-driven" axe on Article 370 that had allowed a separate flag for Jammu and Kashmir and the credo of "one nation, one constitution".

Before the ongoing talks, which followed a framework agreement in 2015, there were two other agreements between Naga groups and the Centre.

1975: A peace accord was signed in Shillong in which the NNC leadership agreed to give up arms. Several NNC leaders, including Isak Chishi Swu, Thuingaleng Muivah and S S Khaplang refused to accept the agreement and broke away to form the NSCN. In 1988 came another split, with Khaplang breaking away to form the NSCN(K) while Isak and Muivah headed the NSCN(I-M).

1997: The NSCN(I-M) signed a ceasefire agreement with the government in 1997, preceded by rounds of talks since 1995. The key agreement was that there would be no counter-insurgency offensive against the NSCN(I-M), who in turn would not attack Indian forces. The NSCN(I-M) had then announced to "every citizen of Nagalim wherever they may be", that a ceasefire agreement was entered into between the Government of India and the outfit "to bring about a lasting political solution to the long drawn out Indo-Naga issue".

2015: In August that year, the Centre signed a framework agreement with the NSCN(I-M). Prime Minister Narendra Modi described it as a "historic agreement" towards settling the "oldest insurgency" in India. This set the stage for the ongoing peace talks. In 2017, six other Naga armed outfits under the banner of the Naga National Political Groups (NNPGs) joined the talks.

Today, Muivah remains the senior-most Naga rebel leader. Isak died in 2016. In the NSCN(-K), its leader Khaplang died in 2018.

The government has not yet spelt out the details in public. Following the agreement, the government had said in a press statement: "The Government of India recognised the unique history, culture and position of the Nagas and their sentiments and aspirations. The NSCN understood and appreciated the Indian political system and governance." On the other hand, the NSCN(I-M) issued a statement earlier this year that said, "Nagaland State does and will not represent the national decision of the Naga people." The statement was in opposition to the proposal for a Register of Indigenous Inhabitants of Nagaland (RIIN) in the state of Nagaland.

In 2018, The Indian Express reported that official sources had said that the accord being finalised "does not change the boundary of states; provides autonomous Naga territorial councils for Arunachal and Manipur; a common cultural body for Nagas across states;



specific institutions for state's development, integration and rehabilitation of non-state Naga militia and the removal of the Armed Forces Special Powers Act". The map of Greater Nagalim in the NSCN(IM) vision, on the other hand, covers a 1,20,000 sq. km sprawl across the Northeast and Myanmar — the area of Nagaland state itself is only 16,527 sq. km, a fraction of this vision. Amid the anxiety this has caused among citizens in neighbouring states, state governments have assured them that their respective states' territorial integrity would not be compromised. Before the framework agreement, the Nagaland Assembly itself had endorsed the demand for "integration of all Naga-inhabited areas" as many as five times — in December 1964, August 1970, September 1994, December 2003 and on July 27, 2015.

The government and the NSCN(I-M) have failed to agree on issues relating to a **separate Naga flag and a Naga Yezhabo (constitution)**. In its latest statement, the NSCN(I-M) has said it will not budge from the demand for the flag and the constitution — and that it is looking for a lasting solution. Earlier this month, a statement from Governor Ravi's office said the government is determined to "honourably conclude" the Naga peace talks and it has reached a conclusion stage. But it noted: "Unfortunately at this auspicious juncture, the NSCN(I-M) has adopted a procrastinating attitude to delay the settlement raising the contentious symbolic issues of separate Naga national flag and constitution on which they are fully aware of the Government of India's position. They have mischievously dragged in the Framework Agreement and began imputing imaginary contents to it." Ravi, 67, is a retired IPS officer who served in the Intelligence Bureau, including in the Northeast. He was appointed the Centre's interlocutor for the Naga peace talks in August 2014, and facilitated the signing of the framework agreement a year later.

The statement from the Governor's office has given rise to speculation that the government is ready to sign a final peace agreement with other groups without the NSCN(I-M), the largest group, and with which the talks had begun in the first place. Civil society groups in Nagaland are divided in their opinion. Some have said the talks should be wrapped up with whatever is offered now and keep other issues open for later negotiations; others believe all issues should be settled and the NSCN(I-M) should be on board, even if it takes longer than the deadline.

- While the NNPGs want a solution for Nagas within Nagaland, the NSCN-IM seeks integration of Naga-inhabited areas beyond the geographical boundary of Nagaland. **Arunachal Pradesh, Assam and Manipur are wary of the NSCN-IM's concept of Nagalim or Greater Nagaland that could lead to a redrawing of their boundaries.** Manipur has begun protesting with Assembly Speaker Y. Khemchand Singh telling Mr. Modi in a petition that any compromise with Manipur's territorial integrity would not be tolerated. The other two States are "waiting and watching" following reports that the final peace deal could yield a pan-Naga cultural entity and territorial councils beyond Nagaland. Meanwhile, the Nagaland government's order cancelling leave of administrative and police personnel and advice to stock ration has triggered panic buying of essential and fuel — in Nagaland and Manipur — with the worst expected if the talks fail.

[A Case for Abjuring Custodial Interrogation \(G. Mohan Gopal - Former Director, National Judicial Academy\)](#)

- Commenting on the situation in India immediately after the end of the 1975-1977 Emergency, Justice V.R. Krishna Iyer said in his *Nandini Satpathy v. P.L. Dani* judgment (1978), "A flash flood of demands against self-incriminatory interrogation has risen now when very



important persons of yesterday have got caught in the criminal investigation coils of today". Forty-one years on, once again, "very important persons of yesterday (are getting) caught in the criminal investigation coils of today". In a blitzkrieg on freedom, the Union of India is on its feet in courts across the country demanding imprisonment of its ideological and political opponents for "custodial interrogation". Unlike in 1978, however, there is no sign yet of a "flash flood of demands against self-incriminatory interrogation". If our liberty is to be protected, we the people must raise once again a formidable "flash flood of demands" against custodial interrogation (i.e., in the context of this discussion, arrest solely for the purposes of interrogation) — not only in courts, but also in public discourse — because custodial interrogation inherently, invariably and unavoidably violates our fundamental right against self-incrimination and our right to silence.

Article 20(3) of the Constitution says, without any ifs, buts, caveats, qualifications or restrictions, "No person accused of any offence shall be compelled to be a witness against himself". Section 161(2) of the Criminal Procedure Code implements the constitutional right against self-incrimination: "[Every person who the police is authorised to examine orally] is bound to answer truly all questions relating to such case put to him by (the police officer legally authorised to examine him), other than questions the answers to which would have a tendency to expose him to a criminal charge or to a penalty or forfeiture " (emphasis added). In other words, such a person has the right to remain silent to avoid incriminating himself. Our right to silence thus flows from the right against self-incrimination. It is the basis for the 'rule against involuntary confessions' in the Indian Evidence Act, 1872. It protects us from the mortification of being forced to join the police investigation against ourselves. Why do we have the right against self-incrimination and the right to silence? In *Selvi v. Karnataka* (2010), then Chief Justice of India K.G. Balakrishnan explained that "the underlying rationale (of the right against self-incrimination) broadly corresponds with two objectives — firstly, that of ensuring reliability of the statements made by an accused, and secondly, ensuring that such statements are made voluntarily. It is quite possible that a person suspected or accused of a crime may have been compelled to testify through methods involving coercion, threats or inducements during the investigative stage. When a person is compelled to testify on his/her own behalf, there is a higher likelihood of such testimony being false. False testimony is undesirable since it impedes the integrity of the trial and the subsequent verdict. Therefore, the purpose of the 'rule against involuntary confessions' is to ensure that the testimony considered during trial is reliable. The premise is that involuntary statements are more likely to mislead the judge and the prosecutor, thereby resulting in a miscarriage of justice. Even during the investigative stage, false statements are likely to cause delays and obstructions in the investigation efforts... We must recognise the importance of personal autonomy in aspects such as the choice between remaining silent and speaking. An individual's decision to make a statement is the product of a private choice and there should be no scope for any other individual to interfere with such autonomy, especially in circumstances where the person faces exposure to criminal charges or penalties." Justice V.R. Krishna Iyer said in *Nandini Satpathy vs. P.L. Dani*, "Article 20(3) is a human article, a guarantee of dignity and integrity and of inviolability of the person and refusal to convert an adversary system into an inquisitorial scheme in the antagonistic ante-chamber of a police station... Under the Indian Evidence Act, the Miranda exclusionary rule that custodial interrogations are inherently coercive finds expression (Section 26)... Our purpose is not to sterilise the police but to clothe the accused with his proper right of silence. Article 20(3) is not a paper tiger but a provision to police the police and to silence coerced crimination."



In *P. Chidambaram v. Directorate of Enforcement* (2019), the Supreme Court explained that “grant of anticipatory bail at the stage of investigation may frustrate the investigating agency in interrogating the accused and in collecting the useful information and also the materials which might have been concealed. Success in such interrogation would elude if the accused knows that he is protected by the order of the court. Grant of anticipatory bail, particularly in economic offences would definitely hamper the effective investigation” (sic). In this view, the preferred laxative for “disintering” (to borrow an evocative word used by the Supreme Court in *State Represented by the CBI v. Anil Sharma* in 1997 in a similar context) useful information and concealed material from persons being examined appears to be coercion — fear, pain, discomfort and stress created by deprivation of liberty in brutal conditions in a jail or a police lock-up as well as, in some cases, physical and mental torture. As noted, the Supreme Court found in *Nandini Satpathy* that custodial interrogations are inherently coercive. The Supreme Court held in *Selvi* that a core rationale of the right against self-incrimination is the protection of voluntariness. As coercion and voluntariness cannot coexist, it follows that **custodial interrogation in Indian prisons necessarily violates the right against self-incrimination and is therefore unconstitutional and illegal**. Convictions of innocent people based on unreliable evidence obtained through coercive custody would have little impact on improving public safety, as the actual wrongdoers would likely still be on the loose. Abjuring custodial interrogation will improve public safety. It will encourage the police to reject self-incrimination as a tool of investigation and improve their ability to find evidence through modern, scientific and humane means. Above all, it will reduce the scope for arbitrary power and strengthen liberty.

Centre Clarifies on Definition of Forest

- The States need not take the Centre’s approval to define what constitutes unclassified land as forest, the Forest Advisory Committee (FAC) of the environment ministry, comprising independent experts and officials in the Centre’s forestry division, has clarified. Since 2014, the Ministry of Environment, Forest and Climate Change (MoEF&CC) has been considering evolving a legal definition of forest and reportedly prepared drafts as late as 2016. These, however, have never been made public and the FAC’s clarification officially signifies an end to such efforts. The freedom to define land, not already classified as forests by the Centre or state records, as forest has been the prerogative of the States since 1996 and stems from a Supreme Court order called the *Godavarman* judgement. The FAC, the apex body that deliberates on granting permission to industry to fell forests, at a meeting on September 26, said “... States, having well established forest departments, are in a better position, rather than MoEF&CC, to understand their own forests and needs, and should frame criteria for their forests... criteria so finalised by a state need not be subject to approval by MoEF&CC”. The subject came up for discussion at the meeting because the Uttarakhand government had put forth a set of criteria defining forest land and asked the ministry for its opinion, the minutes of the meeting noted. The conundrum of defining forests has been around since the 1980s. The 1996 Supreme Court judgement expanded the definition of forest to include lands that were already notified by the Centre as forests, that appear in government records as forests as well as those that fell in the “dictionary definition” of forest. The latter clause allows the States to evolve their own criteria and define tracts of land as forest, and these would then be bound by forest conservation laws. However, not all States have submitted such criteria, according to Siddhanta Das, Director General of Forests and Special Secretary in the ministry. Forests defined under this criterion, according to him, constituted about 1% of the



country's forests and once so defined would be known as 'deemed forests.' An all-encompassing definition of 'forest' wasn't possible for India, according to Mr. Das, because the country had 16 different kinds of forest. A tract of grassland in one State might qualify in one region as forest, but not in another. However, once a State applied a criterion, it couldn't be reversed. The onus on the States to define forests is also significant, environmentalists have pointed out, because the States often claim that they are helpless in preventing encroachment because a patch of land in question hadn't been notified as forest. A recent instance was the felling of trees in Mumbai's Aarey Colony, which officially isn't classified as 'forest.'

National Crime Records Bureau (NCRB) Data

- More than half of all offences registered under The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act where victims were Dalits, were related to insult and humiliation heaped on them, data from 2017 released by the National Crime Records Bureau (NCRB) show. The data also show a new trend in cases of corruption: "traps" involving lower-level government officials are increasing at the cost of criminal misconduct involving senior officials. This could mean either reduced corruption at higher levels, or increased enthusiasm among law enforcement to go after small offenders.

Dalits: NCRB has for the first-time published data for cases in which only the SC/ST Act was invoked without any sections of IPC. Unlike the 2016 data, there are separate figures for 2017 for intentional insult or humiliation of a Dalit, occupation of Dalit land, preventing the use of public space, and social boycott.

Of the 5,775 offences registered solely under the SC/ST Act in 2017 with Dalits as victims, 3,172 (55%) were related to "Intentionally Insult or Intimidate with Intent to Humiliate". There were 47 cases of land grabbing related to Dalits; they faced social boycott in 63 cases; and they were prevented from using public spaces in 12 cases. The most insult cases were reported from Karnataka (1,175) followed by UP (804), and Bihar (338). Sixteen land grab cases each were reported from Himachal Pradesh and Karnataka. Cases of preventing a Dalit from using public space were reported from Maharashtra, Himachal, Karnataka, Kerala, and Punjab. Fifty-seven of the 63 cases of social boycott or of a Dalit being forced to leave his place of residence were reported from UP. Countrywide, 43,203 cases of atrocities against Dalits (including IPC and SC/ST Act cases) were reported in 2017, about 6% more than in the previous year. The highest rates of crimes against Dalits (number of incidents per 1,00,000 population) were in Madhya Pradesh (52), Bihar (41), and Rajasthan (35). Higher numbers for crimes against Dalits also reflect more robust reporting of crimes by victims, which indicates empowerment.

Tribals: Of 720 offences registered solely under the SC/ST Act in 2017, 373 (52%) pertained to "Intentionally Insult or Intimidate with Intent to Humiliate". There were 27 cases of land grabbing related to tribals, and 18 cases of tribals facing social boycott.

The highest numbers of insult cases were in Karnataka, Andhra Pradesh (25), and Bihar (24). Jharkhand had 13 of the 27 cases of land-grab. Seventeen of the 18 cases of social boycott or of a tribal being forced to leave his place of residence were reported from Jharkhand. The 7,125 cases of atrocities against tribals (including IPC and SC/ST Act cases) in 2017 were about 9% more than in 2016.



Corruption: Registration of corruption cases has fallen by over 20% since 2015. “Trap” cases have spiked, while cases of criminal misconduct have fallen sharply since 2016.

“Trap” cases, in which bribery is caught red-handed, generally involve lower-level officials who accept gratification in cash. Criminal misconduct cases generally involve higher officials; pecuniary gains in these cases are rarely made in cash. Corruption cases involving “trap” rose by over 100% in 2017 over 2016; criminal misconduct cases fell by 70%. Overall, 4,062 cases of corruption were registered in 2017, compared to 4,439 in 2016. As many as 2,731 (67%) cases in 2017 were “traps”; 801 (20%) were of criminal misconduct.

- After a delay of two years, the Crime in India Report for the year 2017 was finally released by the National Crime Records Bureau. A few months ago, government officials had blamed the States of West Bengal and Bihar for lackadaisical responses in sending data, and said that more subheads for the data would be added in the latest report requiring further collation and error corrections. These new subheads reportedly included data on hate crimes besides those related to mob lynching, killings ordered by khap panchayats, murders by influential people, besides “anti-national elements”. Except for the last category — Crimes by Northeast insurgents, left wing extremists and terrorists — the other subheads are missing in the report which suggests that the Bureau was not keen on including them. The Supreme Court last year had, in an order, called for a special law to deal with lynching, and data on such hate crimes would have been useful in both law enforcement and jurisprudence. The Central government has time and again argued against the need for a separate law and has affirmed that curbing lynching was a matter of “enforcement”. Without a proper accounting of hate crimes — as of now there exist only a few independent “hate crime trackers” based on media reports — the question arises if the government is serious about tackling them effectively. The NCRB data on crime hide significant variances in case registration of serious crimes such as rapes and violence against women across States, which make it difficult to draw State-wise comparisons. The total number of crimes committed against women country-wide increased by 6% since 2016, while those against Scheduled Castes went up by 13%. However, there is the possibility of some States reporting such crimes better. This is pertinent, particularly in rape cases, where the Union Territory of Delhi registered a rate of 12.5 per one lakh population, surpassed only by Madhya Pradesh (14.7) and Chhattisgarh (14.6). But the filing of rape complaints in Delhi have significantly increased following public outcry over the December 2012 rape incident and this could partially explain the high rate of such cases. The fact that Delhi recorded a 40.4% of the total IPC crimes registered among metropolitan cities in 2017 is also likely due to the use of easier (online) means to register them. The other drawback in the report is the use of the census base year as 2001 to calculate crime rates for States and 2011 for metropolitan cities, which make the assessments unwieldy. Despite these issues, the report offers a useful snapshot of crime in the country. Some crimes, murders for example, do not suffer from registration issues as much. The 2017 report shows that the States in the northeast and others in the rest of the country with a significant tribal population (Jharkhand, Chhattisgarh, Odisha) have relatively higher murder rates and this is a cause of worry.
- Only 2.8% of all the instances of sexual crimes against children in 2017 were reported to be committed against boys, indicating that most cases remain undisclosed. The data emerged from the first gender disaggregated enumeration of such crimes by the National Crime Record Bureau (NCRB). The report, published earlier this month, recorded 33,549 crimes committed against girls under the Protection of Children from Sexual Offences (POCSO) Act in 2017, and 956 against boys. Activists say that while reporting of sexual crimes against both



boys and girls has always been low, the minimal reporting in cases involving boys is a reflection of a larger social problem. "The NCRB data reflects a larger societal problem where sexual violence is considered to be a very gendered crime — especially where children are concerned. Parents need to acknowledge that boys are vulnerable, create a congenial atmosphere for boys to disclose abuse and provide them a protective environment like they do for girls," said Vidya Reddy of Tulir- Centre for the Prevention and Healing of Child Sexual Abuse (CPHCSA). A survey commissioned by the Centre on child abuse in 2007 showed that of a total of 12,447 children in 13 States surveyed for the report, 53.22% had faced one or more forms of sexual abuse. Of these, 52.94% were boys and 47.06% were girls. It also showed that across genders, only 5.69% of the survivors reported the crime to the local police. But the NCRB report shows that only 1.02% of the total 17,780 aggravated penetrative sexual assault cases against children were those where boys were brutalised. The police also do not invoke the POCSO Act in cases of sexual assault against children and merely file a case under the Indian Penal Code. For example, of the 17,557 cases registered for child rape in 2017, in as many as 10,059 cases, the POCSO Act was not invoked.

Cramped Prisons

- With an average occupancy rate of 115% of their capacity, Indian jails continue to remain congested and overcrowded, numbers in the National Crime Records Bureau's "Prison Statistics India - 2017" report have revealed. In 16 of the 28 States covered in the report, occupancy rate was higher than 100% with States and Union Territories such as Uttar Pradesh (165%), Chhattisgarh (157.2%), Delhi (151.2%) and Sikkim (140.7%) faring the worst. Despite the Supreme Court and other institutions regularly raising the issue of prison reforms and decongestion in jails, it is evident that the measures taken have been piecemeal in most States. While overall occupancy rates have come down from 140% in 2007 to 115% in 2017, only a few States have, in this period, gone about building more jails or increasing capacity in prisons in line with the changes in inmate population. Some States such as Tamil Nadu have reduced their prison occupancy rate (to 61.3%) by increasing the number of jails and their capacity besides reducing arrests for actions unless there is a cognisable offence made out. Rajasthan and Maharashtra have not managed to augment jail capacity to fit in the increased inmate population in the past decade, while States such as U.P. continue to have high occupancy rates because of increased inmate population despite a relative increase in prison capacity. **More than 68% of those incarcerated were undertrials, indicating that a majority were poor and were unable to execute bail bonds or provide sureties.** There were a series of recommendations made by the Law Commission of India in its 268th report in May 2017 that highlighted the inconsistencies in the bail system as one of the key reasons for overcrowding in prisons. Clearly, expediting the trial process for such prisoners is the most important endeavour, but short of this there are ways to decongest prisons by granting relief to undertrials. The Commission recommended that those detained for offences that come with a punishment of up to seven years of imprisonment should be released on completing one-third of that period and for those charged with offences that attract a longer jail term, after they complete half of that period. For those who have spent the whole period as undertrials, the period undergone should be considered for remission. It also recommended that the police should avoid needless arrests, while magistrates should refrain from mechanical remand orders. It is imperative that these recommendations are incorporated into law soonest. A system of holding undertrials for too long without a just trial process in overcrowded prisons that suffer problems of hygiene, management and discipline, is one



that is ripe for recidivism. There is a greater chance of prisoners hardening as criminals rather than of them reforming and getting rehabilitated in such jail conditions.

What NHP Says About Targeted, Actual Health Spend

- At a time when Universal Health Coverage has become the new buzzword of healthcare in India since Ayushman Bharat, the National Health Profile 2019 throws up sobering figures. Between 2009-10 and 2018-19, India's public health spend as a percentage of GDP went up by just 0.16 percentage points from 1.12% to 1.28% of GDP, and remains a far cry from the 2.5% GDP health spend that has been India's target for some years now. The National Health Profile (NHP) is an annual stocktaking exercise on the health of the health sector.

The Current Situation

"The cost of treatment has been on rise in India and it has led to inequity in access to health care services. India spends only 1.28% of its GDP (2017-18 BE) as public expenditure on health. Per capita public expenditure on health in nominal terms has gone up from ₹621 in 2009-10 to ₹1,657 in 2017-18," NHP 2019 says. Compare this with the average total medical expenditure per childbirth in a public hospital: ₹1,587 in a rural area and ₹2,117 in an urban area. Based on Health Survey (71st round) conducted by NSSO, average medical expenditure incurred during hospital stay during January 2013-June 2014 was ₹14,935 for rural and ₹24,436 in urban India. In his Independence Day address in 2011, then PM Manmohan Singh had declared that financing of health would be upped to 2.5% of GDP, during the 12th Five Year Plan (a concept since discontinued). In 2018, Prime Minister Narendra Modi said at the Partners' Forum meeting in Delhi: "We are committed to increasing India's health spending to 2.5% of GDP by 2025, reaching to more than \$100 billion. This will mean an actual increase of 345 per cent over the current share, in just eight years."

Blueprint for Meeting Targets

In 2011, the High-Level Expert Group of the erstwhile Planning Commission submitted its seminal report on the roll-out of Universal Health Coverage (UHC) in India. Recommendation 3.1.1 reads: "Government (central government and states combined) should increase public expenditures on health from the current level of 1.2% of GDP to at least 2.5% by the end of the 12th plan and to at least 3% of GDP by 2022." The report adds: "Financing the proposed UHC system will require public expenditures on health to be stepped up from around 1.2% of GDP today to at least 2.5% by 2017 and to 3% of GDP by 2022." Universal Health Coverage, according to the World Health Organization, means that "all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship." The three objectives are: equity in access to health services; quality of health services should be good enough to improve the health of those receiving them; people should be protected against financial-risk, ensuring that the cost of using services does not put people at risk of financial harm.

The States

There are wide disparities in the health spend of states, the NHP points out. **The North-eastern states had the highest and the Empowered Action Group (EAG) states plus Assam had the lowest average per capita public expenditure on health in 2015-16. EAG states are the eight socio-economically backward states of Bihar, Chhattisgarh, Jharkhand, Madhya**



Pradesh, Odisha, Rajasthan, Uttarakhand and Uttar Pradesh. Among the big states (erstwhile) Jammu and Kashmir leads with a 2.46% GSDP spend on healthcare – nearest to the ideal spend. Among the NE states, the leaders in health spend were Mizoram with 4.20% GSDP spend and Arunachal Pradesh with 3.29%. Even states seen as better performers on health parameters, such as Tamil Nadu and Kerala, fare poorly on the health finance index. Tamil Nadu spent 0.74% of its GSDP and Kerala 0.93% of its GSDP on healthcare.

India And World

In 2016, India's Domestic general government health expenditure stood at \$16 per capita. This is lower than Norway (\$6,366), Canada (\$3,274), Japan (\$3,538), Republic of Korea (\$1,209) and Brunei Darussalam (\$599). Among the 23 countries including India that the Central Bureau of Health Intelligence chose for that comparison, the highest per capita spender is the United States at \$8078. The American system, though, is considered neither ideal nor economical. This data has been sourced from the Global Health Expenditure Database of the World Health Organisation.

Other findings

- The NHP also notes the change in disease profile of the country with a shift towards the non-communicable disease from communicable ones – a fact that has been minutely documented by the State Level Disease Burden Study that was released some years ago and the subsequent analyses of that data periodically published in various medical journals. In a recent report of India Council of Medical Research, titled India: Health of the Nation's States: **The India State-Level Disease Burden Initiative (2017)**, it is observed that the disease burden due to communicable, maternal, neonatal, and nutritional diseases, as measured using disability-adjusted life years (DALYs), dropped from 61 per cent to 33 per cent between 1990 and 2016. In the same period, disease burden from non-communicable diseases increased from 30 per cent to 55 per cent. The epidemiological transition, however, varies widely among Indian states: 48% to 75% for non-communicable diseases, 14% to 43% for infectious and associated diseases, and 9% to 14% for injuries," the NHP notes. **DALYs are an international standard of disease burden that measures how much of a normal life span of an individual is taken away by a disease related morbidity of mortality.** The NHP has also noted that medical education infrastructure has shown rapid growth over the past few years. "The country has 529 medical colleges, 313 Dental Colleges for BDS & 253 Dental Colleges for MDS. The total number of admissions for academic year 2018-19 in Medical Colleges is 58756. The Dental Colleges saw an admission of 26960 in BDS and 6288 in MDS in the academic year 2018-19," it says. The total number of registered allopathic doctors (up to 2018) is 11,54,686. Number of dental surgeons registered with Central/State Dental Councils of India was 2,54,283. There is an increasing trend in the number of dental surgeons registered with the Central/State Dental Council of India from 2007 to 2018. The total number of registered AYUSH Doctors in India as on January 1, 2018 was 7,99,879," the report noted.
- As per the NHP, sex ratio (number of females per 1,000 males) in the country has improved from 933 in 2001 to 943 in 2011. In rural areas the sex ratio has increased from 946 to 949. "The corresponding increase in urban areas has been of 29 points from 900 to 929. Kerala has recorded the highest sex ratio in respect of total population (1,084), rural population (1,078) and urban (1,091). The lowest sex ratio in rural areas has been recorded in Chandigarh (690)," the report said. The report also showed that the estimated birth rate, death rate and natural growth rate are declining. **The estimated birth rate reduced from 25.8**



in 2000 to 20.4 in 2016 while the death rate declined from 8.5 to 6.4 per 1,000 population over the same period. The natural growth rate declined from 17.3 in 2000 to 14 in 2016 as per the latest available information. As per the report, the total fertility rate (average number of children that will be born to a woman during her lifetime) in 12 States has fallen below two children per woman and nine States have reached replacement levels of 2.1 and above. Delhi, Tamil Nadu and West Bengal have the lowest fertility rate among other States.

Hydropower Projects Could Face Closure

- Come December, hydropower projects that do not comply with the Centre's ecological flow notification, which mandates that project developers ensure a minimum supply of water all through the year, could face closure. The Centre's ecological flow notification, as it is called, came into effect last October and gave companies three years to modify their design plans, if required, to ensure that a minimum amount of water flowed during all seasons. Power producers generally hoard water to create reserves to increase power production. In September, the government advanced this deadline, from October 2021 to December 2019. This was after it tasked the Central Water Commission (CWC) to ascertain actual flows and the amount of water present in the river through 2019. There are 19 power projects along the river and of the 11 sites studied, eight were fully compliant. Power project proponents will be assessed by the CWC quarterly for compliance after December 2019. The e-flow notification specifies that the upper stretches of the Ganga — from its origins in the glaciers and until Haridwar — would have to maintain: 20% of the monthly average flow of the preceding 10-days between November and March, which is the dry season; 25% of the average during the 'lean season' of October, April and May; and 30% of monthly average during the monsoon months of June-September.

How Green Are Deepavali Crackers?

- Last October, in a landmark judgment, the Supreme Court of India mandated the use of green crackers for Deepavali, prescribing specific norms for the manufacture. This year, for the first time, 'green crackers' have been made available in markets, though the reach has been limited. These are milder avatars of traditional firecrackers in terms of the sound and smoke generated when burnt. The Supreme Court had banned the use of barium nitrate, a key pollutant in crackers. The National Environmental Engineering Research Institute (NEERI), a part of the Council of Scientific and Industrial Research (CSIR), was asked to facilitate the development of green crackers. Traditionally, firecrackers have been made with barium nitrate, antimony and a range of metals that, over the years, have been linked to respiratory diseases and even cancer. These were the factors that guided the Supreme Court when it decided to ban fireworks. The ban last October came on the basis of a petition filed in 2015, by a few infants through their parents. They said air pollution caused by various factors, especially firecrackers, made Delhi a gas chamber. Months before the ban, a group of research institutes of the CSIR had begun work on 'green crackers,' namely fireworks without barium nitrate. The mainstay of the cracker manufacturing process, barium nitrate lends itself to making explosives that are effective and convenient. The Nagpur-based NEERI eventually hit upon formulations that substituted barium nitrate with potassium nitrate and zeolite. The 'green' versions of the 'flower pot', one of the most popular fireworks, has a mixture of water and lime that is chemically stored in the cracker. When lit, the effulgence



also triggers water and the makers claim that the moisture wets the dust-and-smoke particles.

NEERI claims that tests in its laboratories have seen a reduction of nearly 30% in particulate matter (PM) and also reduced a release of sulphur dioxide and nitrous oxide emissions.

Green sparklers use 32% potassium nitrate, 40% aluminium powder, 11% aluminium chips, and 17% “proprietary additives” to reduce particulate matter PM10 and PM2.5 to 30%.

Similarly, a new formulation of a ‘bomb’ named ‘SWAS’ (or safe water releaser) uses 72% of a “proprietary additive”, 16% potassium nitrate oxidiser, 9% aluminium powder, and 3% sulphur to reduce PM10 and PM2.5. On its website, NEERI claims that green crackers when exploded also emit similar levels of sound (100-10dBA) associated with traditional crackers.

NEERI has signed agreements with 230 companies to manufacture and make them available for sale. This was also preceded by setting up demonstrations in Sivakasi, Tamil Nadu, where about 90% of India’s crackers are manufactured.

Firecracker manufacturers are still nervous about how acceptable the green crackers will be in the market; several say they have not yet adopted it. The ban on crackers since last year has meant a shortage of unskilled labour — the mainstay of the industry — and several manufacturers got the legal go-ahead to make the crackers only in May. The manufacturers said this did not give them enough time to make and supply crackers across the country for Deepavali. Fireworks manufacturers were also hopeful of legal clarity on a sub-category of green crackers called “improved crackers”. This version continues to use barium nitrate but in extremely reduced amounts; when it explodes, harmful chemicals do not spray as much as earlier into the air. These improved formulations, as they are categorised, are preferred by manufacturers because barium is a tested workhorse. The Supreme Court is yet to take a decision on whether to allow them. Market reports suggest that consumers are not finding it easy to buy crackers. Retailers say stocks are low and there is only a limited selection of firecrackers available. The size of the cracker market is reportedly valued at around ₹1,800 crore and is expected to take a severe hit this year. Those who deal with crackers say that 2019 is a transition year and that by next year, supply chains will adapt better to ensure that green crackers are available more easily.

Green cracker manufacturers claim that particulate matter pollution will be reduced by 30% if these crackers are used. However, these numbers have been computed in a laboratory setting and not been verified in real world conditions.

Because green crackers are not available in sufficient numbers this year, any reduction in smoke levels cannot entirely be attributable to the improvements in crackers themselves.

Last year in spite of the ban, revellers burst crackers wantonly, particularly in Delhi and surrounding satellite towns. The morning after Deepavali, saw the city waking up to a blanket of smog and having air quality plummeting to nearly 574 — on the Air Quality Index (AQI), this registers as “Severe+” and triggers emergency action according to the Graded Response Action Plan (GRAP). GRAP is the city’s five-step escalating plan to counter air pollution.

Various directives of the GRAP kick in based on the recommendation of a committee of experts; these include steps such as declaring a holiday in schools to banning construction activity. The onset of winter has caused air quality in Delhi to dip to ‘very poor’ and this has already triggered some GRAP restrictions on crackers. Any additional load of crackers will only cause air quality to further deteriorate. SAFAR, or System of Air Quality and Weather Forecasting, is an air quality and weather forecast system.



Milk Safety

→ The “most comprehensive and representative” milk safety and quality survey has demolished the perception of large-scale milk adulteration in India. It was undertaken on 6,432 samples collected last year between May and October, and picked from over 1,100 town/cities with over 50,000 population. The survey by an independent agency at the behest of the Food Safety and Standards Authority of India (FSSAI) found 93% of the samples were absolutely safe. The samples were tested for 13 common adulterants and three contaminants — **pesticides, aflatoxin M1 and antibiotics**. However, about 41% of the samples, though safe, fell short of one quality parameter or another. Among the samples found unsafe, 12 were adulterated (6 with hydrogen peroxide, 3 with detergents, 2 with urea, 1 with neutralisers). The adulterated samples — they were also subjected to confirmatory tests — were from just three States: Telangana (nine), Madhya Pradesh (two) and Kerala (one). The survey claims that quantitative analysis of all adulterated samples showed the number of adulterants and contaminants in the dozen samples was not high and hence “unlikely to pose serious threat” to human health. However, it did find 368 samples (5.7%) had aflatoxin M1 residues beyond the permissible limit of 0.5 microgram per kilogram. Compared with aflatoxin M1, antibiotics were seen above the permissible level in 77 samples, from Madhya Pradesh, Maharashtra and Uttar Pradesh. At 227, aflatoxin M1 was more widely present in processed milk samples than in raw milk (141). This is the first time the presence of the contaminant in milk has been assessed. According to the FSSAI, aflatoxin M1 in milk is from feed and fodder, which is not regulated. The highest residue levels of aflatoxin M1 in milk were seen in samples from three States — Tamil Nadu (88 out of 551 samples), Delhi (38 out of 262) and Kerala (37 out of 187). According to the International Agency for Research on Cancer the contaminant has been classified as “possibly carcinogenic to humans”. **Its carcinogenic potency is estimated to be about a one-tenth of aflatoxin B1. Since the current survey has limited itself to milk, it is not clear how widespread aflatoxin M1 contamination is in milk products such as cheese, and hence the total exposure to it. Aflatoxin M1 in milk and milk products is a public health concern especially in infants and young children as milk constitutes one of the major sources of nutrients.** According to the World Health Organisation, exposure to aflatoxin M1 in milk and milk products is especially high in areas where the grain quality used as animal feed is poor. Hence all attempts need to be taken both before and after food crop harvest to reduce the toxin amount. Improper storage of food harvest in warm and humid conditions leads to aflatoxin contamination that is much higher than what is seen in the field. Equally important is in having facilities to regularly test for aflatoxin M1.

IITs Dominate India Rankings

→ The QS Indian University Rankings were released — this is the second edition of the standalone rankings for India’s higher education institutions. The rankings include public, private, higher education or deemed universities. The Indian Institutes of Technology (IITs) dominate the list, with seven IITs figuring in the top ten rankings. Like last year, IIT-Bombay leads followed by the Indian Institute of Science (IISc). This year, IIT-Delhi has improved its performance by one rank to overtake IIT-Madras. IIT-Delhi now stands third in the ranking. Delhi University, University of Hyderabad and the Indian Institute of Science are the only other non-IIT institutions in the top ten. Among the top 10, the rankings of the University of



Hyderabad and Indian Institute of Technology, Madras have fallen by one spot each. The methodology used eight indicators to determine the institutions' rankings. These were: academic reputation (weight of 30%), employer reputation (20%), faculty-student ratio (20%), the proportion of staff with a PhD (10%), papers per faculty from Scopus database (10%), citations per paper from Scopus database (5%), the proportion of international students (2.5%), and the proportion of international faculty (2.5%). "Academic reputation," the indicator with the highest weight, was based on QS's major global survey of academics who are asked to identify top-ranking institutes in their fields of expertise. The "proportion of staff members with a PhD degree" reflects the institution's commitment to hiring highly qualified faculty members, and the score on "international faculty" and "international students" reflects an institution's global appeal and reach, according to the rankings. The score on "citations per paper" is an indicator of research productivity, which is based on the number of research papers published per staff member. These India rankings do not necessarily match the QS World University Rankings that were released earlier this year. In that list, IIT-Bombay has been ranked the best Indian institution and IIT-Delhi the second best. The two rankings use different criteria — for example, while academic reputation is given a weight of 30% in the India University Rankings, its weight is 40% in the World Rankings.

Why Did Monsoon End with So Much Rain?

- The record-breaking rainfall this monsoon season, particularly during August and September, has left weather scientists confounded. **After a more than 30% shortfall in June, the season ended with 10% excess rainfall, the first time such a thing has happened since 1931. The September rainfall (152% of long period average, or LPA) was the highest since 1917, the August rainfall (115% of LPA) was the highest since 1996, and the overall seasonal rainfall (110% of LPA) was the highest since 1994.** As late as the first week of September, the India Meteorological Department maintained that the seasonal rainfall was going to be normal (in the 96-104% range). With an influencer like **El Niño Southern Oscillation (ENSO)** in the Pacific remaining largely neutral this year, scientists are trying to pin down the exact reason for the unusual rainfall. In the search for answers, one phenomenon attracting some attention is the **Indian Ocean Dipole or IOD**, an ocean-atmosphere interaction similar to El Niño, but in the Indian Ocean. **IOD is a measure of the difference in the sea-surface temperatures of the western Indian Ocean (Arabian Sea) and the eastern Indian Ocean, south of the Indonesian coast. When the western waters are warmer than the eastern, IOD is said to be positive; in the opposite state, IOD is negative.** Like ENSO in the equatorial Pacific Ocean, IOD too influences weather and climate events, though its impact is weaker because the Indian Ocean is considerably smaller, and shallower, than the Pacific. **The IOD has an impact on the Indian monsoon: a positive IOD is understood to aid monsoon rainfall while negative IOD is known to suppress it. This year's IOD, which began developing around June and grew strong after August, has been one of the strongest on record. IOD records are not very old. Accurate measurements are available only since 1960, according to the Australian Bureau of Meteorology (ACB). "The latest weekly value of +2.15°C is the strongest positive weekly value since at least 2001 (when the Bureau's weekly dataset commenced), and possibly since 1997, when strong monthly values were recorded,"** the ACB said in its latest bulletin on October 15. This has led to scientists looking at IOD for possible clues to this year's bumper rainfall, especially since such strong IOD events in previous years, too, were associated with high monsoon rainfall. "In previous years, we have had very strong IOD events in 1997 and 2006. In both those years, the southwest monsoon rainfall over India was



around 100% of normal. 1997 also happened to be a strong El Niño year (El Niño suppresses monsoon rainfall), but thanks to the positive IOD, the monsoon rainfall was normal that year," said Sridhar Balasubramanian, associate professor of mechanical engineering and an adjunct faculty member at IDP Climate Studies at IIT Bombay. "This year the positive IOD started strengthening from July, and by September it evolved into the strongest positive IOD ever recorded in the history of Indian summer monsoon." Beyond the correlation, scientists are careful not to directly blame the IOD for this year's rains. That is because IOD's link with the Indian summer monsoon is tenuous at best. It is only one of several factors that impact the monsoon, and not the most dominant. In fact, the IOD's influence on the monsoon is not fully understood. **It is known to have a much weaker influence than ENSO, though. Besides, it is not clear if the IOD influences the monsoon or if it is the other way round.** The IOD generally takes shape towards the latter half of the summer monsoon, in August and September, and scientists do not rule out the possibility that the monsoon could play some role in its emergence. "The problem with using IOD as an explanation is that its definition is not really solid. It is defined as a gradient of east-west SST (sea surface temperature) changes, but the action is all in the east," Murtugudde said. This absence of 'action' in the western Indian Ocean was evident this year too, Srinivasan pointed out. "This year there was strong cooling south of Sumatra (in the east Indian Ocean) but the western Indian Ocean did not show a large warming," Srinivasan said. **Data from the Australian Bureau of Meteorology show that since 1960, there have been only 10 strongly positive IOD events before this year. Summer monsoon rainfall was deficient on four of those occasions, more 100% on four others, and normal on the remaining two.** The fact that IOD could have played a role in bringing excess rains in August and September cannot be ruled out, but the extent of its influence is something that still needs to be studied.

Siachen Glacier Now Open to Tourists

- Defence Minister Rajnath Singh announced that the Siachen Glacier will be open for tourists, between the **base camp and Kumar logistics base**. As of now, civilian tourists are restricted to the **Nubra Valley, which is the gateway to the Siachen Glacier**, and well away from the base camp and the Siachen Battle School. Now they may be permitted to venture farther in small batches. In fact, between 2007 to 2016, the Army Adventure Cell had operated the 'Siachen Trek' in which small numbers of civilians were allowed to venture between the base camp and Kumar. Today, tourists are allowed up to Warshi (towards Siachen Base Camp) and also Tyakshi village ahead of Turtuk. These two villages were part of Pakistan-Occupied Kashmir until the 1971 war, and were off limits to civilians until 2010, with tourists then allowed only up to Panamik in the Nubra Valley. It was a 30-day trek, and participants had to undergo extreme conditioning before they were allowed at the extreme heights of the glacier. The base camp is at an approximate altitude of 11,000 feet while the Kumar post is at 16,000 feet. The trek was organised between August and September, and entailed acclimatisation at Leh and farther ahead, with a strict medical fitness regime. The trek was open for any civilian below age 45 and also included cadets from Indian Military Academy, National Defence Academy and military schools. The distance between the base camp and Kumar is 60 km and the return trek take nine days. There are environmental issues that would need to be addressed if tourism is allowed in greater numbers. The Army presence on the glacier, which is a combat zone, causes the addition of nearly 1,000 kg of waste everyday, as per one estimate. Tourists will add more waste and measures will have to be taken to dispose of it. A higher number of vehicles running close to the base camp, which itself is close to the snout

Shatabdi Tower, Sakchi, Jamshedpur



of the glacier, entails the risk of increased heat and hastened retreat of the glacier. Tourism will also mean a greater logistical load on the Army. With hardly any civilian administrative arrangements there, the Army or IAF will be responsible for addressing medical needs including evacuation in an emergency. There are rudimentary civilian medical facilities in the Nubra Valley, but at some distance from the Siachen Glacier. There is a Sub-District Hospital at Diskit, 120 km from Leh, which is centrally heated and has a bed strength of 50 with X-ray, ultrasound, and laboratory facilities as well as a dental unit. More advanced treatment is available at the Military Hospital in Hunder and SMH Memorial Hospital in Leh, which has a bed strength of 150. **Until the ceasefire came into effect in 2003, the Siachen Glacier was the highest battlefield in the world with artillery duels taking place almost every day, with raids and counter-raids by both armies.** Today, the artillery guns have fallen silent, but there is no let-up in the vigil at posts located as high as 23,000 feet on the **Saltoro Ridge, which dominates the glacier.**

Abandoned Borewell Menace

- As with several such incidents in the past, the intensive operation in Tamil Nadu to rescue a child who slipped into an abandoned borewell in Manapparai, Tiruchi district, ended in spectacular failure. Worryingly, more such disasters are bound to occur, since there are many disused and uncovered well holes scattered in farms in several States. No time can be lost in implementing the safety rules relating to wells issued in the past, to save children at risk. Tamil Nadu issued, under its Panchayats Act, the Regulation of Sinking of Wells and Safety Measures Rules 2015, incorporating measures ordered by the Supreme Court in 2010. Among the many steps prescribed for orderly well-digging, there is a provision requiring the holder of a permit or well to fill up an abandoned hole up to the ground level using clay, sand or boulders (the court also mentions pebbles and drill cuttings). For meaningful implementation of this provision, the onus should rest with the local body, and not the owner of the borewell who is often a farmer of poor means. Under a normative system, closing an abandoned well would no longer be seen as a wasteful expenditure by farmers, since they would not be charged for it, and panchayat personnel would execute the closure rather than merely certify that action has been taken. Besides avoiding the ghastly human toll, time-bound capping of open wells will eliminate the intensive, high-cost rescues that the NDRF has to attempt; the agency deployed its teams no less than 37 times until 2018, mostly in Maharashtra, but also in Rajasthan, Tamil Nadu, Gujarat and Karnataka. Deep borewell accidents have also occurred in cities that rely heavily on groundwater, and as the Supreme Court pointed out, it should be the task of the municipal and public health authorities to eliminate the lurking danger. In the court's view, the District Collector bears responsibility for enforcement. Now that another life has been lost to neglect, it is time the State governments took safety seriously, came up with a census of well structures in need of attention, and capped the problem forever.

Assam Tea Eyes AI Route to Recovery

- The leaves in your cup of tea could soon be plucked by a pair of robot-assisted hands. India's oldest tea company has begun the process of deploying artificial intelligence (AI) to help take the industry to a sustainable future from its 'past perfect' present state. Investing in robotic drones for precision treatment of a diseased tea bush and implanting molecular markers in leaves to develop traits for mass production will not lead to retrenchment, insisted the Assam



Company India Limited (ACIL), which has depended on labourers for 180 years. The “embrace” of cutting-edge technology in the labour-intensive industry is aimed more at dealing with a shortage of farmhands and ensuring a scenario where workers find it more remunerative to return to the plantations, said officials of the 180-year-old company. There are challenges in replicating the AI, deployed in farming in developed nations, for use in the tea sector, industry officials said. “We have the technology to implant molecular or genetic markers in plants but tea is a new area for us,” said Avital Tractitman of Israel’s SMX, one of several global AI firms engaged by ACIL for a pilot project. Such markers control the genes of a plant for developing resistance to pests and diseases, improving the quality and quantity of the yield. Tea Board chairman Prabhat Bezbaruah is hoping technology would help add value to the tea industry that is currently going through a “bad patch” because of falling prices, rising cost of production and aged tea bushes.

How Insects, Pests Wipe Off Ajanta Cave Paintings

- A classic masterpiece of Buddhist art, the Ajanta caves, is a UNESCO world heritage site and a protected monument of the Archaeological Survey of India. But the cave paintings have started deteriorating in the past few decades and are losing the battle against insects and other climatic stressors. A research team from National Environmental Engineering Research Institute (CSIR-NEERI) looked at all the available literature on the Ajanta caves and mapped out the different factors causing this damage. They also mention a few environmentally friendly solutions to the problem in a paper recently published in Heritage. The team writes that the most common insects were silverfish, beetles and common bugs. Another main problem was the entry of rainwater and water from the **Waghura River**. This leads to dampness in the cave atmosphere causing an increase in algae, fungi, insects, and microbes. All these together were changing the original colour of the paintings — **white is turning to yellow and blue is becoming green**. The paper notes that “a mixture of hemp, clay, and lime plaster was considered efficient for preserving paintings and carvings in nearby Ellora caves,” but this method was not used in Ajanta caves. **Previous studies have shown that the basal layer of the murals was made of mud plaster and organic matter such as paddy husks, grass, vegetable fibres, thus making it a good breeding place for microbes and insects**. Even though ASI has started many initiatives to keep bats and pigeons from the caves, it has failed and bat and bird excreta continue to damage the paintings. **The researchers have suggested using certain lights and colour to tackle the problem of insects. For instance, they suggest using ultraviolet light traps as nocturnal insects are known to get attracted to ultraviolet radiation. Also, many diurnal species move to yellow light traps so yellow lamps can also be an excellent tool to effectively control moths**. ASI is presently carrying out precautionary treatments such as spraying of insecticides and herbicides, fixing the loose plaster on cave walls, regular cleaning and use of preservative coating on the painting.

Unearthing an Ancient Civilisation

- Carbon samples from Keeladi had been sent to the Beta Analytic Lab in Miami, Florida, for carbon dating, a widely accepted tool to ascertain the age of archaeological and historical remains. The Lab had found that the cultural deposits unearthed during the fourth excavation at Keeladi in Sivaganga district could be safely dated to a period between 6th century BCE and 1st century CE. These place Keeladi artefacts about 300 years earlier than previously believed. The Keeladi tale began to unravel in March 2015. The first round of



excavation, undertaken by the Archaeological Survey of India (ASI), unearthed antiquities that “may provide crucial evidence to understanding the missing links of the Iron Age [12th century BCE to 6th century BCE] to the Early Historic Period [6th century BCE to 4th century BCE] and subsequent cultural developments.” The second round (2016) threw up strong clues about the existence of a Tamil civilisation that had trade links with other regions in the country and abroad. This civilisation has been described by Tamil poets belonging to the **Sangam period**. (Tamil Sangam, an assembly of poets, had its seat in Madurai between 4th century BCE and 2nd century BCE. The works of this period are collectively called Sangam Literature). This round was significant as it provided archaeological evidence about what was found in Tamil literature. Results of carbon dating of a few artefacts, which were released in February 2017, traced their existence to 2nd century BCE (the Sangam period). The Keeladi findings have led academics to describe the site as part of the **Vaigai Valley Civilisation**. The findings have also invited comparisons with the Indus Valley Civilisation. A researcher of the Indus Valley Civilisation and retired civil servant, R. Balakrishnan, points to the **similarities in urban planning between the Indus Valley and Keeladi**. Rajan refers to the cultural gap of 1,000 years between the two places: “This cultural gap is generally filled with Iron Age material in south India. The graffiti marks encountered in Iron Age sites of south India serve as the only residual links between the Indus Valley Civilisation and south India.” **Some of the symbols found in pot sherds of Keeladi bear a close resemblance to Indus Valley signs**. Graffiti marks are found in earthenware, caves and rocks in or near the excavation sites of Tamil Nadu. The **Tamil Brahmi script**, found engraved on the outer surface or the shoulder of black and red earthenware in Keeladi, carries personal names, say archaeologists. The artefacts unearthed at Keeladi are evidence of this. Recent finds include seven gold ornaments, copper articles, gem beads, shell and ivory bangles, and brick structures that point to the existence of industrial units. Structures that could have been used to convey molten metal or filter liquid strongly point to the existence of people who were involved in industrial work. It was around this time that evidence for a second urbanisation started appearing in the Gangetic Valley. Keeladi has added greatly to the credibility of Sangam Literature.

Science Versus Myths (Devdutt Pattanaik - Writer and Lecturer on Mythology in Modern Times)

- Rajputs appear in history roughly 1,200 years ago in regions now known as Rajasthan, Delhi, Haryana, the Western Gangetic plains and Bundelkhand. For generations they have skilfully used bards, ballads and epic poetry to turn defeats at the northern frontiers of India into moral victories. Rajputs lost to Ghazni about 1,000 years ago, to Ghori about 800 years ago, to Khilji about 700 years ago, to Babur and Akbar about 600 years ago. Yet we remember not their defeat, but their courage; pride; and the images of warriors voluntarily offering their heads to the goddess of war, of their brides burning themselves in pyre rather than surrendering to the enemy, of their loyal horses. Legends about courage composed by poets, centuries after the events took place, must be textbook material, we are told, not facts about defeat collated by historians. Shouldn't textbooks be instruments to raise the next generation of patriots, like hagiographies of saints are used to bind sampradayas? Historians disagree, but they have no power before politicians, who need to bind people with a single narrative, and so are not so much invested in truth as in legend (inspiring memories, indifferent to facts) and myth (cultural truth that gives meaning to the world and life,



indifferent to facts). History as a subject based on scientific principles of measurement and evidence is barely 150 years old. In a short span it has become a serious force among people who wish to control the discourse of a people. At first, this was the priest with his access to transcendental, mystical and occult realms; then it was the king with his access to military, and later democratic, power; then the merchant, the entrepreneur, and the technocrat with control over economic power; and then the peasant and the worker, who had the numbers to replace regimes. Now it is the scientist — the historian, the economist, the sociologist, the anthropologist — who uses measurement to present truths that are objective and ontological (independent of the human mind) rather than epistemic (shaped by the human mind). Naturally, **priests, politicians and technocrats hate scientists**; they yearn for the poets of yore. A history of language reveals how meanings shift over time. The word 'myth' in the 19th century referred to falsehood of polytheism, paganism, and idolatry, as opposed to the 'truth' of monotheism. But today it refers to the cultural truth of a people. The Sanskrit word 'nyaya', which 2,000 years ago meant epistemology, refers today to justice in Hindi. And 'itihasa', which in Hindi today refers to history, meant narratives like the Ramayana and Mahabharata where the authors — Valmiki and Vyasa — are part of the story and hence can confidently say, 'thus indeed it happened' or 'itihasa', as opposed to 'purana' which are old chronicled narratives of gods, kings and sages that authors did not witness but heard from others. But this meaning is lost to those who prefer myths, legend and sacred lore to scientific historiography. For them, Ramayana is history as is Prithviraj Raso that tells the story of Prithviraj Chauhan, who, while defeated by Mahmood Ghori in battlefield and blinded in prison, still managed to kill his captor using his extraordinary archery skills. It does not matter that Prithviraj Raso was composed 400 years after the event. Or that we know this story because James Tod, a captain in the East India Company, collated the stories that Rajput kings wanted to tell about themselves, and presented it as a book, Annals and Antiquities of Rajasthan, highly criticised even in the 19th century, that practically 'invented' the Rajput we know today. Today anything that does not correlate to Prithviraj Raso is seen as falsehood. Any argument might get the Karni Sena, which became infamous during the Padmavat controversy, at your doorstep. No textbook informs us how there are many conflicting stories about Prithviraj Chauhan not just in the Islamic-Persian narratives, which is understandable, but also in other Rajput and Jain legends. For example, how many of us know about Bela, his daughter, who wanted to marry Brahma, prince of Mahoba, who Prithviraj Chauhan did not approve of? The story comes from the great epic Alha, popular even today in Bundelkhand, where Jayachand is the king of Kannauj, and hardly the 'traitor' that Hindutva history insists he is. Alha speaks of how Rajputs fought amongst each other, how caste played a major role, overshadowing merit. It does not paint a flattering picture of Prithviraj Chauhan, as father or leader, and perhaps explains how Rajput infighting made India vulnerable to foreign invasion. But historians and poets who say such things will be silenced. For a king now decides what our past should be.



Business & Economics

IMF Members Delay Quota Changes, Agree to Maintain Funding

- At a time when multilateral institutions stand on increasingly shaky ground, members of the International Monetary Fund (IMF) agreed to maintain its funding at \$ 1 trillion but postponed changes to its voting structure. The deal is a compromise with the U.S., the Fund's largest shareholder, which has resisted changes to the organisation's voting structure as well as increases in its permanent resource base. The deal will allow an extension of non-permanent, supplementary sources of funds – such as the New Arrangement to Borrow (NAB), a renewable funding mechanism that has existed since 1998, and bilateral borrowings from countries - the IMF had entered into these after the 2008 financial crisis to increase its lending ability. The agreement extended the bilateral borrowing facility by a year - to the end of 2020 and a potential doubling of the NAB. **Specifically, the agreed package will leave IMF quotas (the primary source of IMF funds), which determine voting shares, unchanged. Instead, these will be reviewed before the end of 2023. IMF quotas are distributed according to a four pronged formula that considers a member country's GDP, its economic openness, its "economic variability" and international reserves.** Some IMF members have become frustrated with the pace of governance reforms, as the balance of economic and geopolitical power has shifted, becoming more dispersed across the world, particularly with the emergence of China and India - among the world's largest and fastest growing economies. **India's quota is 2.76% and China's is 6.41%, while the U.S.'s quota is 17.46 % (translates to a vote share of 16.52%) giving it a unique veto power over crucial decisions at the IMF, many of which require a supermajority of 85%.** The U.S. has resisted diluting its share, wary that it will benefit countries such as China. Quotas are supposed to be reviewed every five years although these reviews can be delayed – as was the case with the 14th review. That process, completed in 2010, needed approval of the U.S. Congress, and it was not closed out till early 2016. The review's outcomes included a doubling of the quota total and a shift in some voting rights to underrepresented and emerging market countries. India's vote share increased marginally. The 15th quota review is currently underway. "Beyond the 15th Review, we are committed to revisiting the adequacy of quotas and continuing the process of IMF governance reform under the 16th General Review of Quotas, including a new quota formula as a guide, with the Review to be extended from 2020 to no later than December 15, 2023," the IMFC statement said, emphasizing expected changes in quotas for emerging market countries and the Fund's low income countries.

Still A Developing Country (Prabhash Ranjan - Teacher at South Asian University)

- While on the one hand, the official narrative in India is that of a country making rapid developmental strides since 2014, on the other, when it comes to developmental status at the World Trade Organization (WTO), India is trying hard to prove that it is a poor country.

Developing Country Status

Why this dichotomy? While the former assertion is made to please the domestic constituency, the latter proclamation is because of U.S. President Donald Trump's threat that countries like India should be stripped off their 'developing country' status in the WTO. **Under the WTO system, generally, countries are designated as developed, developing, and least developed countries (LDCs).** Article IX.2 of the WTO agreement provides that the LDC status of a country



in the WTO is based on such status being recognised by the UN. But the agreement does not mention any criterion to determine a 'developing country' status. The uneven level of development between developed and developing countries in the WTO is a well-recognised fact. Article XVIII of the General Agreement on Tariffs and Trade (GATT) recognises that attaining the objectives of this agreement would require facilitating the progressive development of those countries that can only support low levels of development and are at the early stages of development. Accordingly, **countries self-designate themselves as 'developing country' to take advantage of provisions like Article XVIII of GATT and other special and differential treatment (S&DT) provisions in the WTO agreements.** These provisions are aimed at increasing trade opportunities for developing countries, ensuring longer transitional periods to comply with WTO obligations, and affording technical assistance to countries, among other things. In January 2019, the U.S. made a formal submission to the WTO that countries like India are no more 'developing countries' and thus should not enjoy the S&DT benefits. It presented data such as the fact that **India's GDP has grown from \$0.60 trillion in 1995 to \$2.63 trillion in 2017. The U.S. proposed that any country that meets one of the following criteria shall not be eligible for S&DT benefits: membership of, or seeking accession to OECD; membership of G20; share in world exports exceeding 0.5% or classified as high-income group by the World Bank. India is a member of the G20 and its share in world exports is around 1.7% as of early 2019. So, as per these criteria, India will not qualify as a developing country. While graduating to a 'developed country' status would have been a matter of joy, the ground reality is very different. India rightly countered the U.S.'s argument. In a paper submitted to the WTO, it gave several numbers to show that it is still a poor country and thus requires S&DT provisions. For example, the paper showed that India's GDP per capita is very low; India has 364 million people living in multidimensional poverty; the domestic subsidies provided to per farmer is a meagre \$227; and India has a very low research and development capacity.**

US Threat

Unimpressed by these numbers, the U.S., in July, declared that if substantial progress were not made in the WTO in reforming the determination of 'developing country' status, it would, within three months, unilaterally stop treating certain countries as 'developing country'. Thus, the U.S. would stop giving trade benefits to such countries. Despite the bonhomie displayed by President Donald Trump and Prime Minister Narendra Modi in U.S. in September, the U.S. has renewed this threat recently to mount pressure. A few days back, South Korea capitulated to this pressure, giving up its 'developing country' status. The heat is on India. Any unilateral action by the U.S. would be a violation of international law and yet another onslaught on trade multilateralism. At the same time, the Indian political leadership also needs to refrain from being on a publicity overdrive about India's development. At times, its own rhetoric can come back to bite India.

Good Report Card

- For an economy starved of good news, the news of a rise in India's ranking by 14 places to 63 in the World Bank's Ease of Doing Business 2020 survey is a positive development. India also figures in the top ten most improved countries in the world for the third consecutive year. **From being ranked 142 in 2014 to 63 in 2020**, it has been a significant upward journey for the country in a rank list that is an important input in the plans of global investors. The latest improvement has come on the back of the implementation of the **Insolvency and**



Bankruptcy Code (IBC). India's rank has improved from 108 to 52 in the "resolving insolvency" category with the overall recovery rate for lenders moving up from 26.5 cents to 71.6 cents to the dollar according to the World Bank. This is despite the IBC process being bogged down in courts as interested parties attempt to delay eventual resolution that may work against their interests. The reforms in trade procedures and paperwork as a result of India signing the **Trade Facilitation Agreement** at the World Trade Organisation are beginning to show. The country's ranking in the "**Trading across borders**" category jumped 12 places from 80 to 68 signifying the **abatement of paperwork in favour of electronic filing of documents** and single-window customs procedures. Interestingly, there has been improvement in a parameter that most industrialists would consider as a problem even now: "**Dealing with construction permits**". The country's ranking has improved by 25 places from 52 to 27. While the improvements are impressive and the rise in overall rankings in the last few years is noteworthy, the fact is that **India is still below its competitors for global capital, particularly China, which at rank 31 is one level above France**. The country lags in key metrics such as "**Starting a business**", "**Enforcing contracts**" and "**Registering property**". It should also be borne in mind that the rankings are based on samples and audits done in **Mumbai and Delhi only** (the World Bank has said it would be covering Bengaluru and Kolkata too from next year). Starting, running or shutting down a business may be easier in Delhi and Mumbai compared to Coimbatore or Hyderabad where it is probably more difficult. Admittedly, **it is not easy to streamline processes across the country given India's federal set up where States have a big say in several parameters that go into the ranking such as securing building permits, land approvals, electricity connections, registering assets etc**. Yet, this is the ideal that the country should be striving for. The easier part is now done and rise in rankings from hereon will depend on how much the Centre is able to convince the States to reform their systems.

Economy's Pathetic Condition

- Hopes of a quick turnaround in the economy have turned out to be quite premature in light of the latest set of economic data released. The Commerce and Industry Ministry reported that **core sector** output, which is measured by tracking the performance of **eight major industries including cement, steel, and crude oil**, contracted by a sharp 5.2% in September. This is its worst fall in 14 years. **Seven out of the eight core industries witnessed a contraction, with the coal sector being the worst hit, shrinking by over 20%**. The latest figures are in stark contrast to core sector growth of 4.3% reported during the same month last year. Given that core sector contraction was only 0.5% in August, the trend points towards a worsening of the economic situation. At the moment, it seems quite likely that gloomy core sector performance will affect GDP growth in the second quarter as well as the full financial year. It is worth noting that while a few high-frequency data points had shown some signs of a nascent revival in the economy in September, most still remain mired in a slump. Plus, the present contraction in the core sector, which represents the capital base of the economy, suggests that the negative effects of the fall in consumption are spreading across the entire production chain. In further bad news, data released by the Centre for Monitoring Indian Economy showed that unemployment in October rose to a three-year high of 8.5% in October. This marks a sharp jump from 7.2% in September. If growth fails to pick up, the unemployment scene could get ugly and further contribute to the demand slowdown. What is even more worrying is the fact that the current slowdown comes in the midst of a spree of aggressive rate cuts amounting to 135 basis points by the Reserve Bank of India since



February this year. Lending in the festival season has picked up with banks extending over ₹1 lakh crore in the period between mid-September and mid-October. Yet, growth in credit this financial year till now is a flat 0.2% only. Festival season sales have shown an uptick with increase in sales of automobiles and also consumer durables. But it remains to be seen if this trend sustains. The government at the Centre is clearly in an unenviable position with very little fiscal leeway to boost growth by increasing its spending. Some of the reforms announced in the last few months may show some positive results with time. But without more meaningful structural reforms to address long-term problems such as the private sector's reluctance to invest, it is unlikely that India will move towards the heady days of 8%-plus growth any time soon.

Tracking Employment in India

- Ever since the results of the Periodic Labour Force Survey (PLFS) 2017-18 became public — they showed that unemployment in India was at a 45-year high — there has been vigorous public debate about the true state of unemployment in the country. What has fuelled this debate — and allowed different people to arrive at differing conclusions about the state of unemployment — has been the long delays in the availability of past employment data, even though PLFS tracks employment annually. Now, a new study, commissioned by the Economic Advisory Council to the Prime Minister (EAC-PM), and undertaken by Laveesh Bhandari of Indicus Foundation and Amaresh Dubey of Jawaharlal Nehru University, has highlighted the broad trends for employment in India between 2004 and 2018. A key feature of this study is that instead of focusing on unemployment, it focuses only on the “employment” data. It does so by looking at three comparable surveys conducted by the National Sample Survey Organisation (NSSO) — the Employment-Unemployment Surveys (EUS) of 2004-05 and 2011-12, and the PLFS of 2017-18. **The NSSO surveys divide the entire population into three categories. Broadly speaking, Category 1 consists of people who were involved in economic activity (or work) during the reference period of the survey. These individuals are labelled as “Employed” — and Category 1 can be subdivided into categories such as self-employed, salaried employees, and casual labourers. Category 2 consists of people who were not engaged in any economic activity during the reference period of the survey, but were looking for work if work was available. These individuals are labelled as “Unemployed”. Taken together, categories 1 and 2 form the country’s “labour force”. Category 3 constitutes people who are neither engaged in work nor available for it. This category — labelled as “Not in the labour force” — would have a large number of people, including those who have retired, those studying, those unable to work due to disability, and those attending “only” to domestic duties.** The new study focused on the level and trends of the ‘Employed’ — that is, Category 1. On the whole, the study found that the total employment in the country grew by 4.5 crore in the 13 years between EUS 2004-05 and PLFS 2017-18. What puts this absolute number in perspective is that **this represents a growth of just 0.8 per cent — less than half the rate at which the overall population grew, which was 1.7 per cent. Of the 4.5 crore increase in employment, 4.2 crore happened in the urban areas while rural employment either contracted (by 0.01 per cent between 2004 and 2011) or was stagnant (grew by 0.18 per cent between 2011 and 2017). Over the 13 years, male employment grew by 6 crore but female employment fell by 1.5 crore. In other words, while there were 11.15 crore women with jobs in 2004, only 9.67 crore were employed 13 years later. Women’s share in employment has fallen from an already low level of 27.08% in 2004 to 21.17 per cent in 2017.** India is one of the world’s youngest nations, but employment data according to age groups



shows that youth employment (those between the ages of 15 and 24) has fallen from 8.14 crore in 2004 to 5.34 crore in 2017. However, employment in the 25-59 age group and the 60 years and above group has gone up. The sustained schooling reforms seem to have shown their impact in the employment of children below 14 years of age reducing from 61 lakh in 2004 to 27 lakhs in 2011, and just 11 lakhs in 2017. The emerging economy appears to be leaving behind the illiterates and those with incomplete primary education. Employment in this category has gone down from 20.08 crore in 2004 to 14.2 crore in 2017, and their share in those employed has gone down from 48.77 per cent in 2004 to 31.09 per cent in 2017. Employment has risen for all other categories of education from primary, secondary, to postgraduate and above. The rate of employment growth in the organised sector — that is, in firms that are registered with regulatory authorities and are bound by a variety of labour laws — has been the fastest, and its share in the total employed has risen from 8.9 per cent in 2004 to 14 per cent in 2017. The unorganised sector, too, has grown. In fact, while its rate of growth has been slower, its overall share in the economy has gone up from 37.1 per cent in 2004 to 47.7 per cent in 2017. However, the pace of growth of the unorganised sector has moderated since 2011. Both these sectors have grown at the expense of the agri-cropping sector, where employment has fallen from 21.9 per cent in 2004 to 17.4 per cent in 2017. In essence, the results show that those who are poor, illiterate, and unskilled are increasingly losing out on jobs. Typically, it is expected that those who work in the organised sector would be employed on some formal contract. **The presence of a contract makes all the difference when it comes to job security, minimum wages, equal pay for equal work, safe working conditions, etc. Without a contract, even a worker employed in the organised sector would not have any means of seeking recourse for any injustice. Non-contractual labour also earns less in general than contractual labour. That is why the unorganised sector almost entirely employs workers on a non-contractual basis.** However, the NSSO data show a sustained trend of even the organised sector in India preferring to employ workers without a contract. Indeed, between 2011 and 2017, this resulted in the organised sector coming to employ more people without a contract. That firms — whether organised or unorganised — prefer non-contractual employment is bad news for India's bid to make the economy more formal. In all likelihood, firms are doing so to cut the extra costs that come with complying with inflexible and stringent labour laws. This is more likely to be the case when firms are stressed for money and struggling to grow.

Increase in Rabi MSP

- MSPs are one of the most important determinants of cropping patterns and overall production in India, as they signal the benchmark for farm prices across several commodities. The latest increase is of ₹85 per quintal for wheat, which is the main rabi crop, taking the MSP to ₹1,925 per quintal. This is roughly in line (in fact, a little lower) with annual MSP increases in wheat since 2014 (when it was ₹1,450 per quintal).

ANALYSIS: Seen from the consumer's point of view, a modest increase in MSPs would be a welcome sign. That is because, according to the latest data, retail food inflation in September jumped from 3% to 4.7%. Since food items account for over 54% of retail inflation, the headline inflation too shot up to a 14-month high. So, modest MSP increases suggest that food prices will perhaps not rise too high. However, the farmer's point of view is very different. Modest increases have been blamed for the stagnation in farm wages and an overall decline in rural demand. The most recent criticism on this count came from 2019



Economics Nobel winner Abhijit Banerjee, who pointed to low MSPs as a reason for depressed rural demand. Should the government have increased the MSPs by a bigger quantum to boost rural incomes and demand is an open question — especially because doing so would entail the risk of heightened inflationary pressures, which can then force the RBI to reverse the cycle of cutting interest rates.

Revival Plan for BSNL and MTNL

→ The Cabinet's approval this week for a plan to revive the loss-making public sector telecommunications providers Bharat Sanchar Nigam Ltd. (BSNL) and Mahanagar Telephone Nigam Ltd. (MTNL) has come not a moment too soon. From having been monopoly providers of telephone connectivity, the state-run Telco's have had to contend with sweeping change since the opening up of the industry to private players and entry of wireless telephony in the 1990s. In just over two decades, the mobile phone revolution has catapulted India to the second rank in terms of wireless subscribers, with only China ahead. But the radical transformation of the industry landscape — wrought by the runaway growth in user numbers, rapid technological advances, and bruising competition — has come at a substantial price. The private sector saw the relatively older, large firms using mergers and acquisitions to consolidate as smaller rivals found themselves unable to cope with bitter tariff wars and the capital costs of bidding for spectrum and upgrading their technologies. BSNL, for its part, was saddled with the legacy of having been a large-scale provider of jobs as well as state-mandated connectivity to remote corners of the country. It is in the fulfilment of the state's social objectives that the public sector enterprises (PSEs) racked up substantial costs, which the Centre's revival plan aims to help address. The proposal includes the allotment of critical spectrum to the two PSEs for offering fourth-generation wireless services, including broadband. The Centre will fund the spectrum's cost through an infusion of ₹20,140 crore of capital while also bearing the related GST levy of ₹3,674 crore. And besides providing a sovereign guarantee on ₹15,000 crore of long-term bonds, which would help the firms restructure debt and partly fund expenses, the government will extend budgetary support of ₹17,169 crore for ex-gratia payments on a crucial voluntary retirement scheme. A lot will hinge on this VRS plan given that BSNL's workforce of over 1,65,000 employees end up cornering about 75% of the telco's total income. The Cabinet has also given an 'in-principle' nod for the two PSEs to merge, a move that would add market heft to the merged entity. A successful revival of BSNL will have far-reaching implications for the industry, this at a time when two of the three surviving private players are faced with not only sliding market share but a government bill of about ₹75,000 crore following the loss of a legal challenge. The reach of its network, especially in remote parts, makes BSNL a "strategic asset" that has national security implications given its role in serving the armed forces and responding to natural disasters. The revival plan, even if years late, is a clear recognition by the government of this indisputable fact.

Liberalising Fuel Retail

→ **CONTEXT:** The retail sale of transportation fuels such as diesel and petrol is almost entirely dominated by public sector oil marketing companies such as Indian Oil Corporation Ltd (IOCL), Hindustan Petroleum Corporation Ltd (HPCL), and Bharat Petroleum Corporation Ltd (BPCL). There are some private players as well — Reliance, Essar and Shell — but as of May 2019, fewer than 7,000 of the 64,703 retail outlets in the country belonged to them. **The**



government has now decided to liberalise this regime by tweaking the “guidelines for granting authorisation to market transportation fuels”, something that has not been done since 2002. In essence, the new rules lower the entry barriers for private (including foreign) players to enter the market for fuel retailing. For instance, new entrants will require a minimum net worth of just ₹250 crore as against the current requirement of ₹2,000 crore. Non-oil companies too, can invest now. This “major reform” will give a fillip to the “Ease of Doing Business”, the government says.

ANALYSIS: For an economy like India, which is trying to grow fast and create more jobs, a move that lowers entry barriers should be welcome. The increased presence of the private sector, including foreign companies, is likely to boost job creation and improve consumer satisfaction with more retail outlets, better technology use, and more competition. An interesting aspect of the new norms is that besides conventional fuels, the authorised entities will be required to install facilities for marketing at least one new-generation alternative fuel such as CNG, LNG, biofuels, electric charging, etc., within three years of operationalising their retail outlets — a nod to concerns over the harm done to the environment by conventional fuels.

Govt. to work on relief package for Telco's

- The government has constituted a Committee of Secretaries (CoS), headed by Cabinet Secretary Rajiv Gauba, to work out a relief package for the telecom sector, a move that may help mitigate the impact of the more than ₹1.4 lakh crore that the Telco's may need to pay the exchequer following a recent Supreme Court order. The source added that the CoS will review various demands made by the industry, including deferment of spectrum auction payment due for the next two years, reduction in spectrum usage charges and the Universal Service Obligation Fund levy. A case is also being made for viable pricing for voice and data, which falls in the realm of sectoral regulator TRAI, the source said. TRAI is expected to examine prescribing a minimum charge for voice and data services to ensure long-term viability and robust financial health of the sector, the source added. The panel, which will comprise secretaries to the Ministries of Finance, Law and Telecom, is expected to submit recommendations in a time-bound manner. The industry's debt currently stands at about ₹4 lakh crore. Last week, the Supreme Court upheld the government's position on including revenue from non-telecommunication businesses in calculating the annual adjusted gross revenue (AGR) of telecom companies, a share of which is paid as licence and spectrum fee to the exchequer. Following the order, the telcos may have to pay the government ₹1.42 lakh crore within three months. According to the DoT's calculations, Bharti Airtel's liability stands at about ₹42,000 crore while Vodafone Idea may have to shell out about ₹40,000 crore. Reliance Jio may have to pay about ₹13 crore. Noting the gross revenue of the industry had fallen between 2017-18 and 2018-19, the source said the price of data for the customer at an average of ₹8 per GB is perhaps the lowest in the world. Additionally, the average revenue per user per month has declined from ₹174 in 2014-15 to ₹113 in 2018-19.

RBI Deputy Governor Post Vacant For 3 Months

- On August 1, the government had invited applications to fill up the Deputy Governor's post. According to the advertisement, the applicant should have at least 25 years of work experience in public administration, including at the level of secretary or equivalent in the central government. Candidates with at least 25 years of work experience in an Indian or



international public financial institution could also apply. The appointment was for three years and the person was eligible for reappointment. The Financial Sector Regulatory Appointment Search Committee (FSRASC) is responsible for selecting the candidate. The central bank has four Deputy Governors of which two are appointed from outside — one, a commercial banker and the other, an economist. The remaining two are promoted from within the RBI. The importance of the economist-Deputy Governor can be gauged from the fact that the person is on the monetary policy committee that decides on interest rate and also handles the all-important monetary policy department. After Mr. Acharya resigned, B.P. Kanungo, a Deputy Governor of the RBI, was given the charge of the monetary policy department and was inducted into the six-member monetary policy committee. There have been two monetary policy reviews after Mr. Acharya had quit — one in August and another in October. The next review is scheduled for early December. Before Mr. Acharya, Urjit Patel was the economist-Deputy Governor at the RBI. He later became the Governor after Raghuram Rajan's term ended. However, it is not unusual that the Deputy Governor's post is left vacant for a long time. When Mr. Patel became the Governor in early September of 2016, the Deputy Governor's post was vacant for four months.

Repo Rate

- No matter which way one looks at it, RBI's decision to cut repo rates was a justified move, especially since overall retail inflation has been well within the RBI's comfort zone of 4%. Repo rates have little impact on a bank's overall cost of funds, and reducing lending rates just because the repo has been cut is not feasible for banks. For any bank to be viable, there must be a clear difference between the interest rate it charges from borrowers on loans it provides and the interest rate it gives to consumers on deposits it accepts. The difference between these two sets of interest rates has to be not only positive but also big enough for the bank to make profits. To attract deposits, banks pay a high deposit rate. Such deposits make up almost 80% of all banks' funds from which they then lend to borrowers. Banks borrow a minuscule fraction under the repo. So even sharply reducing the repo rate doesn't change the overall cost of funds. Unless banks reduce their deposit rates, they will not be able to reduce their lending rates. That's because if a bank were to reduce its deposit rates, depositors would shift to a rival bank that pays better interest rates or park more and more of their savings in small saving instruments such as public provident fund, Sukanya Samridhi Yojana etc that pay much higher interest rates. There is another aspect. Even if banks wanted to reduce their deposit rates, they can't always reduce them immediately. Miren Lodha, Director, CRISIL Research, said 65% of total deposits are "term" deposits (fixed for a certain duration) and take, on an average, up to two years to get repriced at fresh rates. "Therefore, banks generally go slow on reducing the interest rates on advances as deposits take longer to get repriced." This, too, has to do with the banks trying to manage their finances. If they are under pressure to reduce the interest rate they charge on new loans, then one of the things they could do is to push up the interest rates on old loans that allow for such flexibility. It also has to do with the financial health of a bank; weaker banks would be forced to raise rates to cover for past losses, explained Suvodeep Rakshit of Kotak Institutional Equities. It is not a viable solution. The banks cannot link their lending to the repo rate because repo doesn't determine their cost of funds. **For a repo-linked regime to work, the whole banking system would have to shift to that – in other words, along with banks' lending rates, their deposit rates too must go up and down with the repo. But if such**



a regime were in place, depositors would have earned 1.10 percentage points less interest rate on their savings account.

Preparing for Disruptions Induced by Policies (T.K. Ramachandran Is with The Indian Administrative Service)

- Often, reforms and policies which aim to weed out adverse practices are programmed to cause disruptions. However, though these disruptions are quite intended, they catch people off-guard. This reflects lack of preparedness and unwillingness to come to terms with reality. The recent slowdown in some sectors of the economy, though temporary, may carry lessons that will help India prepare for such disruptions in the future. Take, for instance, the automobile sector. For decades now, reams have been written about pollution, congestion, and accidents caused by the burgeoning number of automobiles in cities. Solutions that have been offered include shifting from owner-driven to mass transport systems that are more environment-friendly, less polluting, cheaper, faster and safer. That is why a dozen cities are building mass rapid transit systems. At the same time, some think tanks have stressed the need for enhanced paratransit including taxis to complement public transport. They have pointed out that urban infrastructure cannot keep pace with the increase in the number of automobiles. Today, the cost of owning a vehicle is so high and involves so many hassles that some may actually prefer taxis to owning vehicles, a trend seen in the developed economies. **Logistics cost in India, at 13-14% of the GDP, is high compared to the developed world where it is around 9-10%.** An ICRA study in 2018 found that post-GST, turnaround time for long-haul trucks reduced by at least a fifth as inter-State check posts were removed. **This means that more trips are possible per truck and this could lead to a slump in demand for new trucks. Therefore, productivity improvement in one sector may imply catastrophe for another. One would have imagined, therefore, that after years of planning, campaigning, and expenditure, Indians would feel vindicated as more people are using public transport and paratransit options in major cities. We should have expected vehicle sales to fall as a result of these changes and we should have prepared for alternatives.** But irrespective of whether the current fall in sales of automobiles is a temporary effect or a symptom of the downturn of the economy, the response to it is worryingly indicative of how we might respond to future shocks. What if the same scenario plays itself out as a consequence of reforms and campaigns, at least in the big cities, in a few years? Would we refuse to accept that one of the aims — an intended disruption — of transport policies (i.e., promoting mass and public transport) may actually be happening before our eyes? Wheeled luggage may result in porters in railway stations going out of business. Is that a reason to ban wheeled luggage or impose additional taxes on them? Cycle-rickshaws are slowly being phased out and are being replaced by motorised vehicles. Are we talking about the distress of the lakhs who may lose their jobs consequentially and providing them safety nets or subsidies? The fact that the coal or petroleum sectors are showing decline may not automatically imply that the core sectors are in the doldrums. The expectation should be that they will show decline, especially when India is investing so heavily in renewables. As more and more industries opt for captive renewables, thermal plants will become increasingly stressed and SEBs may have to forsake their high-paying commercial and industrial customers. **In the short run, whenever such changes take place, disruption is inevitable.** Yet, naively, we expect the change to be inconsequential. Or the industry hopes that growth in the sector will outdo the disruptive effects of the reform. For instance, the auto industry may expect the growth in rural areas to



far outweigh the slump in urban areas, but this may not always be the case. All this speaks volumes about the confidence we have in our own interventions. It shows **our stakeholders' unpreparedness for the consequences of the country's consciously undertaken reforms. The inexorable march of technology, digitisation and 'green' public policies will inevitably have an impact on several industries, especially the polluting ones.** National and societal welfare, the environment and ethical governance will start taking precedence over profits for a few. Several sectors of the old economy will need to brace themselves for more such shocks which will be permanent and inevitable.

[Minding the Gaps in India's Data Infrastructure \(Sonalde Desai - Professor of Sociology, University of Maryland\)](#)

- Demographers from around the world gathered in Delhi to mark 25 years of National Family Health Surveys (NFHS). It was both a celebratory and sombre moment. Policymakers and researchers celebrated tremendous achievements of four rounds of the NFHS since 1992-93; these have provided data on Indian families and allowed for development and evaluation of public policies regarding population, health, education and the empowerment of women. It was also heartening to see the political commitment towards ensuring the continuation of this outstanding survey programme at regular and predictable intervals. Nonetheless, a single concern permeated the two-day conference. Can India's existing data infrastructure support high quality data collection or are we staring at a precipice where deteriorating data quality will lead evidence-based policy development astray? Presentations by Dr Amy Tsui, Professor at Johns Hopkins University, and Dr Santanu Pramanik, Deputy Director, National Council of Applied Economic Research (NCAER)-National Data Innovation Centre, on contraceptive use highlighted the difficulties in obtaining reliable, high quality data. Between 2005-06 and 2015-16, the total fertility rate (TFR) declined from 2.68 to 2.18 births. However, instead of being accompanied by increased contraceptive use, as would happen during normal circumstances, contraceptive use also declined from 56.3% to 53.5%. Using different approaches, both Prof. Tsui and Dr Pramanik came to the same conclusion — that this aberration must be attributed at least partially to declining quality of contraceptive use data in NFHS-4. Much of the data quality discussions in the past have erupted when politically sensitive results around topics such as GDP growth rate or poverty rates have been released and partisan bickering allows for little room to think about data collection systems. A retrospective look at the way in which an outstanding programme of research such as the NFHS has changed over time along with the nation it chronicles, and emerging challenges facing the NFHS and other data collection efforts provide an opportunity to look at overall challenges facing our data infrastructure in a constructive manner. As Pravin Srivastava, Chief Statistician of India, noted at the NFHS conference, there is an amazing greed for data in modern India. This greed ranges from wanting to evaluate success of Poshan Abhiyaan (nutrition programme) to measuring changes in the aspirational districts. However, he also noted that the once vaunted Indian statistical infrastructure is crumbling and is not able to fulfil even its traditional tasks, let alone meet these new demands. I would like to submit that every government over the past two decades has been complicit in this neglect. If we are to move towards developing a more robust data infrastructure, subscribing to the following core principles may be a good start. First, set realistic goals and use creative strategies. In order to obtain data at the district level, the sample size grew from about one lakh households in NFHS-3 to over six lakhs in NFHS-4. At that time the National Statistical



Commission had expressed a concern that such an expansion may reduce data quality. There was a fair amount of agreement among the participants at the NFHS conference that this concern may have been prescient. The government's need for district-level estimates of various health and population parameters is legitimate, but do we need to rely on household surveys to obtain them? With a variety of small area estimation techniques available for pooling data from diverse sources to obtain robust estimates at district level, it may make sense for us to think of alternatives and to make sure that we obtain required local government directory identifiers in each aspect of government data, including Census, sample registration system, and Ayushman Bharat payment systems to ensure that these data can be pooled and leveraged. Second, adapt to changing institutional and technological environment for data collection. Veterans of the Indian statistical system blame deteriorating data quality on the move from regular employees to contract investigators at the National Sample Survey and use of for-profit data collection agencies in the NFHS.

Some of the initiatives undertaken by the Ministry of Statistics and Programme Implementation for developing training programmes for investigators offer a welcome improvement but stop far short of the radical restructuring of data collection oversight. I have enormous empathy for field investigators. They work under difficult conditions and are sometimes employed by for-profit agencies that require unrealistically high levels of output. Nonetheless, this is the data that guides the policies affecting millions of Indians and must be faithfully collected. Where interviewers make a mistake, they must be retrained. Where agencies impose an unrealistic workload, they must be checked. However, discovering mistakes after data collection has been completed is far too late to take any corrective steps. Concurrent monitoring using technologically-enabled procedures such as random voice recording of interviews, judicious back checks, and evaluation of agency and interviewer performance on parameters such as skipping sections, inconsistent data and consistent misreporting may be needed to ensure quality. Academician Dr Leela Visaria noted the declining role of State population research centres in NFHS data collection. It may be worth investigating if they can be involved in quality monitoring. Third, establish research units exclusively focused on data collection and research design. At one point in time, innovative research on the NSS was undertaken by an associated unit at the Indian Statistical Institute in Kolkata. Since the dissolution of this association, very little research on data collection techniques takes place in India. We know little about whether men or women are better responders for data on household consumption expenditure. Nor do we know the extent of discrepancy in reporting on employment data between a direct response from women in the household vis-à-vis a proxy response via the household head. Do Likert scales that ask individuals to respond on their health status in five categories work well in India or do Indian respondents avoid choosing extreme categories? How does the presence of other people bias responses on contraceptive use? And does it have an equal impact on reported pill use as it does on sterilisation? While research on data collection methods has stagnated, research methodologies have changed phenomenally. Telephone surveys via random digit dialling or selection of respondents using voter lists are increasingly emerging as low-cost ways of collecting data. However, we know little about representativeness of such samples. Are men or women more likely to respond to telephone surveys? Are migrants from other States well represented on the voter list? Unless we pay systematic attention to the data infrastructure, we are likely to have the national discourse hijacked by poor quality data as has happened in the past with a measurement of poverty or inconsistent data on GDP.



Firm Steps to Ease The Fiscal Federalism Tension (Praveen Chakravarty - Political Economist)

- A “camel’s nose” is a metaphor from an old Arabian tale, to describe a situation where one permits a small entry to an outsider into one’s territory, only to be soon pushed out entirely. The fiscal relationship between the Centre and the States is fast turning into a “camel’s nose” syndrome for the States. After a seemingly innocuous entry through the Goods and Services Tax (GST) by the Centre into the territory of taxation powers of States, it is now arming itself to elbow the States out entirely of its fiscal powers. This is a dangerous development, especially coming at a time when the nation is at its divisive worst. India is a union of States. Citizens of every State elect their government independently. The primary responsibility of such an elected government is efficient governance and accountability to its voters. An elected government is typically granted the powers to be able to raise revenues through taxation of its citizens and incur appropriate expenditure for their benefit. Over the past five years, democratically elected State governments have been stripped of almost all powers of taxation; there is an attempt to palm off the Centre’s expenditure obligation to the States and there is now talk of even limiting expenditure powers of the States. In 1982, the newly elected Chief Minister of Tamil Nadu, MG Ramachandran (MGR) wanted to expand the midday meal programme to all 70 lakh children across 52,000 government schools to improve student enrolment. This entailed an additional expenditure of ₹150 crore, which the government did not have. MGR decided to levy an additional sales tax on goods sold in Tamil Nadu to cough up the amount needed. The programme was then further expanded by successive governments under the Dravida Munnetra Kazhagam, which then catapulted Tamil Nadu’s literacy rate from 54% in 1981 to 83% in 2011. In just three decades, Tamil Nadu was counted as one of India’s most literate States. MGR and other Chief Ministers of Tamil Nadu did not have to rush to New Delhi to make the decision to implement a midday meal programme and impose additional sales taxes to fund it. It was decided and approved in Chennai. But in today’s India, MGR would have had to dash to Delhi and seek approval. Typically, more than 80% of government’s revenues come from taxes, primarily from income tax (direct tax) and sales taxes (indirect tax). State governments in India do not have powers to levy income taxes. With GST, the Centre stuck its nose into the metaphorical indirect taxes tent of State governments. States lost their sole powers to levy indirect taxes. Instead, they depend on a GST Council to determine tax rates and revenues, in the mischievous disguise of cooperative federalism. So, a democratically elected State government in India can neither levy income tax nor sales tax. Representation without taxation, as the Americans might say. With its nose in the tent, the Centre is now stretching its arms and legs to capture more. It has now proposed that there should be a permanent expenditure fund created for defence spending out of the total tax revenue pool. The Centre keeps 52% of the total tax revenue pool and distributes 48% to all the States and Union Territories. Instead of using its 52% share to spend on defence, the present government wants to palm off this expenditure to all the States. This will likely further reduce the tax revenues distributed to States for their own expenditure. Just as how in the garb of cooperative federalism the Centre intruded into States’ taxation powers, under the garb of nationalism, it wants to further dilute the overall tax revenue pool of the States. If this was not enough, there is now talk, supported by the Prime Minister’s economic team, of constituting an Expenditure Council, similar to the GST Council. Not only did States lose their taxation powers but with this idea, they will lose its sole spending powers too. An elected Chief Minister of a State with no discretionary powers to



earn or spend for the people of the State can virtually hand over the reins of governance to Delhi. This is not very different from how it was for provincial governments in India during the imperialistic reign. While it may seem like there is a political monopoly in India today, let us not forget the huge economic and cultural diversity among the various States. It is a terrible mistake to presume that all of India can be governed from Delhi. Elected State governments and leaders cannot be made dummies without any fiscal powers for long. This fiscal federalism tension between the Centre and States can erupt into something more dangerous and spread wide. The one tangible solution to restore this balance is to grant State governments the powers to levy income taxes. Since the birth of the republic, State governments have not had the powers to levy income taxes on citizens, except for agriculture taxes which are very small. In large federal democracies such as the United States, State governments and even local governments have the right to levy income taxes. In an India that is now increasingly diverging, it is imperative that democratically elected State governments are given powers to raise revenues and incur expenditure in accordance with each State's needs and priorities. It is foolhardy to think that a council in Delhi can determine all revenues and the expenditure of each State. There is a new report of the direct tax code that has been submitted to the Finance Minister recently. The time is now appropriate to amend the Constitution to grant States the powers to levy income taxes as they deem fit. Among the present government's various intellectual misgivings, the biggest of them is perhaps its inability to make a distinction between unity and uniformity. Uniformity is not an essential condition for unity. On the contrary, a celebration of plurality may foster greater unity in a nation such as ours. The days of imperialistic London are over. It is the era of Gandhinagar, Chennai, Lucknow and Kolkata.

[A Fix for Growth Gain from Fiscal Pain \(T.K.A. Nair - Principal Secretary and Adviser to Former Prime Minister, Manmohan Singh\)](#)

- ➔ After having been in denial mode for months, the government with its substantive cut in corporate tax, publicly admitted, through belatedly, what was widely known and experienced about the sluggish economy. The audacious tax cut, that was effected last month, was apparently done in the hope that it would kick-start the sagging economy. By bringing down corporate tax to the global level, the government has undoubtedly sent a strong and positive message which has cheered the stock market and hit the media headlines globally. Though the immediate tax bonanza would boost the bottom lines of only Indian corporates, its message to foreign investors too was positive. Against the backdrop of China losing its sheen as a preferred global investment destination, the prospects of attracting sizeable foreign capital investment in the Indian economy are indeed brighter than ever before especially in the context of the trade war between China and the United States. Describing the corporate tax cut as historic, the Prime Minister said it would give a stimulus to the 'Make in India' campaign, attract private investment from across the globe, improve the competitiveness of India's private sector, create more jobs, and result in a win-win situation for the 130 crore Indians. The country's corporate honchos and the stock market loudly echoed the sentiments of the Prime Minister and cheered the government's move. For an economy raring to become a \$5-trillion one by 2025, sacrifice of tax revenue of a lakh-and-a-half crore rupees in favour of the corporate sector could be justified politically and economically, provided it realises the ambitious expectations spelt out by the Prime Minister. But as euphoria over the unprecedented step is evaporating, it is time to closely look at its possible



impact both in the immediate and the long term in the context of the current sluggishness in the economy. By now it is widely accepted that the slump in demand for industrial and consumer goods that range from heavy equipment to automobiles to soaps and biscuits have starkly reflected the reality of a slowdown. The government woke up to this reality, though belatedly, and swallowing its earlier dubious explanations such as changing consumer preferences and the like for the downturn in demand, injected with alacrity a massive dose of adrenalin in the body corporate hoping that it would release the animal spirit in the economy. The capital market was enthused, the Sensex soared and corporates exuded confidence. Now the million-dollar question is whether the revival of the animal spirit would spur an increase in capital investment either for expansion of existing operations or for the launch of green field projects. Regrettably, the prospects are bleak for the same reasons on account of which the economy slumped in the first instance — lack of demand that was evident in the market for quite some time. For obvious reasons, higher levels of surplus income with corporates will not necessarily translate into a higher level of investment and a consequent spurt in economic growth. A high level of demand for products and services is the sine qua non of higher levels of investment and consequent economic growth. Agriculture and allied sectors and micro, small and medium enterprises (MSMEs) — not corporates — are still the strongest drivers of our economy. Agriculture and allied sectors which not only contribute to our food security but to approximately over 50% employment have been on the decline in spite of several ad hoc policy pronouncements to revive them. At the same time, MSMEs suffering for a long time on account of institutional constraints including inadequate and timely availability of credit were crippled after demonetisation. The report of the expert committee on MSMEs that was set up by the Reserve Bank of India has made significant recommendations. These include constituting a government-sponsored “fund of funds” to support venture capital funds and a credit guarantee fund which would go a long way in enabling their growth. Employment generation has been dismally low and unemployment has reached an all time high despite the government’s feeble protestations to the contrary. These are issues that are fundamental to the economy, and without addressing them directly and systematically, expecting higher levels of growth is patently unrealistic. The latest reports of Moody’s, the International Monetary Fund and the Asian Development Bank confirm this gloomy assessment. Reinvigorating the National Rural Employment Guarantee Programme, and making it demand-driven as originally envisaged could be a concrete and immediate step to generate greater purchasing power in the hands of the people to accelerate demand and consumption, especially in the rural areas. Higher levels of public spending for creating much-needed infrastructure in several sectors would not only generate employment but also create productive assets. For instance, spending on buildings, roads, bridges, schools, hospitals and waterbodies would have multiple benefits to the economy. Well-calibrated policy interventions and targeted incentives to select industries specially with high export potential would push MSMEs to a higher growth trajectory. If speedily and efficiently implemented, these mundane measures could pull the sagging economy out of the quagmire, especially in the near term, and hopefully incentivise and facilitate the much-anticipated spurt in corporate investment which apparently the government was aiming at while announcing the tax bonanza.

[Asia’ s Remarkable Economic Transformation \(Deepak Nayyar - Emeritus Professor of Economics at Jawaharlal Nehru University\)](#)



- Two centuries ago, in 1820, Asia accounted for two-thirds of the world's population and more than a half of world income. It also contributed more than a half of manufacturing production in the world economy. The subsequent decline of Asia was attributable to its integration with the world economy shaped by colonialism and driven by imperialism. By 1962, its share in world income had plummeted to 15%, while its share in world manufacturing had dropped to 6%. Even in 1970, Asia was the poorest continent. Its demographic and social indicators of development, among the worst anywhere, epitomised its underdevelopment. Gunnar Myrdal, who published his magnum opus Asian Drama in 1968, was deeply pessimistic about the continent's development prospects. In the half century since then, Asia has witnessed a profound transformation in terms of economic progress of nations and living conditions of people. By 2016, it accounted for 30% of world income, 40% of world manufacturing, and over a third of world trade. Its income per capita also converged towards the world average, although the convergence was at best modest compared with industrialised countries because the initial income gap was so enormous. This transformation was unequal across countries and between people. However, development outcomes were unequal across sub-regions and countries. East Asia was the leader and South Asia was the laggard, with Southeast Asia in the middle, while progress in West Asia did not match its high-income levels. In just 50 years, South Korea, Taiwan and Singapore joined the league of industrialised nations. China was a star performer throughout, making impressive strides in development after 1990. The economic dynamism of Indonesia, Malaysia, and Thailand waned after the Asian financial crisis. The growth performance of India, Bangladesh and Vietnam was most impressive during the past quarter century, although India and Bangladesh did not match the rest of Asia in social progress. In comparison, the performance of Sri Lanka was respectable, while that of Turkey was average; but that of Pakistan and the Philippines was relatively poor. Rising per capita incomes transformed social indicators of development, as literacy rates and life expectancy rose everywhere. Rapid economic growth led to a massive reduction in absolute poverty. But the scale of absolute poverty that persists, despite unprecedented growth, is just as striking as the sharp reduction therein. The poverty reduction could have been much greater but for the rising inequality.

Free Trade Over Fair Trade

- Free trade, which enjoys almost unanimous support among economists, has come under severe attack from politicians across the world. According to the Managing Director of the International Monetary Fund, Kristalina Georgieva, the U.S.-China trade war has brought global trade "to a near standstill". Yet it seems unlikely that politicians will listen to the advice of economists, which is to bring down barriers to international trade rather than raise them further. The protectionist politician's argument is that increasing tariffs on foreign goods protects domestic industries from unfair trade practices adopted by foreign governments. For instance, U.S. President Donald Trump has accused China of ripping off the U.S. by, among other things, imposing high tariffs on American goods that are imported into China, artificially lowering the value of the yuan against the U.S. dollar in order to encourage Chinese exports, and adopting domestic policies that favour local Chinese companies over American ones. Retaliatory tariffs, it is believed, will help level the playing field and ensure "fair trade".



Dropping Trade Barriers

Yet the case for free trade does not depend simply on the condition that all countries must engage in “fair trade” practices. Trade does not have to be “fair” for countries to benefit from it. In fact, a country that drops all trade barriers on its side can benefit from such trade liberalisation even when other countries refuse to do the same. As the economist Paul Krugman wrote, “The economist’s case for free trade is essentially a unilateral case: A country serves its own interests by pursuing free trade regardless of what other countries may do”. This is because countries that remove trade barriers unilaterally, like Hong Kong and Singapore did, benefit their consumers, whose standard of living is improved greatly by access to foreign goods. By the same token, a country that raises trade barriers works against the interests of its own consumers. Of course, if all countries tore down their respective trade barriers, the world would be a richer place as goods can freely move around. But in the meantime, unilateral free trade can at least benefit consumers in countries that decide to fully adopt it. Despite this, tariffs and other trade barriers are extremely popular among politicians. This can be attributed to **the misconception that trade policy must be judged based on what good it does to a country’s producers rather than consumers**. But as the economist Claude-Frederic Bastiat noted, “All economic phenomena, whether their effects be good or bad, must be judged by the advantages and disadvantages they bring to the consumer.” Competition between producers is usually considered good because, even though it could cause some of them to lose out, it benefits consumers who can buy cheaper and better goods. Yet when such competition comes from producers in foreign countries, it is opposed for no valid economic reason. Some argue that retaliatory tariffs are warranted since foreign governments heavily subsidise domestic producers. Mr. Trump has criticised India and China for misusing their “developing country” status at the World Trade Organization to subsidise domestic producers, thus putting American producers at a terrible disadvantage. However, using retaliatory tariffs in a desperate attempt to protect domestic producers is misguided because it stops American consumers from enjoying the benefits of subsidies offered by foreign governments.

Trade Deficit

Another economic statistic that is misused to gather support for protectionist trade policies is the trade deficit. A trade deficit is seen as a bad thing since it indicates that the value of a country’s imports is greater than the value of its exports. But economists such as Milton Friedman have argued against the view that a country loses wealth when it experiences a trade deficit. A trade deficit or surplus merely shows that people in different countries prefer to buy different things from one another. Americans, for instance, may prefer Chinese goods over Chinese real estate assets while the Chinese may prefer American financial assets over American goods. This will cause the U.S. to experience a trade deficit with China as it buys more goods than it sells to China. And at the same time, it will enjoy a capital surplus as it receives more capital than it sends across to China. So a trade deficit in no way reflects which side loses or wins in a trade. In fact, voluntary trade both within and between countries happens only because both sides believe that they gain from it. Fair trade is often just an excuse to raise more protectionist barriers to serve domestic special interest groups. The world would be a richer place if leaders chose free trade over “fair trade”.



The New Gold Standard in Development Economics? (Atanu Biswas - Professor of Statistics, Indian Statistical Institute, Kolkata)

→ The concept of Randomised Controlled Trials is quite old; instances of RCTs can be traced back in the 16th century. However, the statistical foundation of RCT was developed by British statistician Sir Ronald Fisher, about 100 years ago, mostly in the context of design of experiments. For an unbiased evaluation of the treatment, its performance needs to be compared with some 'control', which maybe 'no treatment' at all or an 'existing treatment' other than the treatment under study. The next task is to allocate the patients among two treatments/interventions at hand. Patients might prefer some treatment to the other. Prior knowledge of the treatments to be applied to them might induce a 'selection bias' due to unequal proportions of patients opting out from the study. 'Randomisation' is a procedure used to prevent this by allocating patients using a random mechanism — neither the patient nor the doctor would know the allocation. 'Control' and 'randomisation' together constitute an RCT. In 1995, statisticians Marvin Zelen and Lee-Jen Wei illustrated a clinical trial to evaluate the hypothesis that the antiretroviral therapy AZT reduces the risk of maternal-to-infant HIV transmission. A standard randomisation scheme was used resulting in 238 pregnant women receiving AZT and 238 receiving standard therapy (placebo). It is observed that 60 new-borns were HIV-positive in the placebo-group and 20 new-borns were HIV-positive in the AZT-group. Thus, the failure rate of the placebo was 60/238, whereas that of AZT was only 20/238, indicating that AZT was much more effective than the placebo. Drawing such an inference, despite heterogeneity among the patients, was possible only due to randomisation. Randomisation makes different treatment groups comparable and also helps to estimate the error associated in the inference. The early applications of RCTs were mostly within the agricultural field. Sir Ronald Fisher himself was very reluctant to apply statistics to social sciences, due to their 'non-experimental' nature. RCT got its importance in clinical trials since the 1960s, so much so that any clinical trials now-a-days without RCT were being considered almost useless.

Social scientists slowly found RCT to be interesting, doable, and effective. But, in the process, the nature of social science slowly converted from 'non-experimental' to 'experimental'. Numerous interesting applications of RCTs took place in social policy-making during the 1960-90s, and the 'randomistas' took control of development economics since the mid-1990s. About 1,000 RCTs were conducted by Prof. Kremer, Prof. Banerjee and Prof. Duflo and their colleagues in 83 countries such as India, Kenya and Indonesia. These were to study various dimensions of poverty, including microfinance, access to credit, behaviour, health care, immunisation programmes, and gender inequality. While Prof. Banerjee thinks RCTs "are the simplest and best way of assessing the impact of a program", Prof. Duflo refers to RCTs as the "tool of choice". There has been tremendous international attention on Finland's Basic Income experiment (2017-18), where 2,000 unemployed Finns between ages 25-58 were randomly selected across the country, and were paid €560 a month instead of basic unemployment benefits. Results from the first-year data didn't have any significant effect on the subjects' employment, in comparison with the control group comprising individuals who were not selected for the experimental group. Essentially this was also an RCT. Critics of RCTs in economic experiments think that in order to conduct RCTs, the broader problem is being sliced into smaller ones, and any dilution of the scientific method leaves the conclusions questionable. Economists such as Martin Ravallion, Dani Rodrik, William Easterly, and Angus Deaton are very critical of using RCTs in economic experiments. Randomisation in clinical



trials has an additional impetus — it ensures that allocation to any particular treatment remains unknown to both patient and doctor. Such kind of ‘blinding’ is central to the philosophy of clinical trials and it helps to reduce certain kinds of bias in the trial. **It is believed that the ‘outcome’ or the ‘treatment-response’ might be influenced if the patient and/or the physician are aware of the treatment given to the patient. However, such kind of ‘blinding’ is almost impossible to implement in economic experiments as participants would definitely know if they get any financial aid or training. Thus, randomisation must have a much less impact there.** Often, economists miss such an important point. However, unless randomisation is done, most of the standard statistical analyses and inference procedures become meaningless. Earlier social experiments lacked randomisation and that might be one reason that statisticians such as Sir Ronald Fisher were unwilling to employ statistics in social experiments. Thus, “RCT or no RCT” may not be just a policy decision to economics; it is the question of shifting the paradigm. The “tool” comes with lot of implicit baggage. With randomisation dominating development economics, implicitly, economic experiments are becoming more and more statistical. This is one philosophical aspect which economists need to settle. Apparently, for the time being, many would concur with Harvard economist Lant Pritchett who criticises RCTs on a number of counts but still agrees that it “is superior to other evaluation methods”. The debate would continue, while the randomistas continue to gain momentum at the moment.

Life & Science

Massive Galaxy Found Hidden Amid Cosmic Dust

- Astronomers have found a massive galaxy, dating back to the early universe, lurking in cosmic dust clouds — an advance that may open the doors for discovering a new galaxy population type. The researchers, including those from the University of Massachusetts in the U.S., said the discovery provides new insights into the first steps of some of the biggest galaxies in the universe. “We figured out that the galaxy is actually a massive monster galaxy, with as many stars as our Milky Way, but brimming with activity and forming new stars at 100 times the rate of our own galaxy,” said study co-author Ivo Labbe from the Swinburne University of Technology in Australia. As part of the study, published in the *Astrophysical Journal*, the researchers used the **Atacama Large Millimeter Array, or ALMA — a collection of 66 radio telescopes located in the high mountains of Chile.** According to the researchers, the signal came from so far away that it took nearly 12.5 billion years to reach the Earth, when the universe was still in its infancy. Additionally, smaller galaxies seen in the early universe with the Hubble space telescope are not growing fast enough, the researchers said. The study was carried out in only a tiny part of the sky, less than 1/100th the size of the Moon, the researchers said. Finding traces of the “monster” galaxy in a tiny strip of the cosmos, means either that this was a lucky find, or that such galaxies are cloaked and lurking everywhere. Ms. Williams said that she is eager for the **James Webb Space Telescope (JWST)** to take a look at these cosmic entities once the revolutionary telescope is launched in 2021.

Mars Had Salt Lakes Similar to Earth

- Mars once had salt lakes that went through wet and dry phases similar to those on Earth, according to a study which indicates that the red planet’s climate ‘dried out’ over a period of

[Shatabdi Tower, Sakchi, Jamshedpur](#)



time. According to the researchers, including those from Texas A&M University in the U.S., liquid water on Mars may have become unsustainable and evaporated as the planet's atmosphere became thinner, and the pressure at the surface became lesser. The study, published in the journal Nature Geoscience, noted that over 3 billion years ago, the lake that was present in **Gale Crater** — an immense rocky basin that is being explored with NASA's Curiosity rover since 2012 — underwent a drying episode possibly linked to the global drying of Mars. **The Gale Crater was formed about 3.6 billion years ago when a meteor hit Mars**, the study noted. "Since then, its geological terrains have recorded the history of Mars, and studies have shown Gale Crater reveals signs that liquid water was present over its history, which is a key ingredient of microbial life as we know it," said co-author of the study Marion Nachon from Texas A&M University.

Why All-Women Spacewalk Is A Milestone

- NASA astronauts Jessica Meir and Christina Koch carried out the first all-women spacewalk in history. Their mission was to carry out repairs on the International Space Station. **Spacesuits provide astronauts with oxygen supply while they are in the vacuum of space and the suits also give them protection against extreme temperatures, radiation and space dust.** An EMU consists of components such as the upper torso, lower torso, gloves and arms, which are manufactured in different sizes and assembled together in combinations that fits an astronaut best. In McClain's case, it would have meant swapping parts. Spacesuits are not designed differently for men and women astronauts. The EMUs currently in use were developed in 1974. These are reusable, and have been refurbished and redesigned many times in the last 40 years. On October 15, NASA unveiled its next generation of spacesuits. One kind, called xEMU, will improve upon suits previously worn during the Apollo era and those that are currently in use for carrying out spacewalks outside the ISS. The Orion suit, meanwhile, is designed for a custom fit and incorporates safety technology and mobility features that will help protect astronauts during launch, in emergency situations, high-risk parts of missions near the Moon, and during the high-speed return to Earth, NASA said. Significantly, the xEMU suits will be worn by astronauts on the Artemis mission to the Moon. As NASA pointed out while announcing the new spacesuits, the mission will seek to put the next man and the first woman on the Moon.

Smallest Ozone Hole in Decades

- During September and October, the ozone hole over the Antarctic has been the smallest observed since 1982, NASA and US National Oceanic and Atmospheric Administration (NOAA) scientists have reported. The annual ozone hole reached its peak extent of 16.4 million sq. km on September 8, then shrank to less than 10 million sq. km for the remainder of September and October, satellite measurements show. NASA has described it as great news for the Southern Hemisphere.

WHAT IS OZONE HOLE: Ozone, made up of three oxygen atoms, occurs naturally in small amounts. **Roughly 10 km to 40 km up in the atmosphere (the layer called the stratosphere), the ozone layer is a sunscreen, shielding Earth from harmful ultraviolet radiation.** On the other hand, close to the surface, ozone created as a byproduct of pollution can trigger health problems such as **asthma and bronchitis**. Manufactured chemicals deplete the ozone layer. **Each spring over Antarctica (it is now spring there), atmospheric ozone is destroyed by**



chemical processes. This creates the ozone hole, which occurs because of special meteorological and chemical conditions that exist in that region.

WHY IT'S SMALL THIS YEAR: There have been abnormal weather patterns in the atmosphere over Antarctica. **In warmer temperatures like this year, fewer polar stratospheric clouds form and they don't persist as long, limiting the ozone-depletion process.** While it is good news, NASA has cautioned it is important to recognise that what we are seeing this year is not a sign that atmospheric ozone is suddenly on a fast track to recovery.

Aye-Aye: World's Weirdest Little Primate

- In the island of Madagascar there lives an unusual little animal. Now, the world's weirdest little primate has just got even weirder, the North Carolina State University has announced. Called the **aye-aye**, it is a primate that is unlike most other primates. A type of **omnivorous** and **nocturnal** lemur, the aye-aye has a tail longer than its body, incisors that are constantly growing, a third eyelid that moistens the eye and protects it from debris when the aye-aye gnaws on wood, females that produce ova throughout their lifetime — and strange hands. The aye-aye has highly specialised fingers, including elongated middle fingers, with which they locate and fish out insect larvae. "Their fingers have evolved to be extremely specialised — so specialised, in fact, that they aren't much help when it comes to moving through trees," researcher Adam Hartstone-Rose said in a statement released by the North Carolina State University. In these already strange hands, researchers have now discovered a sixth digit — a "pseudo-thumb". Among other mammals, the giant panda has a similar sixth digit. In the aye-aye, researchers believe that the pseudo-thumb might have developed to compensate for the highly specialised fingers, helping it grip better since the pseudo-thumbs are able to move in space and exert an amount of force equivalent to half its body weight. The pseudo-thumb has a bone, a cartilaginous extension and three distinct muscles that give it movement in three directions.

India Plans First-Ever Snow Leopard Survey

- India will commission its first-ever survey to estimate the population and geographical range of the snow leopard, an elusive and endangered predator. **The snow leopard is found along the upper reaches of the Himalayan range and, in India, it is reported to have a presence in Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.** However, the inhospitable terrain and the reclusive nature of the animal have so far made a scientific estimation impossible. The snow leopard is found in 12 countries — India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan. Officials announced the survey at a meeting of the Global Snow Leopard and Ecosystem Protection (GSLEP) programme being organised by Union Environment Ministry. The meeting has officials from Nepal, Russia, Kyrgyzstan, Mongolia and China. China, according to a representative, has nearly 2000 snow leopards.

Falklands Looks to King Penguins to Drive Tourism

- Waddling up the beach in single file, their heads held high with an almost self-important demeanour, king penguins are a major draw in the Falkland Islands' tourism industry. Their fluffy brown chicks are nearly fearless of humans, meaning tourists at Volunteer Point, a peninsula on East Falkland Island, might get almost close enough to touch one. Kings are



just one of five penguin species in the Falklands, alongside the wacky-looking rockhoppers which have yellow tassels sprouting from the side of their heads, gentoos, macaronis and the burrowing magellanics. In 2018, there was a 6.3% increase in tourist arrivals and a 29.4% surge in tourist expenditure to almost £8.8 million. While many nature-lovers head to places such as Antarctica and South Georgia, an island in the South Atlantic, Sally Ellis, the manager at International Tours and Travel, feels the Falklands are a better option. "Antarctica and South Georgia are nothing compared to the variety and accessibility of wildlife in the Falkland Islands and it costs about a quarter," she said, adding that there was nearly a "guarantee" to see whatever wildlife is desired.

What Is Nelloptodes Gretae?

- Between 1964 and 1965, an entomologist called William Brock collected samples of soil from around east Africa. Inside one of these samples, taken in Kenya and stored in the British Natural History Museum until now, was a tiny species of beetle, pale yellow and gold. Measuring just 0.79 millimetres, the beetle has no eyes or wings, with a small pit between where the eyes should have been. The species has just got a name. Natural History Museum scientific associate Michael Darby, who is quoted on the Museum website as describing himself as a great fan of Greta Thunberg, has described the species and named it **Nelloptodes gretae, after the teenage climate activist. Biological names comprise two words, one for the genus and the second for the species.** Traditionally, it is the species name that scientists coin to honour a prominent personality, and sometimes even a friend or a relative. While the species name gretae derives from Greta, the genus Nelloptodes too is new, the Museum said in a statement announcing the naming of the species. Darby described not only the new genus and the species he named after Greta Thunberg, but eight other species of beetles, all within the same sample of soil. All the nine species belong to a family called Ptiliidae. Darby has named many species of Ptiliidae beetles earlier. Beetles of this family are found all over the world, yet they are not particularly well known because of their size — they are so small that even some single-cell animals are larger. Many of them are, in Darby's words, smaller than a full stop.

White Bellbird: World's Loudest Bird

- Bellbirds have the loudest bird calls yet documented in the world, according to a study which found that their mating songs pack more decibels than the screams of howler monkeys and the bellows of bison. According to the study, published in the journal Current Biology, the male white bellbird's mating call is about three times louder than **screaming phias — the previously loudest bird singer.** The researchers, including those from the University of Massachusetts in the U.S., said that the bellbird's calls were so loud that they wondered how the females of the species listened to them at close range without permanent damage to their hearing. The males, Mr. Podos said, sang only their loudest songs, and swivelled dramatically while singing so as to blast the song's final note directly at the females. "We would love to know why females willingly stay so close to males as they sing so loudly," he said. The researchers said that the females could be trying to assess the males up close, though at the risk of some damage to their hearing systems. Mr. Podos said that the well-studied howls of howler monkeys and the bellows of bison were both pretty loud, but were not as loud as the male bellbirds. The birds had some intriguing anatomical features like unusually thick and developed abdominal muscles and ribs, which the researchers suspected



might be related to their singing. The loud singing ability also came with a trade-off, according to the researchers, who said that as the songs of bellbirds became louder, they also got shorter in duration. **The discovery, the researchers said, offers another example of the consequences of sexual selection. Sexual selection happens when males compete for mates, driving the evolution of truly bizarre and exaggerated traits such as the peacock's tail, and the now found loud singing abilities of the male bellbirds, the study noted.**

Collective Animal Behaviour Began Half-A-Billion Years Ago

- Fossils of tiny, horseshoe-shaped creatures that inched along the ocean floor in single-line formations some 480 million years ago reveal the earliest known collective animal behaviour, researchers have found. **The remains of now-extinct creatures called *trilobites* were almost perfectly preserved in the Moroccan desert near the town of Zagora**, they reported in the journal *Scientific Reports*. Like all arthropods — a phylum that includes insects, centipedes, spiders and crustaceans — trilobites had a segmented body and an exoskeleton. The fossil find shows a dozen of the coin-sized animals in a row all facing in the same direction, separated only by the length of two tapered spines trailing in an inverted “U” and touching the animal next in line. Group behaviour among animals — schools of fish, flocks of birds, herds of antelope — has been exhaustively studied by biologists, but little is known about when or how it originated. The new find suggests two possible scenarios, the scientists said. The primitive animals, a species called *Ampyx priscus*, might have been moving from one micro-environment to another to avoid bad weather. “Present-day spiny lobsters travel in single file at the onset of a storm,” said co-author Muriel Vidal, a paleontologist at the University of Western Brittany in Brest, France. “It may be a stress response to the turbulence or a change in water temperature.” Alternatively, the orderly seabed procession could have been seasonal reproductive behaviour such as the migration of sexually mature individuals to spawning grounds, the authors suggested.

Thylacine, Or Tasmanian Tiger

- **The Tasmanian tiger, or thylacine (a dog headed pouched dog) was an exclusively carnivorous marsupial that is considered to be extinct. The last known thylacine died in captivity over 80 years ago, in Tasmania's Hobart Zoo in 1936.** It may also be the only mammal to have become extinct in Tasmania since the European settlement. Interest in the marsupial was regenerated this week, when Tasmania's Department of Primary Industries, Parks, Water and Environment released a document that mentions sightings of the animals from September 2016 to September 19, 2019. The first account in this document, from September 2, 2016 says, “...the creature looked like a large cat in size – about 14” to 18” high and about 24” to 30” long. The distinguishing features that stood out were the dark bands on its back running from the spine down across to its underbelly.” The most recent record is from August 15 and consists of over eight such records in the three years. The thylacine, also known as the Tasmanian Wolf bears some resemblance to a dog, with its distinguishing features being the dark stripes beginning at the rear of its body and extending into its tail, its stiff tail and abdominal pouch. According to the Australian government's Department of Environment and Energy, hundreds of sightings of the animal have been reported since 1936 and many of them have been misidentifications. However, through a detailed study of the sightings carried out between 1934 – 1980, it was concluded that out of the roughly 320 sightings, just under half could be considered “good sightings”. Even so, all sightings till now



have been inconclusive. Since the **last known thylacine died in 1936**, various expeditions have been carried out to search for it, beginning 1937 and culminating in 1993. According to the Australian Museum, the thylacine was widespread over continental Australia, extending North to New Guinea and south to Tasmania. **It was confined to Tasmania in recent times and disappeared from mainland Australia over 2000 years ago, mainly because of over-hunting by humans, diseases and competition from the Dingo (Canis lupus), a wild dog native to Australia.** The Thylacine was also persecuted because it was believed to be a threat to sheep and in its latter years it was hunted for the purposes of collection by museums and zoos. As per some accounts, the introduction of sheep in 1824 led to a conflict between the settlers and thylacine.

Modern Humans Came from Botswana

- Modern humans emerged 200,000 years ago in a region of northern Botswana; scientists claimed. While it has long been known anatomically modern humans - homo sapiens sapiens - originated in Africa, scientists have until now been unable to pinpoint the precise location of our species' birthplace. An international team of researchers took DNA samples from 200 Khoesan people to arrive at the conclusion.

Baby Feeding Bottles from The Days of Yore

- A fascinating report by a European group of archaeologists led by Julie Dunne of the University of Bristol, UK has appeared in the October 10, issue of Nature (574,246-249,2019), titled "Milk of ruminants in ceramic baby bottles from prehistoric child graves". The group was able to isolate baby bottles, some with an oval shape and a handle and some others with a small spout through which liquid could be poured or suckled. The earliest one found was during the European Neolithic age (around 10,000 years ago) while some others were found in sites from the Bronze and Iron ages (4000-1200 BC).

What makes the Nature paper even more interesting is the finding that the ceramic baby bottles had some organic chemical residues stuck on in their walls and could be analysed. The group was able to extract those residues and analysed the molecules in them, using the latest chemical and spectroscopic methods. **All the extracts contained fatty acids (such as palmitic and stearic acids) which are common in the milk of cattle, sheep and such domesticated animals and not in human milk!** The authors conclude thus: 'the finding of these three obviously specialized vessels in child graves, combined with our chemical evidence, strongly points to these vessels having been used to feed animal milk to babies (instead of human milk) and children during weaning, as supplementary foods'.

This practice of using animal milk to feed human babies would have started only after the domestication of animals, which would have occurred when humans started settling in communities, started farming and domesticating animals for various uses. **This is believed to have happened in the Neolithic period around 12,000 years ago, first in the Middle East, later in parts of Western and Central Asia and in parts of Europe. Community living, agriculture and farming started, and animals such as dogs, cattle, goats, camels (and later horses) were domesticated and put to use for human needs. Until then we were hunter-gatherers, and the only milk that human babies had was their mother's and weaning would have happened only after the infants grew to about two years of age.**

The Neolithic Age changed the dynamics of human behaviour, fertility increased, the female work pattern had changed such that weaning of babies would also have started earlier. It



also meant, as Howcroft and co-workers argue, that human babies were introduced to complementary food such as animal milk. This also appears to have enabled human mothers to vary their reproductive strategy (how many babies, how often and how early to wean).

We domesticated dogs anywhere between 10,000-4400 BC, cows and sheep around 11000-9000 BC, camels around 3000 BC and horses too around the same period. Yet we use only the milk of cows, goats and sheep not of the other animals mentioned above, although it appears that Africans did use camel milk, This choice of ruminants (that is, cattle, sheep, goat and camels, which have a compartmentalised stomach, where the food is quickly swallowed and chewed and sent off to the rumen, which is the main digestive system) seems to have come about through a trial and suitability experience by us. Note that we did/do not use milk from dogs or horses - wonder why?

Howcroft and co-workers, in their paper, have done a comparison of the contents of human and ruminant milks. Compared to ours, sheep milk has a higher solid component: less water, less carbohydrates, more protein and lipids and higher energy content. While the higher protein content might be related to the rapid growth of bottle-fed infants, it could also lead stomach acidosis and diarrhoea. Cow's milk, with a slightly lower protein and fat content than sheep's (though still three times higher than human milk), can also cause the same symptoms as sheep milk. Plus, ruminant milk lacks certain enzymes that human milk has, and thus is not as effective as human milk in fighting infection and in helping mineral adsorption. Given these differences, some protective and some deficient, it is best that ruminant milk is used as complementary to, rather than replacing human milk completely. This is what early humans did through observation and adoption. This also would have led them to invent and use "baby feeding bottles" and jugs made of ceramics.

The authors further argue that fermenting milk (which, upon storing, produces yoghurt) helps to preserve it, reduce the lactose level and help digestion, thanks to the level of the enzyme lactase. They conclude that "although the milky way may not have been the best for prehistoric infants, the yoghurt way could have been good both for them and for the spread of lactase persistence".

Last, Vasant Shinde and associates from Pune had done extensive survey of sites from the Harappan Civilization in India, and have solid evidence of Ceramic Feeding bottle from the Harappan site of Kalibangan dated to 2500 BC. The Harappans too weaned their babies with animal milk. Which animal? If we can at all find any residues from these bottles, and have them analysed in our labs, a la Dunne, that would be exciting!

Anthrax Scare in Reserve After Death of Buffaloes

- Veterinarians have confirmed anthrax as the cause of death of two Asiatic water buffaloes in central Assam's **Pobitora Wildlife Sanctuary**, which has the highest concentration of one-horned rhinos in the world and is often called 'Mini Kaziranga' due to similar landscape and vegetation. **Anthrax, caused by the bacterium *Bacillus anthracis*, can be fatal for humans who come in contact with infected animals. It is characterised by blisters around swellings on the skin, chest pain, vomiting, diarrhoea and fever.** Mr. Tamuli said 11 domesticated elephants engaged by the department for tourist safaris and heavy-duty work were vaccinated on Friday. The sanctuary has not imposed restrictions on visitors, but has fenced off the area around where the carcasses of the diseased buffaloes were disposed of and heat-treated. Senior Assam Forest Department officials said they were monitoring the animals to prevent an anthrax outbreak.



Uterine Transplant: How It's Done, Risks and Debate

- It is now one year since India's first baby was born to a mother with a transplanted uterus. Such cases are rare across the world — Radha, whose parents have just celebrated her first birthday, is the 12th such baby worldwide. Now demand has risen, especially at Pune's Galaxy Care Hospital, where the transplant had been done on Radha's mother Meenakshi Valan of Gujarat on May 19, 2017. Since then the hospital has got over 1,000 applications. **Approximately 1 in 500 women are estimated to have uterine factor infertility according to the September issue of the British Medical Bulletin. In India, about 17% of all women face issues relating to infertility, and the reason is related to the uterus in 20% of these. For women whose uterus is not healthy, or who do not have one, a transplant is the newest form of infertility treatment.** Valan had a scarred uterus due to multiple abortions and cases of stillbirth. Her mother donated the uterus. Usually, women related to the recipient are potential donors. The donor may be either living or deceased, and is chosen from among women up to the age of 50 years. Dr Shailesh Puntambekar, laparoscopic surgeon and Director of Galaxy Care Hospital, said worldwide there have been 30 uterine transplants and 15 babies born. Among the babies, one was born after a cadaveric uterus was transplanted. The transplanted uterus is generally intended to be removed after the woman has undergone one or two childbirths. Normal reproduction is not possible with a transplanted uterus — a transplant makes sense only with in vitro fertilisation (outside the body). **The first successful transplant was performed in Saudi Arabia in 2002 but did not result in pregnancy. In Turkey, pregnancy following a 2011 transplant lasted only eight weeks. The first birth after a transplant, in 2014, happened in Sweden.** Uterine transplants are still extremely rare, complicated and expensive. In the case of Meenakshi — and Shivamma, a woman who had undergone a transplant the day before Valan underwent hers — the entire process (up to the birth of Valan's child) was made free because these were the first two such cases in India. In the earliest cases, doctors took almost 13 hours to retrieve the uterus, because they performed open surgery. With laparoscopic intervention, the time has now come down to about six hours, Dr Puntambekar said. While the donor should ideally be a cadaver, it is difficult in practice — the donor has to be less than age 50, her uterus should have produced children, and the risk of organ rejection is higher when it is from a dead person. Minimally invasive surgery (robotic surgery) has become the standard procedure and in the future, it is likely that the recipient of the uterine transplant has to undergo only one surgery as vessels can also be sutured laparoscopically, Dr Puntambekar said. A uterine transplant, like that for other organs, requires clearances at several levels. Now the cost is going down as patients are being discharged on the 14th day following the transplant. There has been debate whether uterus transplants are ethically justified. There is vast literature on this debate, covering psychological and physical risks as well as complications arising out of immunosuppressive therapy. According to the British Medical Bulletin's September issue, concerns have been raised about the welfare of living donors who may end up regretting their choice to donate. Experts suggest that a living donation is justified only after informed consent by the donor, and this after counselling by physicians and psychologists. Dr Puntambekar said that in the last two years, they have done eight transplants and kept several on hold as they wanted the couples and family members to be extremely sure and committed about a transplant.



The World of Mimic Organs

→ On Monday, October 21, at Neuroscience 2019, the Society for Neuroscience's 49th annual meeting, held in Chicago, U.S., two neuroscientists warned the gathering that fellow scientists are "perilously close" to crossing the ethical red line of growing mini-brains or organoids in the laboratory that can perceive or feel things. In some cases, scientists have already transplanted such lab-grown brain organoid to adult animals. The transplanted organoid had integrated with the animal brain, grown new neuronal connections and responded to light. Similarly, lung organoid transplanted into mice was able to form branching airways and early alveolar structures. These are seen as a step towards potential "humanisation" of host animals. **Organoids are a group of cells grown in laboratories into three-dimensional, miniature structures that mimic the cell arrangement of a fully-grown organ.** They are tiny (typically the size of a pea) organ-like structures that do not achieve all the functional maturity of human organs but often resemble the early stages of a developing tissue. Most organoids contain only a subset of all the cells seen in a real organ, but lack blood vessels to make them fully functional. In the case of brain organoids, scientists have been able to develop neurons and even make specific brain regions such as the cerebral cortex that closely resemble the human brain. The largest brain organoids that have been grown in the laboratory are about 4 mm in diameter. **Organoids are grown in the lab using stem cells that can become any of the specialised cells seen in the human body, or stem cells taken from the organ or adults' cells that have been induced to behave like stem cells, scientifically called induced pluripotent stem cells (iPSC).** Stem cells are provided with nutrients and other specific molecules to grow and become cells resembling a specific organ. The growing cells are capable of self-organising into cellular structures of a specific organ and can partly replicate complex functions of mature organs — physiological processes to regeneration and being in a diseased state.

Organoids of the brain, small intestine, kidney, heart, stomach, eyes, liver, pancreas, prostate, salivary glands, and inner ear to name a few have already been developed in the laboratory.

Since the use of embryonic stem cells to grow organs of interest has been mired in controversy leading to a ban on such research, researchers have turned to generating organoids using stem cells. Researchers have been successful in generating organoids of increasing "complexity and diversity". Since the organoids closely resemble mature tissues, it opens up new vistas. These include studying the complex arrangements of cells in three-dimension and their function in detail, and understanding how cells assemble into organs.

Organoids can be used to study the safety and efficacy of new drugs and also test the response of tissues to existing medicines. Organoids will bring precision medicine closer to reality by developing patient-specific treatment strategies by studying which drugs the patient is most sensitive to. Since the use of animals during drug development studies is becoming increasingly difficult, the focus has been on refining, reducing and replacing them. While scientists have been increasingly using human cell lines and other methods, such alternatives have some inherent limitations — they cannot mimic the whole organ system. Organoids are a far superior alternative to cell lines.

Organoids offer new opportunities to studying proteins and genes that are critical for the development of an organ. This helps in knowing how a mutation in a specific gene causes a disease or disorder. In a study in Europe using intestinal organoids from six patients with an intestine disorder, it became possible to identify the mutation in a gene that prevented the



formation of a healthy intestine. Researchers have used brain organoids to study how the Zika virus affects brain development in the embryo.

Scientists are already using stem cells taken from tumours to grow organoids that are poised to develop cancer. The ability to grow organoids using cancer stem cells allows researchers to study the genes, proteins and signalling pathways that cancer cells use to develop and grow. They are also using healthy organoids to identify and verify the gene mutations that cause cancer.

In an opinion piece in *Nature*, scientists argued that the largest brain that has been grown in the laboratory is only 4 mm in diameter and contains only 2-3 million cells. In comparison, an adult human brain measures 1,350 cubic centimetres, and has 86 billion neurons and another 86 billion non-neuronal cells and a similar number of non-neuronal cells. The authors argue that organoids do not have sensory inputs and sensory connections from the brain are limited. Isolated regions of the brain cannot communicate with other brain regions or generate motor signals. They wrote: "Thus, the possibility of consciousness or other higher-order perceptive properties [such as the ability to feel distress] emerging seems extremely remote."

Spotlight Shines on Rangdum Monastery

- A Buddhist monastery in Ladakh in Kargil district could soon be given Central protection as the Archaeological Survey of India invited objections or suggestions on **declaring the Rangdum monastery a monument of national importance**. Last month, Tourism and Culture Minister Prahalad Singh Patel had visited Leh to look into the opportunities for expansion of tourism in Ladakh. According to sources, the Centre was looking at bringing more monuments in the region under protection, after its decision to split Jammu and Kashmir into two Union Territories — J&K and Ladakh. According to the Kargil district administration's website, the 18th century monastery is "perched picturesquely on a top of a hillock like an ancient fort". Apart from the monastery, the Rangdum locality, located 130 km from Kargil town, also serves as the base for various trekking routes, the website says.

Indians Are the Least Active

- India has emerged as the least active country among 18 countries including the U.S., the U.K., Japan and Singapore, according to a report by fitness solutions firm Fitbit. It said an Indian user walked an average of 6,533 steps daily. Indians were also the second-most sleep deprived after Japan, getting an average night sleep of 7 hours 1 minute, the report said. Based on aggregated and anonymised user data insights from 18 countries, the Fitbit report found that "Indians are the least active and log in only 6,533 steps daily, the least amongst all 18 countries which is 3,600 steps less than the average of the most active country — Hong Kong ". Average active minutes (32) also fare the lowest in the grid, it added.

Deciphering Greta' s climate message (Krishna Kumar is a former director of the National Council of Educational Research and Training (NCERT))

- She is being looked at as an emotionally charged icon of environmental struggles, but there is more to Greta Thunberg's point of view than mere emotion and passionate commitment. If we decipher all the issues raised in her brief presentation at the UN General Assembly, we can notice how it expands the familiar contours of the discussion over climate change. Some of the issues she raised were a regular feature in many debates over natural resources, but



there were other, new issues as well. One well-recognised issue is the direct connection between economic growth and the state of the environment. Devotees of speedy and high economic growth have been indifferent to the limits that nature imposes on the theoretical scope of growth. Nearly half a century has passed since the idea of 'limits to growth' was recognised and proposed as a ground for change in development policies. Apparently, political leaders and the civil servants who serve them do not feel constrained by that idea. The younger ones may not be acquainted with the 1972 report wherein the paradox of economic development was examined.

Victims of indifference

"All you can talk about is money and fairy tales of economic growth," Ms. Thunberg told her audience at the UN headquarters in New York. She accused world leaders of ignoring or deliberately looking away from the responsibility they have towards the young today and in the future. Her argument would have pleased Mahatma Gandhi. He too thought that economics concerned solely with wealth undermines ethical responsibilities. It ignores justice as a primary human yearning and, in today's terminology, a right. This was also the underlying theme of Ms. Thunberg's presentation to the leaders and representatives of different countries. She presented herself as a victim of their indifference to climate change. "You have stolen my childhood with your empty words," she said. As an activist-teenager, she had reasons to feel that way. Her campaign on climate change had cost her more than just school attendance. Being young implies being part of a future. Ms. Thunberg was referring to the collective future of those who are young today and also to future generations. These futures are bleak — not in the context in which economic slowdown affect prospects of prosperity and comfort. **Ms. Thunberg's focus was on climate change, a composite idea that imparts bleakness to everybody's future. She suggested that higher income or status would not help to avoid the consequences of climate change.** That is an important point, and not everyone today is convinced about its correctness. **Not only the richer nations, but also the richer people in every nation continue to believe that they can buy relief and escape from the consequences of climate change for their progeny.** It is in adult-child relations that Ms. Thunberg struck a new, unfamiliar note. It is hardly surprising that this aspect of her presentation has elicited no commentary. One reason is its novelty; another is the unsettling nature of her point. Human beings are used to deriving hope from their progeny. Children give us a sense of continuity, a symbolic conquest over death. They also give us the prospect of our unfinished tasks being pursued after us. As parents, we not only want to do the best for our children, but we also want their lives to go beyond ours in terms of worldly gains and fulfilment.

Childhoods Stymied

Parents invest huge amounts of money in their children's education to make sure that they lead better lives. So do nations. Their leaders talk eloquently about the younger generation taking the nation forward. Societies expect their long-pending problems to be solved by members of the young generation, with their creative and intellectual strength. Ms. Thunberg reminded her audience that carbon emissions are crippling the capacities of the young in the early years. This is a familiar note to us in India. In cities like Delhi, doctors have been warning us that children suffering from asthma cannot be expected to have a normal adolescence and youth. The limits that air and water pollution place upon a young person's health and capacities are all too palpable to citizens in many parts of India. What Ms.



Thunberg did was to place these limits in a newer, more public context. It is easy to miss her message or misconstrue it because her presentation was strident. While she was so visibly emotional during her brief speech, her message was that we must stop being emotional about our children. Although she was addressing an audience of political leaders, she wanted all of us to recognise and accept the bitter truth that we — and those who represent us — have compromised the future of our children. It is not the distant generations that will face the consequences of climate change. No, the crisis is already upon us. It will unfold in the lives of those who are growing up today. The steps currently under consideration for containing the consequences of climate change are far too inadequate to cope with the crisis. And even these modest steps are being taken with great reluctance, which proves Ms. Thunberg's point was that we are not mentally ready to accept the challenge. It is perhaps obvious that Ms. Thunberg was not speaking on behalf of the children and youth in any particular country. She was representing the voice of the young in a generic sense. This is a paradox worth dwelling on. Among millions of teenagers like her, not all are as apprehensive about the impending future. Nor is everybody as dissatisfied or disgusted with the hypocrisy of politicians and the policies they have framed, nationally or globally. Indeed, the contrary may be true and youngsters like her may be an exception. The growth-centric model of progress and the promise of greater production of consumer goods probably appeals to the vast population of the young in many countries today. They might also feel quite confident that their leaders will find the way forward against climate change. Nationalist sentiments do inspire a vast section of the young to have positive feelings when it comes to the future. Ms. Thunberg does not represent this vast crowd. But she does represent the young in a deeper, generic sense as she is someone who has overcome the illusions that childhood and adolescence usually create, often in the garb of idealism. Her Swedish education has made her critically aware of what is going on, imparting to her a sense of urgency and impatience to act. This is not exactly an exceptional case. Nor is Ms. Thunberg alone any more. In many countries, countless children have begun to identify with her. Thanks to the new curricular initiatives taken in all national systems of education, school-going children know a lot more about the meaning of climate change than their parents have the leisure to learn. It is the adults and older people today who might feel rattled by Ms. Thunberg's speech. When she spoke in the UN General Assembly, many in the audience could be heard laughing. They saw her more as a spectacle than as a real person. They were accustomed to routine expressions of concern about climate change. Many such leaders are quite pleased with the efforts by the UN and its various bodies to pursue the policies related to sustainable development. They find long, comfortable targets for reduction of carbon emissions quite sufficient and satisfactory. We can hardly imagine that Ms. Thunberg woke them up. If that were possible, we wouldn't be where we are in our encounter with nature's fury for which we have coined the euphemism of 'climate change'.

Herculean Task to Find New Host for UN Climate Meet

- With Chile withdrawing its offer to host the 25th edition of United Nations Conference of Parties (COP), it's unlikely that there will be a meeting this year. The COP is the pre-eminent climate meet, where world leaders decide on actions that must be taken to address global warming. Since it was first held in 1995 it has never once been cancelled. **The COP 25 was to be held in Santiago, Chile from the 2nd -13th December** until **Chilean President Sebastián Piñera** announced, local time, that Chile would not be hosting the talks. The decision followed student protests in Santiago since October 18, over a hike in rail metro fares and wealth



inequality. This year's COP was originally to be hosted by Brazil but they themselves backed out before Chile stepped in.

A top official in the Union Environment Ministry, who represents India in UN-climate negotiations, told The Hindu that it would be "near impossible — given the logistics involved" to find a new host country. A typical COP has participants in the tens of thousands and includes ministers, bureaucrats, activists and journalists from nearly 200 countries. Ease of accommodation and smooth transport to the venue and places of residence are critical factors in a country's ability to organise the COP. The United Nations Framework Convention on Climate Change, which gives the COP its legitimacy, prescribes that countries be given a 90-day notice about the location of the COP. The UN Secretariat at Bonn has previously stepped in when a country is unable to host," he reasoned. In 2017, the COP was held in Bonn even though the presidency of the quorum was held by Fiji.

Rising Seas in India And the World

- The number of people in India threatened by rising sea-levels is at least seven times more than previously estimated, a new research has revealed. The research, published in Nature Communications, has found large areas on the eastern as well as western coastlines under threat of rising sea levels, including Mumbai on the west and Kolkata on the east. It says 36 million people along the Indian coastlines currently live on land that will fall below the annual flood level by 2050, exposing them to risks of flooding, damage to infrastructure, loss of livelihood, or permanent displacement. The previous estimate was of five million people in these areas being exposed to these risks.

How the Study Was Done?

Researchers Scott Kulp and Benjamin Strauss of Climate Central, an independent organisation of climate scientists, have reported that they have developed a new tool that measures elevation of land from mean sea levels with much greater accuracy than earlier models. Their study claims that previous methods to measure land elevation suffered from large errors in most of the world apart from the US, Australia and parts of Europe. Land elevation data in most of these other areas came from satellite measurements done by a NASA project called Shuttle Radar Topography Mission, or SRTM. The study says the error in the measurements came from the fact that often the tops of trees or buildings were taken to be the protrusions of earth. Thus, SRTM measurements even in the coastal cities of the US often overestimated land elevations by as much as 15.5 feet on an average. Their new tool, called CoastalDEM (or Coastal Digital Elevation Model), which uses artificial intelligence and machine learning on 51 million data samples, brought down this error to less than 2.5 inches on an average, it says.

The Threat Projection

The study claims to remove over-estimations in the assessment of land elevations in coastal areas. As a result, it finds that much larger areas of land were threatened by rising sea levels because of climate change. Consequently, a significantly higher population group was at risk. The study found that 300 million people, and not 80 million as estimated earlier, across the globe were currently living in areas that were below the annual coastal flood line. By the turn of this century, land that is now home to 200 million of these people would be permanently below the high tide line. Almost 80 per cent of these 300 million people live in China, Bangladesh, India, Vietnam, Indonesia and Thailand. China alone accounted for 43 million.



Vulnerable Areas in India

The new tool has found that in particular, the western coastline near Bhuj, Jamnagar, Porbandar, Surat, Bharuch and Mumbai are much more susceptible to rising sea levels than earlier assessments. On the eastern side, almost the entire coastline of West Bengal and Odisha have been found under threat. Except for some areas near Kakinada, the threats to the coastlines of the southern states have not been affected by the new measurements. The study has serious prediction for India for 2050.

Sequencing Indian Genes

- The Council of Scientific and Industrial Research (CSIR) recently announced the conclusion of a six-month exercise (from April 2019) of conducting a “whole-genome sequence” of a 1,008 Indians. The project is part of a programme called “IndiGen” and is also seen as a precursor to a much larger exercise involving other government departments to map a larger swathe of the population in the country. Project proponents say this will widen public understanding in India about genomes and the information that genes hide about one’s susceptibility to disease.

What Is Whole Genome Sequencing?

A genome is the DNA, or sequence of genes, in a cell. Most of the DNA is in the nucleus and intricately coiled into a structure called the chromosome. The rest is in the mitochondria, the cell’s powerhouse. Every human cell contains a pair of chromosomes, each of which has **three billion base pairs or one of four molecules that pair in precise ways**. The order of base pairs and varying lengths of these sequences constitute the “genes”, which are responsible for making amino acids, proteins and, thereby, everything that is necessary for the body to function. It is when these genes are altered or mutated that proteins sometimes do not function as intended, leading to disease. **Sequencing a genome means deciphering the exact order of base pairs in an individual**. This “deciphering” or reading of the genome is what sequencing is all about. Costs of sequencing differ based on the methods employed to do the reading or the accuracy stressed upon in decoding the genome. Since an initial rough draft of the human genome was made available in 2000, the cost of generating a fairly accurate “draft” of any individual genome has fallen to a tenth, or to a ball park figure of around \$1,000 (₹70,000 approximately). **It has been known that the portion of the genes responsible for making proteins — called the exome — occupies about 1% of the actual gene**. Rather than sequence the whole gene, many geneticists rely on “exome maps” (that is the order of exomes necessary to make proteins). However, it has been established that the non-exome portions also affect the functioning of the genes and that, ideally, to know which genes of a person’s DNA are “mutated” the genome has to be mapped in its entirety. **While India, led by the CSIR, first sequenced an Indian genome in 2009**, it is only now that the organisation’s laboratories have been able to scale up whole-genome sequencing and offer them to the public.

How Did the CSIR Enterprise Work?

Under “IndiGen”, the CSIR drafted about 1,000 youth from across India by organising camps in several colleges and educating attendees on genomics and the role of genes in disease. Some students and participants donated blood samples from where their DNA sequences were collected. Globally, many countries have undertaken genome sequencing of a sample of their citizens to determine unique genetic traits, susceptibility (and resilience) to disease.



This is the first time that such a large sample of Indians will be recruited for a detailed study. The project ties in with a much larger programme funded by the Department of Biotechnology to sequence at least 10,000 Indian genomes. The CSIR's "IndiGen" project, as it is called, selected the 1,000-odd from a pool of about 5,000 and sought to include representatives from every State and diverse ethnicity. Every person whose genomes are sequenced would be given a report. The participants would be informed if they carry gene variants that make them less responsive to certain classes of medicines. For instance, having a certain gene makes some people less responsive to clopidogrel, a key drug that prevents strokes and heart attack. The project involved the Hyderabad-based Centre for Cellular and Molecular Biology (CCMB), the CSIR-Institute of Genomics and Integrative Biology (IGIB), and cost ₹18 crore.

What Are the Costs?

Anyone looking for a free mapping of their entire genome can sign up for "IndiGen". Those who get their genes mapped will get a card and access to an app which will allow them and doctors to access information on whether they harbour gene variants that are reliably known to correlate with genomes with diseases. However, there is no guarantee of a slot, as the scientists involved in the exercise say there is already a backlog. The project is free in so far as the CSIR scientists have a certain amount of money at their disposal. The driving motive of the project is to understand the extent of genetic variation in Indians, and learn why some genes — linked to certain diseases based on publications in international literature — do not always translate into disease. Once such knowledge is established, the CSIR expects to tie up with several pathology laboratories who can offer commercial gene testing services.

In Whatsapp Breach, Follow the Money Trail (Pratik Sinha - Co-Founder Alt News)

- On October 30, multiple Indian media publications revealed that a spyware called **Pegasus (made by an Israeli firm, NSO)** was used to compromise phones of multiple activists, journalists and lawyers. The phones were reportedly compromised by using vulnerability in WhatsApp which allowed the Pegasus spyware software to be installed in a target's phone by initiating a WhatsApp voice call with the target. Once installed, the spyware is able to track the activities of multiple user applications in the target's phone including messages, mails, audio calls, browser history, contacts, and so on. This also includes data (audio and text) that is exchanged via end-to-end encrypted systems such as WhatsApp. This specific vulnerability in WhatsApp has now been patched.

Explaining the Breach

WhatsApp has now filed a lawsuit against the Israeli firm in a U.S. federal court in San Francisco, alleging that the Israeli group had targeted WhatsApp users and is seeking a permanent injunction banning NSO from using its service. NSO disputed the allegations levelled by WhatsApp and **said in a statement that the sole purpose of NSO was to provide technology to licensed government intelligence and law enforcement agencies to help them fight terrorism and serious crime.** After it was revealed that Indian citizens were spied upon using Pegasus, the Indian government has sought an explanation from WhatsApp by November 4. There was also much outrage on social media with questions being asked of the Indian government and calls to boycott WhatsApp. While the government has tried to shift the focus to WhatsApp, it is misleading the population at large by doing so. To understand this aspect, one needs to first understand how Pegasus exactly works and how



it is able to track every activity on a target's phone, and how WhatsApp is not the only gateway for Pegasus. In July and August 2016, there were multiple attempts to infect the phone of a Mexican health researcher with Pegasus by sending repeated messages that were emotionally stirring. These messages claimed various things such as his daughter had met with an accident with a link to the hospital she was admitted to, or that his wife was cheating on him with a link to a supposedly leaked photo. In all cases, the links were essentially exploit links, clicking on which would have installed Pegasus on the target's phone. In fact, Citizen Lab which has investigated several cases of Pegasus infections around the world, including the ones in India, has shown through its research as to how social engineering is a very common strategy to deliver the most sophisticated spyware. So, how is Pegasus able to spy on every aspect of your phone? Pegasus does so by exploiting vulnerabilities in the phone's operating system. Smartphones have operating systems (OS) much like the desktops and laptops we use. While Android phones use a modified version of the famous open source operating system Linux, iPhones use a mobile operating system called iOS which was created by Apple. Lookout, which is a cybersecurity company, had partnered with Citizen Lab to investigate the 2016 case and had found that the Pegasus software had exploited three zero-day vulnerabilities in iOS to successfully attain privileged user access of the phone. A **zero-day vulnerability** is a flaw in a software or hardware that is previously unknown to the party responsible, which in this case is Apple. In the specific case of 2016, upon clicking on the link, the Pegasus software was first able to exploit a vulnerability in the Safari browser which is the default browser in an iPhone, and then execute a Stage 2 code which was able to jailbreak the target's iPhone to gain privileged user access. In the present case with WhatsApp, a specially crafted call was used to trigger a buffer overflow, which in turn was used to take control of the device. **The Android version of Pegasus spyware is called Chrysaor Malware and was found on about three dozen devices in 2017 according to a blog by Google.** The Android version of Pegasus installs as an application on your phone, and **uses a known root technique called framaroot.** Rooting an Android phone enables one to get privileged user (root) access, and thus allowing the spyware to monitor various activities. From social engineering to exploiting user apps such as WhatsApp or Safari and then eventually using the vulnerabilities in the underlying mobile operating system, NSO employs various techniques to target and take control of a user's phone. **The Google Play Store and the Apple App store house thousands of apps, many of which could have undiscovered vulnerabilities, and could potentially be exploited by firms such as NSO to target individual users.** Thus, we are barking up the wrong tree by focusing solely on WhatsApp. However, when an application like WhatsApp, the most used chat app, has a serious vulnerability, then the impact is much more widespread.

Digital Security

From a user point of view, to ensure security of your devices, it is important to **keep phones updated** — both the applications and the firmware. Many smartphone users often disable automatic updates in order to save on data, but this also prevents security updates from being installed on the phones. It is extremely important to be self-aware about one's digital security, as a compromise in that could lead to a situation of total surveillance. Finally, the question that needs to be asked is **who in India can afford millions of dollars to target phones of select individuals. Pegasus is a state-of-the-art spyware, and NSO charges an exorbitant sum for its product and services.** According to a 2015 contract, between the National Communications Authority of Ghana, Africa, NSO, and a local reseller, NSO was paid \$8



million for the Pegasus spyware and associated services. Similarly, Mexican Federal agencies have reportedly purchased \$80 million worth of spyware from NSO, from 2011 to 2017. As a company, NSO has offered services to various clients, and helped them hack a victim's phone through a variety of methods. The government needs to investigate who in India can afford to hire NSO and is interested in targeting select activists, lawyers and journalists, especially when NSO itself claims that it sells the software only to government agencies. The usual whataboutery about this being an attempt to defame the government is not going to be enough this time around.

In the specific cases of Apple and WhatsApp, therefore, neither company was aware of the security vulnerability, which was used to exploit the software and take over the device.) In December 2018, Montreal-based Saudi activist Omar Abdulaziz lodged a case against the NSO Group in a court in Tel Aviv, alleging that his phone had been infiltrated using Pegasus, and conversations that he had with his close friend, the murdered Saudi dissident journalist Jamal Khashoggi, snooped on. Khashoggi was slaughtered by Saudi agents at the kingdom's consulate in Istanbul on October 2, 2018; Abdulaziz said he believed his phone was hacked in August that year. In May 2019, the Financial Times reported that Pegasus was being used to exploit WhatsApp and spy on potential targets. WhatsApp issued an urgent software update to fix the security bug that was allowing the spyware to exploit the app.

Once Installed, What All Can Pegasus Do?

The Citizen Lab post said Pegasus can “send back the target's private data, including passwords, contact lists, calendar events, text messages, and live voice calls from popular mobile messaging apps”. The target's phone camera and microphone can be turned on to capture all activity in the phone's vicinity, expanding the scope of the surveillance. According to claims in a Pegasus brochure that WhatsApp has submitted to court as a technical exhibit, the malware can also access email, SMS, location tracking, network details, device settings, and browsing history data. All of this takes place without the target user's knowledge. Other key features of Pegasus, according to the brochure are: ability to access password-protected devices, being totally transparent to the target, leaving no trace on the device, consuming minimal battery, memory and data so as to not arouse suspicion in more alert users, a self-destruct mechanism in case of risk of exposure, and ability to retrieve any file for deeper analysis. The brochure, called Pegasus: Product Description, says Pegasus can work on BlackBerry, Android, iOS (iPhone) and Symbian-based devices. The mention of the now discontinued mobile OS Symbian and the no longer popular BlackBerry suggests the document is old — and Pegasus has certainly been upgraded over the years.

Can Pegasus Be Used to Target Just About Anyone?

Technically, yes. But while tools such as Pegasus can be used for mass surveillance; it would seem likely that only selected individuals would be targeted. In the present case, WhatsApp has claimed that it sent a special message to approximately 1,400 users who it believed were impacted by the attack, to directly inform them about what had happened. WhatsApp has not said how many people it contacted in India. The Indian Express reported that at least two dozen academics, lawyers, Dalit activists, and journalists were alerted by the company in India. It is not known who carried out the surveillance on the Indian targets. The NSO Group, while disputing WhatsApp's allegations “in the strongest possible terms”, has said that it provides the tool exclusively to “licensed government intelligence and law enforcement agencies”, and not just to anyone who wants it.



Is WhatsApp's End-To-End Encryption Now Compromised? Should You Switch To Another App — Perhaps Signal Or Wire Or Telegram?

The very popularity of a messaging app makes it a target for hackers, cyber criminals, or other entities. Even law enforcement agencies across the world want messages to be decrypted — a demand that WhatsApp is fighting, including in India. WhatsApp uses the Signal app protocol for its end-to-end encryption, which seems safe so far. WhatsApp has an advantage over Telegram: in Telegram, only the “secret chats” are end-to-end encrypted, while on WhatsApp everything is end-to-end encrypted by default. Those rattled by the WhatsApp episode might want to switch to Signal or Wire. However, it is important to be aware that unknown ‘zero-day’ exploits could exist for virtually every software and app in the world — and that they might be exploited at some point in the future by individuals or agencies determined to do so.

From the Cloud, Computing Moves to The Edge

- Cloud computing — by which remote servers hosted on the Internet store and process data, rather than local servers or personal computers — is ready to move to the next level. Amazon, Microsoft, and Alphabet, the parent company of Google — the technology giants that provide cloud computing infrastructure to major corporates and governments — want to leverage 5G wireless technology and artificial intelligence to enable faster response times, lower latency (ability to process very high volumes of data with minimal delay), and simplified maintenance in computing. This is where **Edge Computing** comes in — which many see as an extension to the cloud, but which is, in fact, different in several basic ways. By 2025, says the global research and advisory firm Gartner, companies will generate and process more than 75% of their data outside of traditional centralised data centres — that is, at the “edge” of the cloud. Simply put, **edge computing enables data to be analysed, processed, and transferred at the edge of a network**. The idea is to analyse data locally, closer to where it is stored, in real-time without latency, rather than send it far away to a centralised data centre. So, whether you are streaming a video on Netflix or accessing a library of video games in the cloud, edge computing allows for quicker data processing and content delivery. **The basic difference between edge computing and cloud computing lies in where the data processing takes place. At the moment, the existing Internet of Things (IoT) systems perform all of their computations in the cloud using data centres. Edge computing, on the other hand, essentially manages the massive amounts of data generated by IoT devices by storing and processing data locally. That data doesn't need to be sent over a network as soon as it processed; only important data is sent — therefore, an edge computing network reduces the amount of data that travels over the network.** Experts believe the true potential of edge computing will become apparent when 5G networks go mainstream in a year from now. Users will be able to enjoy consistent connectivity without even realising it. Nvidia, one of the biggest players in the design and manufacture of graphics and AI acceleration hardware, has just announced its EGX edge computing platform to help telecom operators adopt 5G networks capable of supporting edge workloads. The new Nvidia Aerial software developer kit will help telecom companies build virtualised radio access networks that will let them support smart factories, AR/VR and cloud gaming.

What Is Quantum Supremacy?

- In classical computing, heat conspires with time to impose constraints on the possible. In the era of vacuum tubes, lengthy computations could not be completed because equipment

[Shatabdi Tower, Sakchi, Jamshedpur](#)



would burn out. Modern semiconductor integrated circuits also generate heat, not enough to burn, but quite enough to slow down. Google claims that **Sycamore** crunched a problem in about 200 seconds which would have taken a top-flight supercomputer about 10,000 years. The results — in the paper which had vanished enigmatically — formally appeared in Nature, cementing the claim that a threshold in computing, anticipated since Paul Benioff, Richard Feynman and Yuri Manin opened the discussion in the 1980s, has been crossed. Meanwhile, researchers at IBM have challenged the Sycamore finding, holding that the classical computer lagged by 10,000 years because it was inefficiently configured. **In a blog post, IBM has claimed that the computation described by the Google researchers could be achieved by an existing computer in less than two-and-a-half days, not 10,000 years.** The matter remains in suspense until IBM replicates the benchmark test. According to the method of science, the question remains open until it publishes its own findings. Ever since Canadian Prime Minister Justin Trudeau expounded quantum computing to a chaffing journalist at the Perimeter Institute of Theoretical Physics, nothing much remains to be explained. It is **a term proposed in 2012 by John Preskill**, professor of theoretical physics at the California Institute of Technology. Suffice it to say that **while classical machines process bits of information represented by the states 0 and 1, representing on and off, quantum machines manipulate qubits or quantum bits.** They have **two properties** which can process data of higher orders of magnitude — **superposition and entanglement.** Though the nature of the quantum and gross worlds are fundamentally different, these can be illustrated by the analogy of Schrödinger's cat, a hapless animal trapped in a box with something potentially lethal, like a canister of toxic gas. In the gross world, we assume that the cat is alive until the gas is released, after which it is dead. But at the quantum level, phenomena collapse into one state only when they are observed. At all other times, they exist in all possible states. The cat is seen to be dead or alive only when the observer opens the box. At all other times, it is both dead and alive, in a state of superposition. Also, if the cat can set off the gas accidentally, its state and that of the canister are inextricably linked. This is entanglement, which Einstein called "spooky action at a distance". Two entangled subatomic particles could be light years apart, and yet be linked. Quantum computers use these two properties to achieve speeds and computational spaces that would defeat a classical machine, by encoding data into quantum states and performing quantum operations on it. What does the arrival of quantum computing mean for you and me? Not much. Not right away. Because Sycamore only performed a benchmark test which has no real-world use, and Google cannot deploy it to achieve world domination next week. Even if it has demonstrated quantum supremacy, it could take years or decades for the technology to be freely available. **Qubits are stable only at cryogenic temperatures, and only governments and large corporations can hope to keep a quantum computer on the premises.** The rest of us would have to depend on cloud computing and software as a service. Not the shiniest rig if you aspire to hack the living daylights out of Gmail, for instance. But initially, governments and corporations would be the only users of quantum computing, because only they are interested in the questions it answers. The quantum computer was posited by Feynman for modelling quantum systems. Now, it will find use in labs for modelling systems which exist in the real world only under extreme conditions, like in the Large Hadron Collider. Labs would be able to produce cutting edge work without having to invest in large-scale infrastructure, and may not have to collaborate across nations and continents. Quantum computers would also be useful for tasks which handle huge amounts of data. **Data mining and artificial intelligence would be major beneficiaries,** along with sciences which deal in volumes of data, from astronomy to



linguistics. The dark side of quantum computing is the **disruptive effect that it will have on cryptographic encryption, which secures communications and computers**. Encryption depends on very large prime numbers, which serve as the seeds from which cryptographic keys are generated and exchanged by the parties to a conversation. It works because encryption and decryption are operationally asymmetric. **It is easier for a computer to multiply very large prime numbers than it is to factor a product down to its constituent primes**. This differential keeps your WhatsApp messages private, but if the odds were evened by exponentially powerful computers, privacy online would be dead. Technology isn't always the solution. Often, it creates new problems, and the solution lies in the law. Long after the birth of social media and artificial intelligence, there are now demands to regulate them. It would be prudent to develop a regulatory framework for quantum computing before it becomes widely available. It is a transformative technology whose future uses, across a wide spectrum of sectors from data analysis to geopolitics, cannot be fully anticipated. In that sense, it is rather like nuclear technology, which was regulated by a global regime 23 years after Hiroshima by the Non-Proliferation Treaty. It would be useful to regulate quantum computing now, or at least define the limits of its legitimate use.



DreamIAS